GENERAL PROVISIONS

§ 4.1. Statutory authority.

The statutory authority for this chapter is the School Code.

§ 4.2. Purpose.

The purpose of this chapter is to establish rigorous academic standards and assessments applicable only to the public schools in this Commonwealth, to facilitate the improvement of student achievement and to provide parents and communities a measure by which school performance can be determined.

§ 4.51. Waivers.

§ 4.52. Local assessment system.

§ 4.61. School profiles.

PROVISIONS RELATING TO OTHER THAN PUBLIC SCHOOLS

§ 4.71. Certification by principal of nonpublic nonlicensed school.

§ 4.72. Credentials other than the high school diploma.

§ 4.73. Correspondence schools.

§ 4.74. Students in special situations.

ENFORCEMENT AND IMPLEMENTATION

§ 4.81. Allegations of deficiencies.

§ 4.82. Exceptions.

§ 4.83. [Reserved].

Authority


Source

The provisions of this Chapter 4 issued under the Public School Code of 1949 (24 P.S. §§ 1-101—27-2702), unless otherwise noted.

Cross References

This chapter cited in 22 Pa. Code § 11.27 (relating to graduation); 22 Pa. Code § 11.31 (relating to students not enrolled in public schools due to private tutoring); 22 Pa. Code § 16.1 (relating to definitions); 22 Pa. Code § 16.22 (relating to gifted multidisciplinary evaluation); 22 Pa. Code § 49.14 (relating to approval of institutions); 22 Pa. Code § 49.42 (relating to letter of eligibility); 22 Pa. Code § 49.81 (relating to general); 22 Pa. Code § 49.101 (relating to general); 22 Pa. Code § 49.111 (relating to Supervisory Certificate); 22 Pa. Code § 49.121 (relating to Administrative Certificate); 22 Pa. Code § 49.141 (relating to general) and 22 Pa. Code § 339.2 (relating to operation).

4.1. Statutory authority.

The statutory authority for this chapter is the School Code.

4.2. Purpose.

The purpose of this chapter is to establish rigorous academic standards and assessments applicable only to the public schools in this Commonwealth, to facilitate the improvement of student achievement and to provide parents and communities a measure by which school performance can be determined.
Authority
The provisions of this § 4.2 amended under sections 121, 2603-B and 2604-B of the Public School Code of 1949 (24 P. S. §§ 1-121, 26-2603-B and 26-2604-B).

Source

§ 4.3. Definitions.
The following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise:

AVTS—Area vocational-technical school—A public school that provides vocational-technical education to secondary school students, out-of-school youth and adults in a geographical area comprised and operated by one or more school districts and established under sections 1840—1853 of the School Code (24 P. S. §§ 18-1840—18-1853).

Academic standard—What a student should know and be able to do at a specified grade level.

Apprenticeship program—A competency-based program that coordinates and integrates classroom instruction with a structured work-based employment experience designed for students.

Assessment—A valid and reliable measurement of student performance on a specified grade level.


Chief school administrator—The superintendent of a school district, the superintendent of an AVTS or the chief executive officer of a charter school.

Cooperative vocational-technical education—A planned method of instruction developed through a signed cooperative agreement among school representatives, students, parents and employers in the community to provide students with an opportunity to alternate in-school academic and vocational-technical instruction in entry-level paid employment in an occupational field, in which the student's total occupational work experience is planned, coordinated and supervised by the school in close cooperation with the employer.

Curriculum—A series of planned instruction aligned with the academic standards in each subject that is coordinated and articulated and implemented in a manner designed to result in the achievement of a specified level by all students.

Department—The Department of Education of the Commonwealth.

ESOL—English to speakers of other languages.

Employment area—A geographic area where vocational-technical education program completers are most likely to be employed.

Intermediate unit
—A regional educational service agency established under sections 951—974 of the School Code (24 P. S. §§ 9-951—9-974), which provides educational services to participating school districts as part of the public school system of this Commonwealth.

Keystone Exams
—State-developed end-of-course exams. Designated exams will be used to determine, in part, a student’s eligibility for high school graduation.

Local Assessment Validation Advisory Committee
—an advisory committee established by the Department composed of up to two representatives each from the Department and Board, four representatives from the Pennsylvania School Boards Association and up to four additional members who are jointly selected by the Committee. The purpose of the Committee is to develop the criteria for the local validation process and criteria for selection of approved local validation programs.

National Occupational Competency Testing Institute.

Pennsylvania System of School Assessment.

Parent or guardian
—a person legally responsible for a student’s care.

Pennsylvania Core Standards
—Academic standards for English language arts and mathematics based upon a Nationwide, state-led process coordinated by the National Governors Association and the Council of Chief State School Officers and in collaboration with teachers, content experts and other education stakeholders. The standards define the knowledge and skills students should obtain in each subject area and in each grade level. They provide a clear and consistent foundation for learning in grades K-12.

Pennsylvania Core Standards—Academic standards for English language arts.

Performance Level Advisory Committee
—an advisory committee established by the Department to assist the Department in developing Keystone Exam performance level descriptors and performance level cut scores. The Committee includes teachers, principals, school administrators, school board members, community leaders, guidance counselors, and students. The Committee is co-chaired by a representative of the Department and a representative of the Pennsylvania Association of School Administrators.

Performance or graduation—A student’s eligibility for graduation.

Prekindergarten
—a program operated by a school district or by a community corporation.

School Code

State Board of Education

Validation credits
—Credits for prior learning for the local validation process.

NOCTI

PSSA
—Pennsylvania System of School Assessment.

22 § 4.3
STATE BOARD OF EDUCATION

immediate unit
—an educational service agency established under 22 § 4.3 of the School Code (24 P. S. §§ 9-974-9-999) which provides educational services to prekindergarten school districts in part of the public school system of this Commonwealth.

Intermediate unit
—an educational service agency established under 22 § 4.3 of the School Code (24 P. S. §§ 9-974-9-999) which provides educational services to prekindergarten school districts in part of the public school system of this Commonwealth.
§ 4.3

Authority

Participation in postsecondary education and training.

School entity—A local public education provider (for example, public school district, charter school, cyber charter school, A VTS or intermediate unit).

School organization—The organization of a school district's programs into kindergarten, primary, intermediate level, middle level and high school programs, including programs operated at A VTSs.

Secretary—The Secretary of Education of the Commonwealth.

State assessment—A valid and reliable measurement of student performance on a set of academic standards as measured by the Pennsylvania System of School Assessment or the Keystone Exams.

State Assessment Validation Advisory Committee—An advisory committee established by the Department to advise it on its plans to conduct a validity study of the Keystone Exams and review and provide feedback on study findings. The Committee is composed of up to two representatives each from the Department, Board, Pennsylvania State Education Association, American Federation of Teachers-Pennsylvania and up to four additional members who are jointly selected by the Committee.

Tech-prep program—A combined secondary and postsecondary program which leads to an associate degree or certificate and employment by providing technical preparation in engineering technology, applied science, mechanical, industrial or practical art or trade, agriculture, health or business, including development of competence in mathematics, science and communications through a sequential course of study.

Vocational-technical education—Programs under public supervision and control which provide an organized process of learning experiences designed to develop integrated academic and occupational skills, knowledge, attitudes, work habits and leadership ability for entry into and advancement within various levels of employment in occupational areas of agriculture, business, marketing and distribution, health, home economics and trade and industry and for participation in postsecondary education.

Authority

The provisions of this § 4.3 amended under the Public School Code of 1949 (24 P. S. §§ 1-101—27-2702).

Source


Cross References

This section cited in 22 Pa. Code § 4.23 (relating to high school education); 22 Pa. Code § 4.28 (relating to special education); 22 Pa. Code § 338.2 (relating to definitions); and 22 Pa. Code § 339.1a (relating to definitions).
§ 4.4. General policies.

(a) It is the policy of the Board that the local curriculum be designed by school entities to achieve the academic standards under § 4.12 (relating to academic standards) and any additional academic standards as determined by the school entity.

(b) It is the policy of the Board that local school entities have the greatest possible flexibility in curriculum planning consistent with providing quality education and in compliance with the School Code, including requirements for courses to be taught (24 P. S. §§ 15-1501 and 16-1605); subjects to be taught in the English language (24 P. S. § 15-1511); courses adapted to the age, development and needs of the pupils (24 P. S. § 15-1512); minimum school year of 180 days and minimum of 900 hours of instruction at the elementary level and 990 hours of instruction at the secondary level (24 P. S. §§ 15-1501 and 15-1504); employment of sufficient numbers of qualified professional employees (24 P. S. § 11-1106) and superintendents to enforce the curriculum requirements of State law (24 P. S. § 10-1005); and this part.

(c) Access to educational programs shall be provided without discrimination on the basis of a student's race, sex, color, religion, disability, sexual orientation or national origin.

(d) School entities shall adopt policies to assure that parents or guardians have the following:

(1) Access to information about the curriculum, including academic standards to be achieved, instructional materials and assessment techniques.

(2) A process for the review of instructional materials.

(3) The right to have their children excused from specific instruction that conflicts with their religious beliefs, upon receipt by the school entity of a written request from the parent or guardian.

(4) The right to have their children excused from specific instruction that conflicts with their religious beliefs, upon receipt by the school entity of a written request from the parent or guardian.

(5) The right to have their children excluded from research studies or surveys conducted by entities other than school districts.

(e) The Department will provide support to school districts, AVTSs and charter schools in developing educational programs that enable students to attain academic standards under § 4.12. Department support will include:

...
(a) The academic standards describe the knowledge and skills that students will be expected to demonstrate before graduating from a public school.

(b) The academic standards are based on performance assessments, and 22 Pa. Code § 11.7 (relating to high school graduation requirements) and 22 Pa. Code § 11.8 (relating to high school graduation requirements) shall be modified to reflect them.

(c) The academic standards are established under sections 121, 2603-B and 2604-B of the Public School Code of 1949 (24 P. S. §§ 1-121, 26-2603-B and 26-2604-B).

Achievement of high academic standards in public education is dependent upon the quality of instruction in schools and student effort supported by the involvement of family and community.

Assessment in public education is designed to determine student attainment of State and local academic standards.

Public schools provide instruction throughout the curriculum so that students may develop knowledge and skills in the following areas:

1. English language arts.
5. Social studies (civics and government, geography, economics and history).
6. Arts and humanities.
7. Career education and work.
8. Family and consumer science.

Public education provides planned instruction to enable students to attain academic standards under § 4.12. Planned instruction consists of at least the following elements:

1. Objectives of a planned course, instructional unit or interdisciplinary studies to be achieved by all students.
2. Content, including materials and activities, and estimated instructional time to be devoted to achieving the academic standards. Courses, instructional units or interdisciplinary studies of varying lengths of time may be taught.
3. The relationship between the objectives of a planned course, instructional unit or interdisciplinary studies and academic standards specified under § 4.12 and any additional academic standards as determined by the school board.
4. Procedures for measurement of the objectives of a planned course, instructional unit or interdisciplinary studies.

Authority

The provisions of this § 4.11 apply under the Public School Code of 1949 (24 P. S. §§ 1-101—27-2702).

Source


(a) School entities may develop, expand or improve existing academic standards.
gies. The Pennsylvania Core Standards for Reading in Science and Technology and the Pennsylvania Core Standards for Writing in Science and Technology will be an appendix to the Commonwealth's academic standards for Science and Technology upon publication in the Pennsylvania Bulletin.

Environment and ecology. Understanding the components of ecological systems and their interrelationships with social systems and technologies. These components incorporate the disciplines of resource management, agricultural diversity, government and the impact of human actions on natural systems. This interaction leads to the study of watersheds, threatened and endangered species, pest management and the development of laws and regulations.

Social studies.

(i) History. Study of the record of human experience including important events; interactions of culture, race and ideas; the nature of prejudice; change and continuity in political systems; effects of technology; importance of global-international perspectives; and the integration of geography, economics and civics studies on major developments in the history of the Commonwealth, the United States and the world.

(ii) Geography. Study of relationships among people, places and environments, of geographic tools and methods, characteristics of place, concept of region and physical processes.

(iii) Civics and government. Study of United States constitutional democracy, its values and principles, study of the Constitution of the Commonwealth and government including the study of principles, operations and documents of government, the rights and responsibilities of citizenship, how governments work and international relations.

(iv) Economics. Study of how individuals and societies choose to use resources to produce, distribute and consume goods and services. Knowledge of how economies work, economic decision making, basic economic concepts, economic systems, the Commonwealth and the United States economy and international trade.

(v) Appendix. The Pennsylvania Core Standards for Reading in History and Social Studies and the Pennsylvania Core Standards in Writing for History and Social Studies will be an appendix to the Commonwealth's academic standards for History upon publication in the Pennsylvania Bulletin.

Arts and humanities. Study of dance, theatre, music, visual arts, language and literature including forms of expression, historical and cultural context, critical and aesthetic judgment and production, performance or exhibition of work.

Career education and work. Understanding career options in relation to individual interests, aptitudes and skills including the relationship between changes in society, technology, government and economy and their effect on individuals and careers. Development of knowledge and skill in job-seeking and job-retaining skills, for students completing vocational-technical programs, the skills to succeed in the occupation for which they are prepared.

Health, safety and physical education. Study of concepts and skills which affect personal, family and community health and safety, nutrition, physical fitness, movement concepts and strategies, safety in physical activity settings, and leadership and cooperation in physical activities.

Ch. 4 ACADEMIC STANDARDS AND ASSESSMENTS

§ 4.12
Family and consumer science.

Understanding the role of consumers as a foundation for managing available resources to provide for personal and family needs and to provide basic knowledge of child health and child care skills.

Through June 30, 2013:

Reading, writing, speaking and listening.

Reading.
The application of phonemic awareness, phonics and word study, vocabulary, fluency and text comprehension in reading critically across subject areas; the interpretation and analysis of literary expression with analysis of the origins and structures of the English language and learning how to search a variety of texts to conduct research.

Writing.
Narrative, informational and persuasive formal writing for an audience, including spelling and editing skills; and informal writing to capture and organize information for individual use.

Speaking and listening.
Participation in conversation and formal speaking presentations.

English Language Arts.
Upon publication in the Pennsylvania Bulletin, following full implementation of a transition plan to be developed by the Department in collaboration with education stakeholders, academic standards will be based on the Pennsylvania Core Standards for English Language Arts.

Mathematics.
The understanding of fundamental ideas and the development of proficient mathematical skills in numbers, computation, measurement, statistics and data analysis, probability and predictions, algebra and functions, geometry, trigonometry and concepts of calculus. Using this content, students will learn to think, reason and communicate mathematically. Students will learn to model real-world situations by creating appropriate representations of numerical quantities and plan and implement problem-solving strategies to answer the question in the context of the situation. Upon publication in the Pennsylvania Bulletin, following implementation of a transition plan to be developed by the Department in collaboration with education stakeholders, academic standards will be based on the Pennsylvania Core Standards for Mathematics.

(b) In designing educational programs, school entities shall provide for the attainment of the academic standards under subsections (a) and (c) and any additional academic standards as determined by the school entity. Attaining the academic standards in this section requires students to demonstrate the acquisition of knowledge and application of knowledge and skills.

(c) School entities shall prepare students to attain academic standards in mathematics and English Language Arts in Appendix A-2 and incorporated here by reference and additional academic standards as may be adopted by the Board and promulgated as amendments to this chapter.

English Language Arts.

(6) Mathematics.
The understanding of fundamental ideas and the development of proficient mathematical skills in numbers, computation, measurement, statistics and data analysis, probability and predictions, algebra and functions, geometry, trigonometry and concepts of calculus. Using this content, students will learn to think, reason and communicate mathematically. Students will learn to model real-world situations by creating appropriate representations of numerical quantities and plan and implement problem-solving strategies to answer the question in the context of the situation. Upon publication in the Pennsylvania Bulletin, following implementation of a transition plan to be developed by the Department in collaboration with education stakeholders, academic standards will be based on the Pennsylvania Core Standards for Mathematics.

(d) A school entity's curriculum shall be designed to provide students with a foundation and consumer science, understanding the role of consumers as
Ch. 4 ACADEMIC STANDARDS AND ASSESSMENTS 22 § 4.13

(f) School entities shall assess the attainment of academic standards developed under subsections (a) and (c) and any other academic standards that they develop under § 4.52(c) for purposes of high school graduation and strategies for assisting students to attain them. Plans for assessment developed by school entities must take into account that academic standards in subsections (a) and (c) may be attained by students in various ways and shall be assessed in various ways. Children with disabilities may attain the academic standards by completion of their individualized education programs under the Individuals with Disabilities Education Act and this part.

(g) In planning any revision of the academic standards in subsection (a) content areas, the Secretary will consult with educators, business and community leaders and parents.

(h) School entities are responsible under subsections (a), (c) and (f) for assessing individual student attainment of academic standards and for assisting those students having difficulty attaining them. Upon request by a school entity, the Department will provide the requestor with technical assistance in the development of academic standards and assessments that are sufficient to assure that students are making progress toward the attainment of standards required for high school graduation under subsection (f).

(i) Every 3 years, the Board will review the State academic standards and State assessments under this section to determine if they are appropriate, clear, specific and challenging, and will make revisions as necessary by revising this chapter.

(j) The Department may not expand the collection of student data and, in accordance with section 444 of the Family Educational Rights and Privacy Act of 1974 (20 U.S.C.A. § 1232g), regarding family educational and privacy rights, may not collect personal family data due to the implementation of Pennsylvania Core Standards in Appendix A-2.

Authority

Source

Cross References

§ 4.13. Strategic plans.
(a) Upon expiration of its current strategic planning phase, each school entity shall submit to the Secretary for approval a professional education plan every 3 years as required under § 49.17(a) (relating to continuing professional education). A school entity shall make its professional education plan available for public inspection and comment for a minimum of 28 days prior to approval of the plan by the school entity’s governing board and submission of the plan to the Secretary.
Upon expiration of its current strategic planning phase, each school entity shall submit to the Department for approval an induction plan every 6 years as required under § 49.16(a) (relating to approval of induction plans). A school entity shall make its induction plan available for public inspection and comment for a minimum of 28 days prior to approval of the plan by the school entity's governing board and submission of the plan to the Department.

Upon expiration of its current strategic planning phase, each school entity shall develop and implement a comprehensive and integrated K-12 program of student services based on the needs of its students every 6 years as provided in § 12.41(a) (relating to student services). A school entity shall make its student services plan available for public inspection and comment for a minimum of 28 days prior to approval of the plan by the school entity's governing board.

Upon expiration of its current strategic planning phase, each school district shall develop, submit to the Department for approval and implement a special education plan every 3 years as required under § 14.104 (relating to special education plans). A school district shall make its special education plan available for public inspection and comment for a minimum of 28 days prior to approval of the plan by the school district's board of directors and submission of the plan to the Department.

Upon expiration of its current strategic planning phase, each school district shall develop and implement a gifted education plan every 6 years as required under § 16.4 (relating to strategic plans). A school district shall make its gifted education plan available for public inspection and comment for a minimum of 28 days prior to approval of the plan by the school district's board of directors.

Authority


Source


Cross References

This section is cited in 22 Pa. Code § 12.41 (relating to student services); 22 Pa. Code § 14.104 (relating to special education plans); 22 Pa. Code § 16.4 (relating to gifted education plans); 22 Pa. Code § 49.16 (relating to approval of induction plans); and 22 Pa. Code § 49.17 (relating to continuing professional education).
varying developmental levels of the students; be based on how young children develop and learn; include instruction to support each child's development in the areas of approaches to learning—creative expression, language and literacy, math, logic and science, social-personal development and physical development and health—and must be open to children with disabilities.

(1) The Secretary may approve a mushrooming prekindergarten program that
and publics described in the early standards issued under part
ion of prekindergarten students in the acquisition of the knowledge skills
skills, including the ability to speak and with standard English and literacy
strategy to assess in the classroom, written and numeracy, a rigorous
through a formal process of local academic assessment of knowledge and

(2) Curriculum and instruction in the prekindergarten program must be

(3) Prekindergarten programs may be offered to all 3 and 4 year olds or

(4) The Secretary will issue guidance to school districts on developmen-

(5) Each school district that provides prekindergarten shall design an

(6) Prekindergarten programs must have a student/teacher ratio of no more

(7) Beginning in the 2009-2010 school year, a teacher aide in a prekinder-

(8) The Secretary may approve a meritorious prekindergarten program that

Ch. 4 ACADEMIC STANDARDS AND ASSESSMENTS
22 § 4.40

(371081) No. 474 May 14
The school district has submitted to the Secretary a written request that provides justification for the waiver and includes a description of how the meritorious program will provide high quality learning opportunities for students.

The approval of the meritorious prekindergarten program is valid only for 1 school year.

Requests for renewals include evidence of positive student outcomes.

The approval of the meritorious prekindergarten program is valid for the school district that submitted the request to the Secretary.

Authority

22 Pa. Code § 4.20

STATE BOARD OF EDUCATION

Pt. I

4-14

The section cited in 22 Pa. Code § 4.20 (relating to developmentally appropriate programs) applies to programs that serve students from birth to age 3.

(a) The primary program shall ordinarily be completed by children who are approximately 8 years of age. School districts, including charter schools, shall provide opportunities for individualized rates of learning and social and emotional development that reflect differing rates of development and learning styles of young children.

(b) Curriculum and instruction in the primary program must be standards-based and focus on introducing young children to formal education, developing an awareness of the self in relation to others and the environment, and developing skills of communication, thinking and learning. Literacy skills, including phonemic awareness, phonological awareness, fluency, vocabulary and comprehension will begin in prekindergarten and kindergarten, if offered, and developed appropriately for the primary grade level.

(c) The intermediate level program shall ordinarily be completed by children who are approximately 11 years of age.

(d) Standards-based curriculum and instruction in the intermediate level must enable all students to reach the proficient level on the local assessment system and the Statewide assessment system. Academic standards will guide the focus on learning specific subject matter content.

(e) Planned instruction aligned with academic standards in the following areas shall be provided to every student every year in the intermediate level program. Planned instruction may be provided as a separate course or as an instructional unit within another course or other interdisciplinary instructional activity:

1. Language arts, integrating reading, writing, phonics, spelling, listening, speaking, literature and grammar, and information management, including library skills.
2. Mathematics, including problem-solving and computation skills.
3. Science and technology education, involving active learning experiences for students.
4. Social studies (civics and government, economics, geography and history).
5. Health, safety and physical education, including instruction in concepts and skills which affect personal, family, and community health and safety.
7. The arts, including active learning experiences in art, music, dance and theatre.

(f) Planned instruction in the following areas shall be provided to every student every year in the intermediate level program. Planned instruction may be provided as a separate course or as an instructional unit within another course or other interdisciplinary instructional activity:

1. Mathematics, including problem-solving and computation skills.
2. Science and technology education, involving active learning experiences for students.
3. Social studies (civics and government, economics, geography and history).
4. Environment and ecology education, involving active learning experiences for students.
5. Social studies (civics and government, economics, geography and history).
6. Health, safety and physical education, including instruction in concepts and skills which affect personal, family, and community health and safety.
7. Environment and ecology education, involving active learning experiences for students.
8. The arts, including active learning experiences in art, music, dance and theatre.
Education aims to develop knowledge and skills necessary to achieve the program's goals and academic standards set forth in the local assessment system. The program shall be developed by the school district. This plan will assess the student in developing the skills needed to meet the educational objectives outlined in the K-12 learning plan.

See section 1511 of the School Code (24 P.S., § 15-1511). This section does not preclude the teaching of other planned instruction listed in the following:

- History of the United States
- History of the Commonwealth
- Geography
- Civics
- Spanish
- French
- Italian
- Science
- Health
- Physical Education
- Social Studies
- English
- Mathematics
- Art
- Music
- Drama
- Theatre
- Computer
- Other

This section is intended to be used for instructional activities in grades K-12. School districts, including charter schools, shall determine the most appropriate way to offer primary instruction in the local instructional program.

This section is intended to describe a school entity's mission, goals, and academic standards. The section does not preclude the teaching of other planned instruction.
§ 4.22. Middle level education.

(a) The provisions of this § 4.22 amended under sections 121, 2603-B and 2604-B of the Public School Code of 1949 (24 P. S. §§ 1-121, 26-2603-B and 26-2604-B).

(b) Cross References

This section cited in 22 Pa. Code § 4.27 (relating to physical education and athletics).

(c) Authority

The provisions of this § 4.22 amended under sections 121, 2603-B and 2604-B of the Public School Code of 1949 (24 P. S. §§ 1-121, 26-2603-B and 26-2604-B).
Career education, including exposure to various career options and the educational preparation necessary to achieve those options.

Technology education, emphasizing practical application of academic skills and problem-solving experiences facilitated by technology.

Family and consumer science, including principles of consumer behavior and basic knowledge of child health and child care skills.

This section does not preclude the teaching of other planned instruction designed to achieve a school entity's academic standards.

School entities shall determine the most appropriate way to organize the high school program, including the development of additional academic standards as determined by the school entity.

Authority

The provisions of this § 4.22 amend and renumber section 175 of the Public School Code of 1949 (24 P. S. § 175).

Cross References

This section cited in 22 Pa. Code § 4.27 (relating to physical education and athletics).
Criminal Investigation


Source

School Code of 1949, §§ 1-121, 2-2603-B and 2-2604-B.

Authority

This section cited in 22 Pa. Code § 4.27 (relating to physical education and athletics).

§ 4.24. High school graduation requirements.

(a) Approval. High school graduation requirements and revisions to them shall be approved by a school entity's governing board by September 2, 2014, and a copy of the requirements shall be published and distributed to students, parents and guardians. Copies of the requirements also shall be available in each school building or on each school entity's publicly accessible web site. Changes to high school graduation requirements shall be published and distributed to students, parents and guardians and made available in each school building or on each school entity's publicly accessible web site immediately following approval by the governing board.

(b) Requirements through the 2015-2016 school year. Each school district, charter school (including a cyber charter school) and A VTS, if applicable, shall specify requirements for graduation. Requirements through the 2015-2016 school year must include course completion and grades, completion of a culminating project, results of local assessments aligned with the academic standards and a demonstration of proficiency in English Language Arts and Mathematics on either the State assessments administered in grade 11 or 12 or local assessments aligned with academic standards and State assessments under § 4.52 (relating to local assessment system) at the proficient level or better to graduate. The purpose of the culminating project is to assure that students are able to apply, analyze, synthesize and evaluate information and communicate significant knowledge and understanding.

(c) Requirements beginning in the 2016-2017 school year. (1) General. Beginning in the 2016-2017 school year, each school district, charter school (including a cyber charter school) and A VTS, if applicable, shall adopt and implement requirements for high school graduation that at a minimum:

(i) Course completion and grades:

(a) Demonstration of proficiency as determined by the school district, charter school (including a cyber charter school) or A VTS, if applicable, in each of the State academic standards not assessed by a State assessment under § 4.52 (relating to State assessment system; Pennsylvania System of School Assessment; and Keystone Exams).

(b) Demonstration of proficiency or above in each of the following State academic standards: English Language Arts and Mathematics (Appendix A-2); Science and Technology and Environment and Ecology (Appendix B); English Language Arts; and Foreign Language, in grade 11 or 12 or local assessments aligned with the academic standards under § 4.52 (relating to State assessment system; Pennsylvania System of School Assessment; and Keystone Exams) or local assessments aligned with academic standards as determined by the school district.

(2) Course completion.

(a) Show a high school graduation requirement that the student has completed the following:

(i) Course completion and grades:

(a) Demonstration of proficiency or above in the following State academic standards: English Language Arts and Mathematics (Appendix A-2); Science and Technology and Environment and Ecology (Appendix B), as determined through any one or a combination of the following:

(A) Completion of secondary level coursework in English Language Arts (Literature), Algebra I and Biology in which a student demonstrates proficiency on the associated Keystone Exam or related project-based assessment if § 4.4(d)(4) (relating to general policies) applies.

(ii) Course completion and grades:

(a) Show a high school graduation requirement that the student has completed the following:

(i) Course completion and grades:

(a) Demonstration of proficiency or above in the following State academic standards: English Language Arts and Mathematics (Appendix A-2); Science and Technology and Environment and Ecology (Appendix B), as determined through any one or a combination of the following:

(A) Completion of secondary level coursework in English Language Arts (Literature), Algebra I and Biology in which a student demonstrates proficiency on the associated Keystone Exam or related project-based assessment if § 4.4(d)(4) (relating to general policies) applies.
A school district, a VTS or charter school, including a cyber charter school, shall allow a student to take a Keystone Exam prior to taking the course associated with the exam's content provided that the student achieved a score of advanced on the most recent associated PSSA assessment administered to the student.

A school district, a VTS or charter school, including a cyber charter school, shall allow a student who transfers from another state to take a Keystone Exam prior to taking the course associated with the exam's content, provided that the student achieved a score comparable to the PSSA's advanced performance level on a comparable assessment administered by another state.

A school district, A VTS or charter school, including a cyber charter school, may allow a student who scores at the advanced level on a particular Keystone Exam prior to taking the course to be granted course credit for the course without having to complete the course, if:

1. The student achieved a score of advanced on the PSSA associated with the Keystone Exam.
2. The student attended a school district, A VTS or charter school, including a cyber charter school, where the Keystone Exam was administered.
3. The student transferred to the school district, A VTS or charter school, including a cyber charter school, prior to taking the course.

Locally approved and administered assessments, which shall be independently and objectively validated once every 6 years. Local assessments may be designed to include a variety of assessment strategies listed in § 4.52(c) and may include the use of one or more Keystone Exams. Except for replacement of individual test items that have a similar level of difficulty, a new validation is required for any material changes to the assessment. Validated local assessments must meet the following standards:

1. Alignment with the following State academic standards: English Language Arts (Literature and Composition); Mathematics (Algebra I), Science and Technology, Environment and Ecology (Biology), and Civics and Government.
2. Performance local expectations and descriptors that describe the level of performance required to achieve proficiency comparable to the level of performance required to achieve proficiency comparable to that used for the Keystone Exams.
3. Administration of the local assessment to all students, as a requirement for graduation, except for those exempted by their individualized education program under subsection (g), relating to special education students, or gifted individualized education plan as provided in §§ 16.32 and 16.33 (relating to GIEP).
4. Subject to appropriations provided by law, the cost to validate local assessments shall be evenly divided between the school district, A VTS or charter school, including a cyber charter school, and the Department. If the Department does not provide sufficient funding to meet its share, local assessments submitted for validation shall be deemed valid until a new validation is due to the Department.
The Department will establish a list of entities approved to perform independent validations of local assessments in consultation with the Local Assessment Validation Advisory Committee as provided in § 4.52(f).

School boards shall only approve assessments that have been determined to meet the requirements of this subsection by an approved entity performing the independent validation. If a school district, AVTS or charter school, including a cyber charter school, uses an unplanned assessment, the Secretary will direct the school entity to discontinue its use until the local assessment is approved through independent validation by an approved entity.

Completion of an Advanced Placement exam or International Bacalaureate exam that includes academic content comparable to the appropriate Keystone Exam at a score established by the Secretary to be comparable to the proficient level on the appropriate Keystone Exam.

Requirements beginning in the 2018-2019 school year:
- Effective with the 2018-2019 school year, requirements in subsection (c)(1)(iii) must include a determination of proficiency in English Language Arts (Composition) (Appendix A-2).

Requirements beginning in the 2019-2020 school year:
- Effective with the 2019-2020 school year, Civics and Government (Appendix C) is added to the academic standards in subsection (c)(1)(iii). The requirements in subsection (c)(1)(iii) must include a determination of proficiency in Civics and Government.

Career and technical education program students:
- A student enrolled in a Department-approved career and technical education program may satisfy the requirements of subsections (d) and (e) upon completion of secondary level coursework in English Language Arts (Literature), Algebra I and Biology, in which a student demonstrates proficiency on the associated Keystone Exam, validated local assessment or project-based assessment, and achieves a score of competent or advanced on a Pennsylvania State Skills Assessment required under § 4.31(a) (relating to vocational-technical education).

Special education students:
- Children with disabilities who satisfactorily complete a special education program developed by an Individualized Education Program team under the Individuals with Disabilities Education Act and this part shall be deemed proficient in the State-assessed standards. This subsection applies if the special education program of a child with a disability does not otherwise meet the requirements of this chapter.

Demonstration of proficiency:
- For purposes of this section, a student shall be deemed proficient in the State-assessed standards regardless of the student’s grade level or age.
Beginning in the 2003-2004 school year, and through the 2012-2013 school year, PSSA scores in each assessed discipline shall be included on student transcripts. Beginning in the 2016-2017 school year, the performance level demonstrated in each of the academic standards in subsections (c)—(e) shall be included on student transcripts. The information presented on a transcript must include the highest performance level demonstrated by a student on the associated Keystone Exam, validated local assessment or project-based assessment at the time the transcript is produced.

Release of scores. This section does not allow for the release of individual local validated assessments, even if available at the time the course was com-

补救. If a student does not demonstrate proficiency on a Keystone Exam or a locally validated assessment specified in subsection (c), (d) or (e), the student shall be offered supplemental instructional support by the student's school district, a VTS, or charter school, including a cyber charter school. The supplemental instructional support must be consistent with the student's educational program and assist the student to attain proficiency in the State academic standards.

Out-of-state transfers. A school district, a VTS, or charter school, including a cyber charter school, shall determine whether a student who transfers from an out-of-state school having demonstrated proficiency in coursework and assessments aligned with the academic standards assessed by each Keystone Exam may satisfy the requirements of subsections (c)—(e) by submitting evidence of successful completion of courses with academic standards assessed by each Keystone Exam. If the evidence submitted by the transferring school district, a VTS, or charter school indicates that the student successfully completed courses with academic standards assessed by each Keystone Exam, the receiving school shall determine if the student is proficient in the State academic standards.

Transition. To effect a smooth transition between requirements outlined in subsections (b) and (c) regarding requirements through the 2015-2016 school year and requirements beginning in the 2016-2017 school year, subsection (d) regarding requirements beginning in the 2018-2019 school year and subsection (e) regarding requirements beginning in the 2019-2020 school year, a student who will graduate in the 2016-2017 school year or thereafter, who successfully completes courses with academic content assessed under subsection (c), (d) or (e), shall be deemed proficient for purposes of this section.
IEP Compliance

The court determined that the hearing officer, when reaching the conclusion that the student had completed the graduation requirements, failed to consider whether the requirements of the student's individualized education program (IEP) were fulfilled, as required by § 4.24(e). Because the school district did not fulfill its IEP obligation, it was required to pay tuition and fees for a transitional program after high school for one year, which the court found fulfilled the graduation requirements of § 4.24(e), Susquehanna Township School District v. Frances J., 823 A.2d 249, 255-56 (Pa.Cmwlth. 2003).

Cross References


§ 4.25. Languages.

(a) World language programs must prepare students to be proficient in meeting the World Language Standards issued by the Department and available on its web site. Every school district shall provide planned instruction in at least two languages in addition to English, at least one of which shall be a modern language, and at least one of which shall be offered in a minimum 4-year sequence in the secondary program (middle level and high school).

(b) World language planned instruction under subsection (a) may be offered beginning at any grade level, including the elementary grades.

(c) World Language Standards issued by the Department will address the ability of students to communicate in a language other than English, including the ability to understand and interpret written and spoken language on a variety of topics and to develop knowledge and understanding of other cultures.

(d) As used in this section, the term "world language" means the study of the language, cultures, traditions and histories of different communities of people who communicate in languages other than English. American sign language is a world language.

Authority

The provisions of this § 4.25 amended under section 2603-B of the Public School Code of 1949 (24 P. S. § 26-2603-B).
§ 4.27. Physical education and athletics.

(a) Physical education shall be taught as required under §§ 4.21(e)(6) and (f)(8), 4.22(c)(7) and 4.23(c)(8) (relating to elementary education: primary and intermediate levels; middle level education; and high school education).

(b) The physical education program must be adapted for students who are medically unable to participate in the regular physical education program.

(c) The physical education program shall provide coeducational instruction, except that separation by sex may be permitted in courses involving contact sports. Separation by sex may not be used to exclude students of either sex from participating in any physical education instruction.

(d) In addition to physical education instruction under subsections (a)–(c), students of both sexes shall have equal access in interscholastic and intramural athletic programs to all of the following:

1. School facilities.
2. Coaching and instruction.
4. Number of activities at each level of competition.
5. Equipment, supplies and services.
6. Funding appropriate to the sport.
(c) School districts may sponsor coeducational teams in interscholastic and intramural sports programs.

(e) Under the Individuals with Disabilities Education Act and this part, children with disabilities shall be involved in and progress in the general curriculum under this chapter.

(f) Students who are gifted as defined in this part shall be provided an education that enables them to participate in acceleration or enrichment, or both, as appropriate.

(g) The provisions of this § 4.27 amended under section 2603-B of the Public School Code of 1949 (24 P.S. § 26-2603-B).

Authority

The provisions of this § 4.27 amended under section 2603-B of the Public School Code of 1949 (24 P.S. § 26-2603-B).

Source


§ 4.28. Special education.

(a) Under the Individuals with Disabilities Education Act and this part, children with disabilities shall be involved in and progress in the general curriculum under this chapter.

(b) Students who are gifted as defined in this part shall be provided an education that enables them to participate in acceleration or enrichment, or both, as appropriate.

(c) The educational program provided to children with disabilities shall be in accordance with their Individualized Education Programs under the Individuals with Disabilities Education Act and this part.

(d) Interscholastic and intramural teams playing contact sports may be separated by sex, but this subsection may not be used to exclude students of either sex from participating in a sport.

(e) School districts may sponsor coeducational teams in interscholastic and intramural sports programs.

(f) Interscholastic and intramural teams playing contact sports may be separated by sex, but this subsection may not be used to exclude students of either sex from participating in a sport.

(g) In addition to physical education instruction under subsections (a)–(c), students of both sexes shall have equal access in interscholastic and intramural athletic programs to all of the following:

1. School facilities.
2. Coaching and instruction.
4. Number of activities at each level of competition.
5. Equipment, supplies and services.
6. Funding appropriate to the sport.
(c) School districts may sponsor coeducational teams in interscholastic and intramural sports programs.

(e) Under the Individuals with Disabilities Education Act and this part, children with disabilities shall be involved in and progress in the general curriculum under this chapter.

(f) Students who are gifted as defined in this part shall be provided an education that enables them to participate in acceleration or enrichment, or both, as appropriate.

(g) The provisions of this § 4.27 amended under section 2603-B of the Public School Code of 1949 (24 P.S. § 26-2603-B).

Authority

The provisions of this § 4.27 amended under section 2603-B of the Public School Code of 1949 (24 P.S. § 26-2603-B).

Source

(d) Planned instruction for children with disabilities shall conform to the requirements established for children with disabilities in § 4.39 relating to planned instruction.

§ 4.29. HIV/AIDS and other life-threatening and communicable diseases.

(a) Instruction regarding prevention of human immunodeficiency virus (HIV) infection/acquired immunodeficiency syndrome (AIDS) and other life-threatening and communicable diseases shall be given for primary, intermediate, middle school and high school education and shall follow the requirements of subsections (b) and (c).

(b) Educational materials and instruction shall be determined by the local school district and be appropriate to the age group being taught. The program of instruction must include information about the nature of the diseases, treatments and cures, methods of transmission and how infection can be prevented. The school district may omit instruction in the elementary grades on transmission of disease through sexual activity. Programs discussing transmission through sexual activity must stress that abstinence from sexual activity is the only completely reliable means of preventing sexual transmission. Programs must stress that avoidance of illegal drug use is the only completely reliable means of preventing transmission of disease through shared drug paraphernalia.

(c) A school entity shall excuse a pupil from HIV/AIDS instruction when the instruction conflicts with the religious beliefs or principles of the pupil or parent or guardian of the pupil and when excusal is requested in writing. Prior to the commencement of instruction, a school district shall publicize that detailed curriculum outlines and curricular materials used in conjunction with the instruction are available to pupils and guardians during normal school hours or at teacher-parent conferences. Curricular materials, if practical, shall be made available by the school entity for home instructional use by a parent or guardian of a student who has been excused from the school entity's HIV/AIDS instruction.

Authority

The provisions of this § 4.29 amended under section 2603-B of the Public School Code of 1949 (24 P. S. § 26-2603-B).

Source

competency assessed by completion of the appropriate assessment under the Pennsylvania Skills Certificate Program or by completion of another occupational competency assessment approved by the Department. A student with a disability shall be provided appropriate accommodations when provided for in the student's individualized education program. Students shall also demonstrate proficiency in meeting academic standards as required under § 4.24 (relating to high school graduation requirements), including § 4.12(f) (relating to academic standards) and § 4.24(g) for students with disabilities with an individualized education program.

(b) Vocational-technical education courses may be taught at AVTSs or other high schools.

(c) Vocational-technical education programs must consist of a series of planned academic and vocational-technical education courses that are articulated with one another so that knowledge and skills are taught in a systematic manner. When appropriate, vocational-technical education programs must adopt, in program areas for which they are available, industry recognized skills standards and may also include cooperative vocational-technical education and participation in vocational student organizations to develop leadership skills.

(d) Vocational-technical education courses must include content based upon occupational analysis, clearly stated performance objectives deemed critical to successful employment and assessment of student competencies based upon performance standards.

(e) The record of a student enrolled in a vocational-technical education program must include the student's educational and occupational competencies under subsection (b). Safety education, consisting of safety practices, accident prevention, health habits and environmental concerns shall be integrated into the instruction and practices in vocational-technical education programs.

(f) Vocational-technical education programs must be taught at AVTSs or other high schools.

(g) School districts and AVTSs administering vocational-technical education programs shall develop written policies regarding admissions. Course announcements, guidance materials and other communications must convey the philosophy of equal access to students considering enrolling in AVTSs and include a description of admissions policies. The policies must assure that when admissions to AVTSs must be limited, the admissions shall be on a nondiscriminatory basis.

Authority
The provisions of this § 4.31 amended under sections 121, 2603-B and 2604-B of the Public School Code of 1949 (24 P. S. §§ 1-121, 26-2603-B and 26-2604-B).

Source

Cross References
This section cited in 22 Pa. Code § 4.23 (relating to high school education); 22 Pa. Code § 4.24 (relating to high school graduation requirements); and 22 Pa. Code § 4.32 (relating to standards and reports).
§ 4.32. Standards and reports.

(a) The Secretary is responsible for the promulgation of standards appropriate for implementing § 4.31 (relating to vocational-technical education). Present standards, to the extent that they are inconsistent, are superseded by this chapter.

(b) The Secretary will report annually to the Board on the status of vocational-technical education programs, including tech-prep and apprenticeship programs. Reports will include numbers and types of programs, numbers of students, post-program status of students, Statewide competency standards and assessment information.

Cross References

This section cited in 22 Pa. Code § 4.23 (relating to high school education).

§ 4.33. Advisory committees.

(a) A school district or AVTS administering or planning to administer vocational-technical education programs shall appoint a local advisory committee. Membership on the committee shall consist of business and industry representatives, public sector employers, agriculture, labor organizations, community organizations, postsecondary education institutions and the general public. The appointed advisory committee shall meet at least once each year and give advice to the board and the administration concerning the program of the school, including its general philosophy, academic and other standards, course offerings, support services, safety requirements and the skill needs of employers.

(b) An advisory committee, composed of chief school administrators representing participating school districts, shall be included in the organization of each AVTS. The committee shall advise the AVTS board and the administration concerning the educational program and policies of the school.

(c) An occupational advisory committee shall be established for each vocational-technical education program or cluster of related programs offered by a school district or AVTS. The program or cluster of related programs shall be established by the board of directors, and a majority of the members of the committee shall be employees in the occupation for which training is provided. The committee shall meet at least twice each year to advise the board, administration and staff concerning curriculum, equipment, instructional materials, safety requirements, program evaluation and other related matters and to verify that the programs meet industry standards and, if appropriate, licensing board criteria and that they prepare students with occupation related competencies.

Authority

The provisions of this § 4.33 amended under sections 121, 2603-B and 2604-B of the Public School Code of 1949 (24 P. S. §§ 1-121, 26-2603-B and 26-2604-B).

Source

§ 4.34 Programs and equipment.

(a) A satellite vocational-technical education program may be operated by an AVTS board in conformity with a memorandum of understanding adopted with the participating school district's board of school directors.

(b) Certified guidance personnel in each secondary school and AVTS shall be assigned responsibility to provide pupils with vocational-technical guidance services.

§ 4.35 AVTSs.

(a) AVTS attendance areas shall conform to the plan of the State Board for Vocational Education. Boards of school directors may petition the State Board for Vocational Education for attendance area assignment or reassignment.

(b) The following provisions apply to the establishment of AVTSs:

(1) Where more than one district constitutes an attendance area, the appropriate intermediate unit may, upon the request of any school district, assign the attendance area to determine if an AVTS shall be established.

(2) A school district within the attendance area may elect to participate in the establishment of an AVTS.

(3) The following provisions apply to articles of agreement for the establishment and operation of AVTSs:

(1) The boards of school directors of the school districts electing to participate in the establishment of the AVTS shall enter into a written agreement setting forth their rights and obligations in the AVTS.

(2) The following provisions apply to articles of agreement for the establishment and operation of AVTSs:

(a) Equipment will be deemed appropriate if it is compatible, as far as practical, to that used in occupations or households in which vocational-technical education is provided.
SCHEDULING AND LEARNING OPTIONS

§ 4.41. Scheduling.

(a) Kindergarten programs shall provide each kindergarten student with at least 2 1/2 hours of instruction each day for the full school term unless the school district, including charter schools, obtains prior Department approval for an alternative kindergarten program.

(b) A school district, including charter schools, shall obtain approval of the Department prior to scheduling 1/2-day sessions other than in kindergarten under subsection (a). A school district is not required to obtain approval of the Department prior to scheduling 1/2 day sessions for prekindergarten under subsection (e).

(c) A school district shall obtain approval of the Department prior to establishing a new school or changing school organization.

(d) Planned instruction offered in summer school may be designed as credit or noncredit offerings.

(e) School districts with prekindergarten programs shall provide prekindergarten students with at least 2 1/2 hours of instruction each day for the full school term unless the school district obtains prior Department approval for an alternative prekindergarten program.

Authority

The provisions of this § 4.41 amended under section 2603-B of the Public School Code of 1949 (24 P. S. § 26-2603-B).

Source

The provisions of this § 4.41 amended under section 2603-B of the Public School Code of 1949 are 36 Pa.B. 7542. Immediately preceding text appears at serial pages (252336) to (252337).

§ 4.42. Grade structure.

This chapter does not require educational programs to be organized in traditional grades according to the students' chronological ages or academic achievement levels.
(5) Provide results to school entities based upon the aggregate performance of all students, for students with an Individualized Education Program (IEP) and for those without an IEP.

(6) Assess student proficiency in the Academic Standards for English Language Arts (Appendix A-2), Mathematics (Appendix A-2), Science and Technology and Environment and Ecology (Appendix B) and Civics and Government (Appendix C) for the purpose of determining, in part, a student's eligibility for high school graduation.

(b) The State assessment system must include PSSA assessments and Keystone Exams.

(c) Neither State assessments nor academic standards under § 4.12 may require students to hold or express particular attitudes, values or beliefs.

(d) The Department will make samples of State assessment questions, assessment formats and scoring guides available to the public after each administration of State assessments.

(e) To ensure that information regarding student performance is available to parents and teachers, State assessments developed under this section must include student names.

(f) Individual assessment results shall be used in planning instruction only by parents, teachers, administrators and guidance counselors with a need to know.

(g) The Department and other Commonwealth entities are prohibited from collecting individual student test scores and may collect only aggregate test scores by school and district.

(h) The Board will authorize the expansion of the State assessment system through a revision of this chapter.

(i) The Department will implement provisions for security of the State assessment system, including the following:

(1) Action by a professional employee or commissioned officer that is willfully designed to divulge test questions, falsify student scores or in some other fashion compromise the integrity of the State assessment system as determined by the school district, A VTS or charter school, including a cyber charter school, shall be subject to disciplinary action under the Educator Discipline Act (24 P. S. §§ 2070.1—2070.18c).

(2) Cheating by students or employees other than those covered in paragraph (1) shall be subject to disciplinary action by the school district, A VTS or charter school, including a cyber charter school, which may include suspension or termination for cause.

(3) Subject to paragraph (3), the Board will not, and the Department may not, be a governing state in any consortium for the development of a National assessment system.

(4) The Department may continue to participate in a consortium to develop an alternate assessment to measure the academic progress of students identified under Chapter 14.

(5) Individual assessment results shall be used in planning instruction only by parents, teachers, administrators and guidance counselors with a need to know.

(6) The Department and other Commonwealth entities are prohibited from collecting individual student test scores.

(7) The Department will make samples of State assessment questions, assessment formats and scoring guides available to the public after each administration.

(i) The Department will implement provisions for security of the State assessment system, including the following:

(1) Action by a professional employee or commissioned officer that is willfully designed to divulge test questions, falsify student scores or in some other fashion compromise the integrity of the State assessment system as determined by the school district, A VTS or charter school, including a cyber charter school, shall be subject to disciplinary action under the Educator Discipline Act (24 P. S. §§ 2070.1—2070.18c).

(2) Cheating by students or employees other than those covered in paragraph (1) shall be subject to disciplinary action by the school district, A VTS or charter school, including a cyber charter school, which may include suspension or termination for cause.

(3) Subject to paragraph (3), the Board will not, and the Department may not, be a governing state in any consortium for the development of a National assessment system.

(4) The Department may continue to participate in a consortium to develop an alternate assessment to measure the academic progress of students identified under Chapter 14.

(5) Individual assessment results shall be used in planning instruction only by parents, teachers, administrators and guidance counselors with a need to know.

(6) The Department and other Commonwealth entities are prohibited from collecting individual student test scores.

(7) The Department will make samples of State assessment questions, assessment formats and scoring guides available to the public after each administration.
Cheating or breaches of assessment security shall be reported to the Secretary as soon as detected.

The Secretary is authorized to establish guidelines for the administration of the State assessment system.

The Secretary will report each September to the Board and the General Assembly information and pertinent data regarding the State assessment system. The Secretary also will provide each school entity information and pertinent data for the school entity and its students.

Children with disabilities and children with limited English proficiency shall be included in the State assessment system as required by Federal law, with appropriate accommodations when necessary. As appropriate, the Commonwealth will develop guidelines for the participation of children with disabilities in alternative assessments for those children who cannot participate in the PSSA or Keystone Exams as determined by each child's individualized education program under the Individuals with Disabilities Education Act and this part.

Authority

In administering the Pennsylvania system of school assessment, the Secretary is authorized to establish guidelines for the administration of the assessment system.

The Secretary is authorized to establish guidelines for the administration of the assessment system.

Cross References

responses to questions that demonstrate knowledge of each category of the standards for science and technology and environment and ecology.

(4) Performance levels shall be advanced, proficient, basic and below basic. In consultation with educators, students, parents and citizens, the Department will develop and recommend to the Board for its approval specific criteria for advanced, proficient, basic and below basic levels of performance.

(b) The Department will develop or cause to be developed PSSA assessments based on Pennsylvania Core Standards in Mathematics and English Language Arts under § 4.12 (relating to academic standards) and contained in Appendix A-2 and academic standards in Science and Technology and Environment and Ecology under § 4.12 and contained in Appendix B. In developing PSSA assessments, the Department will consult with educators, students, parents and citizens regarding the specific methods of assessment.

(c) The PSSA assessments shall be administered with the academic standards contained in Appendix A-2 and assess the academic content traditionally included in high school level mathematics and composition courses.


Cross References
This section cited in 22 Pa. Code § 4.21 (relating to elementary education: primary and intermediate levels); and 22 Pa. Code § 4.24 (relating to high school graduation requirements).


(a) The Department will develop or cause to be developed Keystone Exams as provided in this subsection. (This subsection is intended by the Board to be a continuation of § 4.51(f) (relating to State assessment system) as published at 40 Pa.B. 240 (January 9, 2010) and referenced in section 102 of the School Code (24 P. S. § 102).

(1) Three assessments aligned with the Mathematics standards, contained in Appendix A-2, that assess the academic content traditionally included in Algebra I, Algebra II and Geometry courses.

(2) Two assessments aligned with select English Language Arts standards, contained in Appendix A-2 that assess academic content traditionally included in high school literature and composition courses.

(3) Three assessments aligned with select History and Civics and Government standards, contained in Appendix C, that assess the academic content traditionally included in high school level American History, World History and Civics and Government courses.

(4) Two assessments aligned with select standards for Science and Technology and Environment and Ecology, contained in Appendix B, that assess academic content traditionally included in high school level Biology and Chemistry courses.

(b) Keystone Exams shall be offered at least three times each year: once each in the fall, spring and summer.
(c) Keystone Exams shall be administered, reviewed and scored so that scores for candidates for graduation are provided to schools no later than 10 calendar days prior to graduation. A school district, A VTS or charter school, including a cyber charter school, may request the Department to approve alternative test administration and scoring time frames. The Department will publish guidelines and procedures for approving alternative test administration and scoring time frames on its web site. The guidelines will provide for approval of all requests unless the approval is contrary to standards of test validity and scoring.

(d) A student shall be permitted to retake any Keystone Exam, or Keystone Exam module, in which the student did not score proficient or above at the next available testing date, so long as the student has participated in satisfactory manner in supplemental instruction as provided under § 4.24(k) (relating to high school graduation requirements) and subsection (f). There is not a limit on the number of times a student who did not score proficient on a Keystone Exam is permitted to retake the Keystone Exam or Keystone Exam module. A student who has achieved a score of proficient or advanced on a Keystone Exam is not permitted to retake the exam.

(e) Each Keystone Exam will be designed in modules that reflect distinct, related academic content that is common to the traditional progression of course-work to allow students who do not score proficient or above to retake those portions of the test in which they did not score proficient or above.

(f) A student taking Keystone Exams, or Keystone Exam modules, who did not score proficient on a Keystone Exam, or Keystone Exam module, shall be provided supplemental instruction consistent with the student's educational program by the student's school district, A VTS or charter school, including a cyber charter school, until the student can demonstrate proficiency in the subject area or the student begins a project-based assessment provided in § 4.51c (relating to project-based assessment).

(g) Performance levels for Keystone Exams shall be set at the advanced, proficient, basic and below basic levels. In consultation with the Performance Level Advisory Committee, the Department will develop and recommend to the Board for its approval performance level descriptors and performance level cut scores for the Keystone Exams and any alternative assessments developed to assess students with disabilities as permitted by the No Child Left Behind Act of 2001. The Department will use widely accepted psychometric procedures to establish the cut scores. Cut scores shall be presented at a public meeting of the Board for its review at least 2 weeks prior to scheduled Board action on the cut scores. No俊 to the public meeting of the Board, the Department will also publish the cut scores on its web site.

(h) The Department will provide guidance to school districts, A VTSs and charter schools, including cyber charter schools, as to the appropriate accommodations school entities shall provide to students with disabilities, students who are gifted and English language learners, when appropriate.

(i) Beginning in the 2012-2013 school year, Keystone Exams in the following subjects will be developed by the Department and made available for use by school districts, A VTSs and charter schools, including cyber charter schools, for the purpose of assessing high school graduation requirements in § 4.24(c)(1)(iii):

- Algebra I
- Literature
- Biology
- History
Subject to funding appropriated by the General Assembly for development of the exams and related project-based assessments and validation of related local assessments, Keystone Exams in the following subjects will be developed by the Department and made available for use by school districts, A VTSs and charter schools, including cyber charter schools, for the purpose of assessing high school graduation requirements in § 4.24(c)(1)(iii) in accordance with the following schedule:

**School Year 2015-2016**
- English Composition

**School Year 2016-2017**
- Civics and Government

**School Year 2016-2017**
- Geometry

**School Year 2017-2018**
- U.S. History

**School Year 2018-2019**
- Algebra II

**School Year 2019-2020**
- Chemistry

**School Year 2020-2021**
- World History

The Department will seek to have the Keystone Exams approved as the high school level single accountability system under the No Child Left Behind Act of 2001. Upon approval by the United States Department of Education, the Algebra I and Literature exams will be used to determine adequate yearly progress at the high school level. The Biology Keystone Exam will be used as the high school level science assessment, which is not a factor in determining adequate yearly progress. If the Keystone Exams receive approval as the high school level accountability measure, school districts, A VTSs and charter schools, including cyber charter schools, shall administer the Literature, Algebra I and Biology exams as end-of-course tests in the grade level in which students complete the following courses:

- School Year 2015-2016: World History
- School Year 2016-2017: Algebra II
- School Year 2017-2018: U.S. History
- School Year 2018-2019: Geometry
- School Year 2019-2020: Literature

The Department will contract with a qualified, independent research organization to perform a validity study of the Keystone Exams using generally accepted education research standards. These studies will determine, at a minimum, the degree to which the Keystone Exams and performance level cut scores are valid for the purposes for which they are used; aligned with State academic standards; aligned with performance levels of other states; and include other measures of student achievement for which the Department is responsible.
The Department will establish a State Assessment Validation Advisory Committee. The Committee will advise the Department on its plans to conduct the validity study and review and provide feedback on its findings. The Department and the Committee will investigate the use of a certificate based on industry approved standards and performance on an NOCTI exam as an alternative pathway to graduation and will make a report and recommendation to the Board by January 10, 2011.
§ 4.51d. Waivers.

A chief school administrator, in his sole discretion, may waive the requirements in § 4.24 (relating to high school graduation requirements) on a case-by-case basis for good cause. Waivers may be granted for a student in grade 12 who was not successful in completing a Keystone assessment as provided in § 4.51c

(1) Prior to granting a waiver, a chief school administrator shall certify that:

(i) Has met the following conditions:

(1) Has taken the course.

(ii) Has met the attendance requirements of the school district, A VTS or charter school, including a cyber charter school.

(iii) Has participated in satisfactory manner in supplemental instructional services consistent with the student’s educational program provided by the school district, A VTS or charter school, including a cyber charter school, as provided under §§ 4.24(e) and 4.51b(f).

(f) Successful completion of a project-based assessment aligned to the Keystone Exam or Keystone Exam module on which a student did not demonstrate proficiency shall satisfy the requirements that students achieve proficiency on the Keystone Exams as provided in § 4.24.

(2) Has met the attendance requirements of the school district, A VTS or charter school, including a cyber charter school.

(3) Has participated in a Keystone assessment on subjects where the student’s educational program provided by the school district, A VTS or charter school, including a cyber charter school, is not sufficient to meet the requirements stated in § 4.24.
(i) Has not demonstrated proficiency on a Keystone Exam or Keystone Exam module.
(ii) If the student is required to participate in supplemental instruction under § 4.24(k) and § 4.51b(f) (relating to Keystone Exams), has participated in a satisfactory manner in supplemental instructional services consistent with the needs of the student.
(iii) Has not successfully completed a project-based assessment aligned to the Keystone Exam or Keystone Exam module on which the student did not demonstrate proficiency.

(2) If a chief school administrator is considering granting waivers for more than 10% of students in the graduating class of a school district, A VTS or charter school, including a cyber charter school, because the students were not successful in completing a project-based assessment as provided in § 4.51c, the chief school administrator shall submit an action plan for approval by the Secretary no later than 10 calendar days prior to graduation. The action plan must identify improvements the school district, A VTS or charter school, including a cyber charter school, will implement to each course associated with the Keystone Exam content for which the waivers were granted.

(3) The chief school administrator of each school district, A VTS and charter school, including a cyber charter school, shall annually report to the Department the number of waivers granted to students in the most recent graduating class, and the Department will annually report to the Board the number of waivers granted by each school district, A VTS and charter school, including a cyber charter school.

(4) The waiver process described in this section does not confer an individual right on any student.

(5) The decision of a chief school administrator concerning a waiver request is not an adjudication.

(6) Disapproval of the action plan required under paragraph (2) does not affect the validity of any waiver previously granted.

Authority

Source
The provisions of this § 4.51d issued under sections 121, 2603-B and 2604-B of the Public School Code of 1949 (24 P. S. §§ 1-121, 26-2603-B and 26-2604-B).

§ 4.52. Local assessment system.

(a) Each school entity shall design an assessment system to do the following:

(1) Determine the degree to which students are achieving academic standards and meet the requirements under § 4.12 (relating to academic standards). The school entity shall provide assistance to students not meeting academic standards. The school entity shall determine the degree to which students are achieving academic standards in the following:

(A) State-wide assessment system used in support of instructional services consistent with the needs of the student.

(B) If the student is enrolled in a school district, A VTS or charter school, including a cyber charter school, under § 424(c) and § 4.51b(f) (relating to Keystone Exams), the student has not demonstrated proficiency on a Keystone Exam or Keystone Exam module.
The Department will establish a Local Assessment Validation Advisory Committee, consisting of experts with knowledge in education, assessment, and data analysis, to develop and review criteria for the local validation process. The Committee will be responsible for developing criteria for the selection of approved validation entities and for monitoring the validity of the local assessment system.

In consultation with the Committee, the Department will establish a list of approved entities to perform independent validations of local assessments. The Committee will review and approve or disapprove the criteria, selection criteria, and list of approved entities. The Department will post the approved criteria, selection criteria, and list of approved entities on its website.

The Department will also ensure that the local assessment system is aligned with the state's educational standards. The system will be designed to assess specific academic standards and will be evaluated on a regular basis. The results of the assessment will be reported in a manner consistent with section 444 of the Family Educational Rights and Privacy Act of 1974 (20 U.S.C.A. § 1232g) and 34 CFR Part 99 (relating to family educational rights and privacy).

The Department will also ensure that the local assessment system is inclusive of students with disabilities. The system will provide appropriate accommodations for students with disabilities, as determined by the Individualized Education Program team under the Individuals with Disabilities Education Act (IDEA). The school district, including a charter school, including a cyber charter school, or A VTS shall develop guidelines for the participation of students with disabilities in the local assessment system, with appropriate accommodations, when necessary.

The Department will also establish a Local Assessment Validation Advisory Committee (Committee). The Committee will develop the criteria for the local validation process and criteria for selection of approved validation entities as provided in § 4.24(c)(1)(iii)(B) (relating to high school graduation requirements). The Department, in consultation with the Committee, will establish the criteria for the local assessment system.

The Department will also ensure that the local assessment system is aligned with the state's educational standards. The system will be designed to assess specific academic standards and will be evaluated on a regular basis. The results of the assessment will be reported in a manner consistent with section 444 of the Family Educational Rights and Privacy Act of 1974 (20 U.S.C.A. § 1232g) and 34 CFR Part 99 (relating to family educational rights and privacy).

The Department will also ensure that the local assessment system is inclusive of students with disabilities. The system will provide appropriate accommodations for students with disabilities, as determined by the Individualized Education Program team under the Individuals with Disabilities Education Act (IDEA). The school district, including a charter school, including a cyber charter school, or A VTS shall develop guidelines for the participation of students with disabilities in the local assessment system, with appropriate accommodations, when necessary.

The Department will also establish a Local Assessment Validation Advisory Committee (Committee). The Committee will develop the criteria for the local validation process and criteria for selection of approved validation entities as provided in § 4.24(c)(1)(iii)(B) (relating to high school graduation requirements). The Department, in consultation with the Committee, will establish the criteria for the local assessment system.
Authority
The provisions of this § 4.52 amended under sections 121, 2603-B and 2604-B of the Public School Code of 1949 (24 P. S. §§ 1-121, 26-2603-B and 26-2604-B).

Source

Cross References

§ 4.61. School profiles.
(a) School profiles developed by the Secretary will include information as required under section 220 of the School Code (24 P. S. § 2-220).
(b) The Secretary will prescribe procedures for reporting State assessment data to schools and communities.
(c) The Secretary will make available to the public, and report to the public with the same frequency and in the same detail as for children who are nondisabled, all data as required under the Individuals with Disabilities Education Act.

Authority
The provisions of this § 4.61 amended under sections 121, 2603-B and 2604-B of the Public School Code of 1949 (24 P. S. §§ 1-121, 26-2603-B and 26-2604-B).

Source

PROVISIONS RELATING TO OTHER THAN PUBLIC SCHOOLS
§ 4.71. Certification by principal of nonpublic nonlicensed school.
Elementary or secondary nonpublic nonlicensed schools shall, within 30 days of beginning classes, file a notarized certificate with the Secretary as required by section 1327(b)(1) and (2) of the School Code (24 P. S. § 13-1327(b)(1) and (2)) in the form prescribed by the Secretary.

§ 4.72. Credentials other than the high school diploma.
The requirements for a Commonwealth secondary school diploma are as follows:
(1) The Commonwealth secondary school diploma may be issued to an applicant who is a resident of the Commonwealth and does not possess a sec-
(2) In addition to the provisions of paragraph (1), the Commonwealth secondary school diploma may be issued to an applicant who is a resident of this Commonwealth, does not possess a secondary school diploma, and is not enrolled in a public, licensed private, registered accredited or licensed nonpublic secondary school upon earning a passing score as determined by the Department on the high school level tests of General Educational Development (GED). A person 18 years of age or older may qualify for GED testing upon request. A person between 16 and 18 years of age may qualify for GED testing upon the issuance of a court order or at the written request of one of the following:

(i) An employer who requires a high school equivalency credential for job opportunities.
(ii) An official of an accredited institution of postsecondary education which accepts applicants on the basis of GED test scores.
(iii) A recruiting officer of a branch of the armed forces that requires a high school equivalency credential for entry of new recruits.
(iv) The director of a State institution on behalf of residents, patients or inmates.

(3) The Department will not ordinarily issue a diploma until after the high school class of which the applicant was a member has been graduated. This restriction may be waived by the Department upon the recommendation of the school district for persons between 16 and 18 years of age who meet the higher education or GED requirements for the secondary school diploma.

§ 4.73. Correspondence schools.

An applicant 18 years of age or older will be issued a Certificate of Preliminary Education upon presentation to the Department of evidence of the issuance of a high school diploma by an accredited private correspondence school licensed by the Department of Education, if such evidence is submitted within 12 months of the date the second school term of the high school reaches its conclusion.

§ 4.74. Students in special situations.

(a) A foreign student without educational credentials may earn the Commonwealth secondary school diploma by meeting the requirements under § 4.72 (relating to credentials other than the high school diploma).
(b) A graduate of a secondary school in another state which is not on an approved list of secondary schools may earn an appropriate credential by passing an examination administered by the Department of Education, if such examination is administered in a manner prescribed by the Department.
(c) Credit granted by a public school in this Commonwealth shall be accepted by all public schools in this Commonwealth upon the recommendation of the Commonwealth secondary school principal.
(d) Credit granted by a private school in the Commonwealth shall be accepted by all private schools in the Commonwealth upon the recommendation of the Commonwealth secondary school principal.

Cross References
This section cited in 22 Pa. Code § 4.74 (relating to students in special situations).
§ 4.81. Allegations of deficiencies.

(a) The Secretary will receive and investigate allegations of curriculum deficiencies from professional employees, commissioned officers, parents of students or other residents of a school entity.

(b) The Secretary will notify the school entity's superintendent or chief executive of allegations and may require the superintendent or chief executive to submit one or more of the following:

(1) Relevant descriptions of planned instruction.
(2) A series of written articulated courses of instructional units.
(3) Relevant student assessment information.
(4) Information on staff assignments.
(5) Other information pertinent to investigating a specific allegation.

(c) If the Secretary determines that a curriculum deficiency exists, the school entity shall be required to submit to the Secretary for approval a plan to correct the deficiency.

(d) Within 1 year of the implementation of a corrective action plan under subsection (c), the Secretary will review the actions taken to correct the deficiency. If the deficiency remains uncorrected, the Secretary will send a formal notice of deficiency to the governing board of the school entity, and the notice shall be announced at the meeting of the school entity's governing board immediately following its receipt.

(e) If the school entity does not take appropriate actions to correct the deficiency after the notice of deficiency is announced, the Secretary will take action under State law.

Authority

The provisions of this § 4.81 amended under the Public School Code of 1949 (24 P. S. 26-2603-B).

Source


Notes of Decisions

Inapplicable Offense

Educator's argument that the offensive conduct of manufacturing of grades was a curriculum deficiency that should be resolved under the Academic Standards and Assessment Chapter of the Administrative Code is misplaced. The conduct is properly prosecuted under the Teacher Certification Law.

The request shall be made prior to initiating the action requiring approval and shall have the prior approval of the board of school directors.

(b) The Secretary will report annually to the Board on the nature and status of requests for exceptions under this section.

Authority

The provisions of this § 4.83 amended under the Public School Code of 1949 (24 P. S. 26-2603-26-2604).

Source


§ 4.83. [Reserved].

Source

APPENDIX A

[Reserved]

Source

The provisions of this Appendix A adopted January 15, 1999, effective January 16, 1999, 29 Pa.B. 399; reserved by correction July 19, 2013, effective June 30, 2013, replaced by Appendix A-1, 43 Pa.B. 4079, unless otherwise noted. Immediately preceding text appears at serial pages (252345) to (252422) and (286561) to (286562).

APPENDIX A-1

[Reserved]

Source

The provisions of this Appendix A-1 renumbered from Appendix B adopted October 15, 2010, effective July 1, 2013, 40 Pa.B. 5903; correction published at 43 Pa.B. 4079; reserved February 28, 2014, effective March 1, 2014, 44 Pa.B. 1131, unless otherwise noted. Immediately preceding text appears at serial pages (367438) and (353099) to (353316).

APPENDIX A-2

Pennsylvania Core Standards for English Language Arts and Mathematics

Pennsylvania Core Standards for English Language Arts

Grades Pre K-5

Authority

These standards describe what students should know and be able to do with the English language, prekindergarten through Grade 12. These standards provide the English language proficiency that college- and career-ready graduates need to meet local students needs.

ARTICLE

These standards describe what students should know and be able to do with the English language, prekindergarten through Grade 12. These standards provide the English language proficiency that college- and career-ready graduates need to meet local students needs.

APPENDIX A

[Reserved]

APPENDIX A-1

[Reserved]

APPENDIX A-2

Pennsylvania Core Standards for English Language Arts

Grades Pre K-5

Source

The provisions of this Appendix A-2 issued under sections 121, 2603-B and 2604-B of the Public School Code of 1949 (24 P. S. §§ 1-121, 26-2603-B and 26-2604-B), unless otherwise noted. The provisions of this Appendix A-2 adopted February 28, 2014, effective March 1, 2014, 44 Pa.B. 1131, unless otherwise noted.

Cross References

Standard 1: Foundational Skills

begin at prekindergarten and focus on early childhood, with some standards reflected through Grade 5. These foundational skills are necessary and important early skills that begin a prekindergarten and focus on more complex tasks.

Standard 2: Reading Informational Text

enables students to read, understand, and respond to informational text.

Standard 3: Reading Literature

enables students to read, understand, and respond to works of literature.

Standard 4: Writing

develops the skills of informational, argumentative, and narrative writing, as well as the ability to engage in evidence-based analysis of text and research.

Standard 5: Speaking and Listening

focuses students on communication skills that enable critical listening and effective presentation of ideas.

With a focus on college and career readiness, the PA Core Standards stress an academically focused vocabulary so that students can access more complex texts. Focusing on the close and careful reading of text so that students are challenged in the reading of informational and literary texts, as well as the access to more complex texts.

The English Language Arts Standards also provide parents and community members with information about what students should know and be able to do at each grade level and reflect on the progress of students in their educational program.

With a focus on college and career readiness, the PA Core Standards stress an academically focused vocabulary so that students can access more complex texts. Focusing on the close and careful reading of text so that students are challenged in the reading of informational and literary texts, as well as the access to more complex texts.
TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Foundational Skills (Pre K-5)</th>
<th>1.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students gain a working knowledge of concepts of print, alphabetic principle, and other basic conventions. These foundational skills are not an end in and of themselves; rather, students apply them as effective readers.</td>
<td></td>
</tr>
<tr>
<td>Book Handling</td>
<td>Print Concepts</td>
</tr>
<tr>
<td>Reading Informational Text</td>
<td>1.2</td>
</tr>
<tr>
<td>Students read, understand, and respond to informational text—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.</td>
<td></td>
</tr>
<tr>
<td>Key Ideas and Details</td>
<td>Craft and Structure</td>
</tr>
<tr>
<td>Reading Literature</td>
<td>1.3</td>
</tr>
<tr>
<td>Students read and respond to works of literature—with emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.</td>
<td></td>
</tr>
<tr>
<td>Key Ideas and Details</td>
<td>Craft and Structure</td>
</tr>
<tr>
<td>Writing</td>
<td>1.4</td>
</tr>
<tr>
<td>Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.</td>
<td></td>
</tr>
<tr>
<td>Informative/Explanatory</td>
<td>Opinion/Argumentative</td>
</tr>
<tr>
<td>Speech and Listening</td>
<td>1.5</td>
</tr>
<tr>
<td>Students present appropriately in formal speaking situations, listen critically, and respond intelligently as individuals or in group discussions.</td>
<td></td>
</tr>
<tr>
<td>Comprehension and Collaboration</td>
<td>Presentation of Knowledge and Ideas</td>
</tr>
<tr>
<td>Reading Informational Text</td>
<td>1.6</td>
</tr>
<tr>
<td>Students read and respond to informational text with a focus on textual evidence.</td>
<td></td>
</tr>
<tr>
<td>Key Ideas and Details</td>
<td>Phonics and Word Recognition</td>
</tr>
</tbody>
</table>

In mathematics, these foundational skills are not an end in and of themselves; rather, students apply them as effective readers.
1.1 Foundational Skills
Students gain a working knowledge of concepts of print, alphabetic principle, and other basic conventions.

<table>
<thead>
<tr>
<th>Book Handling</th>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.1.1.PK.A</td>
<td>Practice appropriate book handling skills.</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
</tr>
</tbody>
</table>
## 1.1 Foundational Skills

Students gain a working knowledge of concepts of print, alphabetic principle, and other basic conventions.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
</table>
| **Print Concepts** | **CC.1.1.PK.B** Identify basic features of print.  
• Differentiate between numbers and letters and words.  
• Recognize and name some uppercase and lowercase letters of the alphabet. | **CC.1.1.K.B** Demonstrate understanding of the organization and basic features of print.  
• Follow words left to right, top to bottom, and page by page.  
• Recognize that spoken words are represented in written language by specific sequences of letters.  
• Understand that words are separated by spaces in print.  
• Recognize and name all uppercase and lowercase letters of the alphabet. | Intentionally Blank | Intentionally Blank | Intentionally Blank | Intentionally Blank | Intentionally Blank |
### Foundational Skills

Students gain a working knowledge of concepts of print, alphabetic principle, and other basic conventions.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
</table>
| **CC.1.1.PK.C** | Demonstrate understanding of spoken words, syllables, and sounds (phonemes).  
• Recognize rhyming words and when two or more words begin with the same sound (alliteration).  
• Count syllables in spoken words.  
• Segment single-syllable spoken words.  
• Isolate and pronounce initial sounds. | **CC.1.1.K.C** Demonstrate understanding of spoken words, syllables, and sounds (phonemes).  
• Recognize and produce rhyming words.  
• Count, pronounce, blend, and segment syllables in spoken words.  
• Blend and segment onsets and rimes of single-syllable spoken words.  
• Isolate and pronounce the initial, medial vowel, and final sound (phonemes) in the three-phoneme (CVC) words. | Intentionally Blank | Intentionally Blank | Intentionally Blank | Intentionally Blank |
| **CC.1.1.1.C** | | | | | | |
1.1 Foundational Skills

Students gain a working knowledge of concepts of print, alphabetic principle, and other basic conventions.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.</td>
<td>• Add or substitute individual sounds (phonemes) in one-syllable words to make new words.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 1.1 Foundational Skills

Students gain a working knowledge of concepts of print, alphabetic principle, and other basic conventions.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phonics and Word Recognition</strong></td>
<td><strong>Phonics and Word Recognition</strong></td>
<td><strong>Phonics and Word Recognition</strong></td>
<td><strong>Phonics and Word Recognition</strong></td>
<td><strong>Phonics and Word Recognition</strong></td>
<td><strong>Phonics and Word Recognition</strong></td>
<td><strong>Phonics and Word Recognition</strong></td>
</tr>
<tr>
<td>Develop beginning phonics and word skills.</td>
<td>Know and apply grade-level phonics and word analysis skills in decoding words.</td>
<td>Know and apply grade-level phonics and word analysis skills in decoding words.</td>
<td>Know and apply grade-level phonics and word analysis skills in decoding words.</td>
<td>Know and apply grade-level phonics and word analysis skills in decoding words.</td>
<td>Know and apply grade-level phonics and word analysis skills in decoding words.</td>
<td>Know and apply grade-level phonics and word analysis skills in decoding words.</td>
</tr>
<tr>
<td>• Associate some letters with their names and sounds.</td>
<td>• Demonstrate basic knowledge of one-to-one letter-sound correspondence.</td>
<td>• Identify common consonant diagraphs, final-e, and common vowel teams.</td>
<td>• Distinguish long and short vowels when reading regularly spelled one-syllable words.</td>
<td>• Identify and know the meaning of the most common prefixes and derivational suffixes.</td>
<td>• Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology to read accurately unfamiliar multisyllabic words.</td>
<td>• Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology to read accurately unfamiliar multisyllabic words.</td>
</tr>
<tr>
<td>• Identify familiar words and environmental print.</td>
<td>• Associate the long and short sounds with common spellings for the five major vowels.</td>
<td>• Decode one- and two-syllable words with common patterns.</td>
<td>• Decode two-syllable words with long vowels and words with common prefixes and suffixes.</td>
<td>• Decode words with common Latin suffixes.</td>
<td>• Decode multisyllable words.</td>
<td>• Read grade-appropriate irregularly spelled words.</td>
</tr>
<tr>
<td>• Distinguish between similarly spelled words by identifying the sounds of the letters that differ.</td>
<td>• Read grade-level high-frequency sight words with automaticity.</td>
<td>• Read grade-level words with inflectional endings.</td>
<td>• Read grade-level high-frequency sight words and words with inconsistent but common spelling-sound correspondences.</td>
<td>• Read grade-appropriate irregularly spelled words.</td>
<td>• Read grade-appropriate irregularly spelled words.</td>
<td>• Read grade-appropriate irregularly spelled words.</td>
</tr>
</tbody>
</table>

Ch. 4 ACADEMIC STANDARDS AND ASSESSMENTS

(371119) No. 474 May 14

4-51

ACADEMIC STANDARDS AND ASSESSMENTS

22
1.1 Foundational Skills
Students gain a working knowledge of concepts of print, alphabetic principle, and other basic conventions.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Read grade-appropriate irregularly spelled words.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fluency

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intentionally Blank</td>
<td>CC.1.1.K.E</td>
<td>Read emergent-reader text with purpose and understanding.</td>
<td>CC.1.1.1.E</td>
<td>Read with accuracy and fluency to support comprehension. • Read on-level text with purpose and understanding. • Read on-level text orally with accuracy, appropriate rate, and expression on successive readings. • Use context to confirm or self-correct word recognition and understanding, rereading as necessary.</td>
<td>CC.1.1.2.E</td>
<td>Read with accuracy and fluency to support comprehension. • Read on-level text with purpose and understanding. • Read on-level text orally with accuracy, appropriate rate, and expression on successive readings. • Use context to confirm or self-correct word recognition and understanding, rereading as necessary.</td>
</tr>
</tbody>
</table>
# 1.2 Reading Informational Text

Students read, understand, and respond to informational text—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.

<table>
<thead>
<tr>
<th>Key Ideas and Details</th>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Idea</td>
<td>CC.1.2.PK.A</td>
<td>CC.1.2.K.A</td>
<td>CC.1.2.1.A</td>
<td>CC.1.2.2.A</td>
<td>CC.1.2.3.A</td>
<td>CC.1.2.4.A</td>
<td>CC.1.2.5.A</td>
</tr>
<tr>
<td></td>
<td>With prompting and support, retell key details of text that support a provided main idea.</td>
<td>With prompting and support, identify the main idea and retell key details of text.</td>
<td>Identify the main idea and retell key details of text.</td>
<td>Identify the main idea of a multiparagraph text as well as the focus of specific paragraphs within the text.</td>
<td>Determine the main idea of a text; recount the key details and explain how they support the main idea.</td>
<td>Determine the main idea of a text and explain how it is supported by key details; summarize the text.</td>
<td>Determine two or more main ideas in a text and explain how they are supported by key details; summarize the text.</td>
</tr>
</tbody>
</table>

| Text Analysis         | CC.1.2.PK.B | CC.1.2.K.B | CC.1.2.1.B | CC.1.2.2.B | CC.1.2.3.B | CC.1.2.4.B | CC.1.2.5.B |
|                       | Answer questions about a text. | With prompting and support, answer questions about key details in a text. | Ask and answer questions about key details in a text. | Ask and answer questions such as who, what, where, when, why, and how to demonstrate understanding of key details in a text. | Ask and answer questions about the text and make inferences from text; refer to text to support responses. | Refer to details and examples in text to support what the text says explicitly and make inferences. | Cite textual evidence by quoting accurately from the text to explain what the text says explicitly and make inferences. |

---

<ref>ACADEMIC STANDARDS AND ASSESSMENTS</ref>
# 1.2 Reading Informational Text

Students read, understand, and respond to informational text—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key Ideas and Details Text Analysis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.2.PK.C</td>
<td>With prompting and support, make connections between information in a text and personal experiences.</td>
<td>CC.1.2.K.C</td>
<td>With prompting and support, make a connection between two individuals, events, ideas, or pieces of information in a text.</td>
<td>CC.1.2.1.C</td>
<td>Describe the connection between two individuals, events, ideas, or pieces of information in a text.</td>
<td>CC.1.2.2.C</td>
<td>Describe the connection between a series of events, concepts, or steps in a procedure within a text.</td>
</tr>
<tr>
<td>CC.1.2.4.C</td>
<td>Explain events, procedures, ideas, or concepts in a text, including what happened and why, based on specific information in the text.</td>
<td>E04.B-K.1.1.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.2.5.C</td>
<td>Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a text based on specific information in the text.</td>
<td>E05.B-K.1.1.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Craft and Structure Point of View</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>CC.1.2.3.D</td>
<td>Explain the point of view of the author.</td>
<td>E03.B-C.2.1.1</td>
<td></td>
</tr>
<tr>
<td>CC.1.2.4.D</td>
<td>Compare and contrast an event or topic told from two different points of view.</td>
<td>E04.B-C.2.1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.2.5.D</td>
<td>Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.</td>
<td>E05.B-C.2.1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 1.2 Reading Informational Text

Students read, understand, and respond to informational text—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Craft and Structure</strong></td>
<td><strong>Text Structure</strong></td>
<td><strong>Craft and Structure</strong></td>
<td><strong>Vocabulary</strong></td>
<td><strong>Craft and Structure</strong></td>
<td><strong>Text Structure</strong></td>
<td><strong>Craft and Structure</strong></td>
</tr>
<tr>
<td>CC.1.2.PK.E</td>
<td>Identify the front cover, back cover, and title page of a book.</td>
<td>CC.1.2.1.E</td>
<td>Use various text features and search tools to locate key facts or information in a text.</td>
<td>CC.1.2.3.E</td>
<td>Use text structure to interpret information (e.g., chronology, comparison, cause/effect, problem/solution).</td>
<td>CC.1.2.5.E</td>
</tr>
<tr>
<td>CC.1.2.K.E</td>
<td>Identify parts of a book (title, author) and parts of a text (beginning, end, details).</td>
<td>CC.1.2.2.E</td>
<td>Use text features and search tools to locate key facts or information in a text efficiently.</td>
<td>CC.1.2.4.E</td>
<td>Use text structure to interpret information (e.g., chronology, comparison, cause/effect, problem/solution).</td>
<td>CC.1.2.6.E</td>
</tr>
<tr>
<td>CC.1.2.1.F</td>
<td>With prompting and support, answer questions about unfamiliar words read aloud from a text.</td>
<td>CC.1.2.1.F</td>
<td>Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.</td>
<td>CC.1.2.3.F</td>
<td>Determine the meaning of words and phrases as they are used in grade-level text, distinguishing literal from nonliteral meaning as well as shades of meaning among related words.</td>
<td>CC.1.2.5.F</td>
</tr>
<tr>
<td>CC.1.2.2.F</td>
<td>Determine the meaning of words and phrases as they are used in grade-level text, including multiple-meaning words.</td>
<td>CC.1.2.4.F</td>
<td>Determine the meaning of words and phrases as they are used in grade-level text, including figurative language.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

E03.B-V.4.1.1
E03.B-V.4.1.2

E04.B-V.4.1.1
E04.B-V.4.1.2

E05.B-V.4.1.1
E05.B-V.4.1.2
### 1.2 Reading Informational Text

Students read, understand, and respond to informational text—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.

<table>
<thead>
<tr>
<th>Integration of Knowledge and Ideas</th>
<th>Diverse Media</th>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.1.2.PK.G</td>
<td></td>
<td>With prompting and support, answer questions to connect illustrations to the written word.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.2.K.G</td>
<td></td>
<td>Answer questions to describe the relationship between illustrations and the text in which they appear.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.2.1.G</td>
<td></td>
<td>Use the illustrations and details in a text to describe its key ideas.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.2.2.G</td>
<td></td>
<td>Explain how graphic representations contribute to and clarify a text.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.2.3.G</td>
<td></td>
<td>Use information gained from text features to demonstrate understanding of a text.</td>
<td>E03.B-C.3.1.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.2.4.G</td>
<td></td>
<td>Interpret various presentations of information within a text or digital source and explain how the information contributes to an understanding of text in which it appears.</td>
<td></td>
<td>E04.B-C.3.1.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.2.5.G</td>
<td></td>
<td>Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.</td>
<td></td>
<td></td>
<td>E05.B-C.3.1.3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 1.2 Reading Informational Text

Students read, understand, and respond to informational text—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intentionally Blank</td>
<td><strong>CC.1.2.K.H</strong> With prompting and support, identify the reasons an author gives to support points in a text.</td>
<td><strong>CC.1.2.1.H</strong> Identify the reasons an author gives to support points in a text.</td>
<td><strong>CC.1.2.2.H</strong> Describe how reasons support specific points the author makes in a text.</td>
<td><strong>CC.1.2.3.H</strong> Describe how an author connects sentences and paragraphs in a text to support particular points.</td>
<td><strong>CC.1.2.4.H</strong> Explain how an author uses reasons and evidence to support particular points in a text.</td>
<td><strong>CC.1.2.5.H</strong> Determine how an author supports particular points in a text through reasons and evidence.</td>
</tr>
<tr>
<td><strong>CC.1.2.PK.I</strong> With prompting and support, identify basic similarities and differences between two texts read aloud on the same topic.</td>
<td><strong>CC.1.2.K.I</strong> With prompting and support, identify basic similarities and differences between two texts (read or read aloud) on the same topic.</td>
<td><strong>CC.1.2.1.I</strong> Identify basic similarities in and differences between two texts on the same topic.</td>
<td><strong>CC.1.2.2.I</strong> Compare and contrast the most important points presented by two texts on the same topic.</td>
<td><strong>CC.1.2.3.I</strong> Compare and contrast the most important points and key details presented in two texts on the same topic.</td>
<td><strong>CC.1.2.4.I</strong> Integrate information from two texts on the same topic to demonstrate understanding of that topic.</td>
<td><strong>CC.1.2.5.I</strong> Integrate information from several texts on the same topic to demonstrate understanding of that topic.</td>
</tr>
</tbody>
</table>
### 1.2 Reading Informational Text

Students read, understand, and respond to informational text—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vocabulary Acquisition and Use</strong></td>
<td><strong>CC.1.2.PK.J</strong> Use new vocabulary and phrases acquired in conversations and being read to.</td>
<td><strong>CC.1.2.K.J</strong> Use words and phrases acquired through conversations, reading, and being read to, and responding to texts.</td>
<td><strong>CC.1.2.1.J</strong> Acquire and use grade-appropriate conversational, general academic, and domain-specific words and phrases.</td>
<td><strong>CC.1.2.2.J</strong> Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships.</td>
<td><strong>CC.1.2.3.J</strong> Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being and that are basic to a particular topic.</td>
<td><strong>CC.1.2.4.J</strong> Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships.</td>
</tr>
</tbody>
</table>
### 1.2 Reading Informational Text

Students read, understand, and respond to informational text—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vocabulary Acquisition and Use</strong></td>
<td><strong>Range of Reading</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.2.PK.K</td>
<td>CC.1.2.PK.I</td>
<td>With prompting and support, clarify unknown words or phrases read aloud.</td>
<td>With prompting and support, actively engage in group reading activities with purpose and understanding.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.2.K.K</td>
<td>CC.1.2.K.I</td>
<td>Determine or clarify the meaning of unknown words or multiple-meaning words and phrases based on grade-level reading and content.</td>
<td>Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.2.1.K</td>
<td>CC.1.2.1.L</td>
<td>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content.</td>
<td>Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.2.2.K</td>
<td>CC.1.2.2.L</td>
<td>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing from a range of strategies and tools.</td>
<td>Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.2.3.K</td>
<td>CC.1.2.3.L</td>
<td>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.</td>
<td>Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.2.4.K</td>
<td>CC.1.2.4.L</td>
<td>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.</td>
<td>Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.2.5.K</td>
<td>CC.1.2.5.L</td>
<td>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.</td>
<td>Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 1.3 Reading Literature

Students read and respond to works of literature—with emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>Key Ideas and Details</th>
<th>Theme</th>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Ideas and Details</td>
<td>Text Analysis</td>
<td>CC.1.3.PK.A</td>
<td>CC.1.3.K.A</td>
<td>CC.1.3.1.A</td>
<td>CC.1.3.2.A</td>
<td>CC.1.3.3.A</td>
<td>CC.1.3.4.A</td>
<td>CC.1.3.5.A</td>
</tr>
<tr>
<td>With prompting and support, retell a familiar story in sequence with picture support.</td>
<td>Retell stories, including key details, and demonstrate understanding of their central message or lesson.</td>
<td>Determining the central message, lesson, or moral in literary text; explain how it is conveyed in text.</td>
<td>Determine a theme of a text from details in the text; summarize the text.</td>
<td>Determine a theme of a text from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Key Ideas and Details | Text Analysis | CC.1.3.PK.B | CC.1.3.K.B | CC.1.3.1.B | CC.1.3.2.B | CC.1.3.3.B | CC.1.3.4.B | CC.1.3.5.B |
| With prompting and support, retell a familiar story in sequence with picture support. | Answer questions about key details in a text. | Ask and answer questions about key details in a text. | Ask and answer questions such as who, what, when, why, and how to demonstrate understanding of key details in a text. | Ask and answer questions about the text and make inferences from text, referring to text to support responses. | Cite relevant details from text to support what the text says explicitly and make inferences. | Cite textual evidence by quoting accurately from the text to explain what the text says explicitly and make inferences. |

| Key Ideas and Details | Text Analysis | E03.A-K.1.1.2 | E04.A-K.1.1.2 | E05.A-K.1.1.2 |
| With prompting and support, retell a familiar story in sequence with picture support. | Determine a theme of a text from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text. | Determine a theme of a text from details in the text; summarize the text. | Determine a theme of a text from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text. |

| Key Ideas and Details | Text Analysis | E03.A-K.1.1.2 | E04.A-K.1.1.2 | E05.A-K.1.1.2 |
| Report the main problem in a story and identify important details. | Cite relevant details from text to support what the text says explicitly and make inferences. | Cite textual evidence by quoting accurately from the text to explain what the text says explicitly and make inferences. | Cite textual evidence by quoting accurately from the text to explain what the text says explicitly and make inferences. |
1.3 Reading Literature
Students read and respond to works of literature—with emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>Key Ideas and Details</th>
<th>Literary Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grade Pre K</strong></td>
<td><strong>Grade K</strong></td>
</tr>
<tr>
<td>CC.1.3.PK.C</td>
<td>CC.1.3.K.C</td>
</tr>
<tr>
<td>With prompting and support, answer questions to identify characters, settings, and major events in a story.</td>
<td>Describe how characters in a story respond to major events and challenges.</td>
</tr>
<tr>
<td><strong>Grade 1</strong></td>
<td><strong>Grade 2</strong></td>
</tr>
<tr>
<td>CC.1.3.1.C</td>
<td>CC.1.3.2.C</td>
</tr>
<tr>
<td>Describe characters, settings, and major events in a story, using key details.</td>
<td>Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text.</td>
</tr>
<tr>
<td><strong>Grade 3</strong></td>
<td><strong>Grade 4</strong></td>
</tr>
<tr>
<td>CC.1.3.3.C</td>
<td>CC.1.3.4.C</td>
</tr>
<tr>
<td>CC.1.3.5.C</td>
<td></td>
</tr>
<tr>
<td>Describe characters in a story and explain how their actions contribute to the sequence of events.</td>
<td>Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text.</td>
</tr>
<tr>
<td>E03.A-K.1.1.3</td>
<td>E04.A-K.1.1.3</td>
</tr>
<tr>
<td>CC.1.3.4.D</td>
<td></td>
</tr>
<tr>
<td>Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text.</td>
<td></td>
</tr>
<tr>
<td>E05.A-K.1.1.3</td>
<td></td>
</tr>
</tbody>
</table>
## 1.3 Reading Literature

Students read and respond to works of literature—with emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Craft and Structure</strong></td>
<td><strong>Text Structure</strong></td>
<td><strong>Craft and Structure</strong></td>
<td><strong>Vocabulary</strong></td>
<td><strong>Craft and Structure</strong></td>
<td><strong>Vocabulary</strong></td>
<td><strong>Craft and Structure</strong></td>
</tr>
<tr>
<td>CC.1.3.PK.E With prompting and support, recognize common types of text.</td>
<td>CC.1.3.K.E Recognize common types of text.</td>
<td>CC.1.3.1.E Explain major differences between books that tell stories and books that give information, drawing on a wide reading or range of text types.</td>
<td>CC.1.3.2.E Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action.</td>
<td>CC.1.3.3.E Refer to parts of texts when writing or speaking about a text using such terms as chapter, scene, and stanza and describe how each successive part builds upon earlier sections.</td>
<td>CC.1.3.4.E Explain major differences between poems, drama, and prose and refer to the structural elements of each when writing or speaking about a text.</td>
<td>CC.1.3.5.E Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.</td>
</tr>
<tr>
<td>CC.1.3.PK.F Answer questions about unfamiliar words read aloud from a story.</td>
<td>CC.1.3.K.F Ask and answer questions about unknown words in a text.</td>
<td>CC.1.3.1.F Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.</td>
<td>CC.1.3.2.F Describe how words and phrases supply rhythm and meaning in a story, poem, or song.</td>
<td>CC.1.3.3.F Determine the meaning of words and phrases as they are used in grade-level text, distinguishing literal from nonliteral meaning as well as shades of meaning among related words.</td>
<td>E03.A-V.4.1.1 E03.A-V.4.1.2</td>
<td>CC.1.3.4.F Determine the meaning of words and phrases as they are used in grade-level text, including figurative language.</td>
</tr>
</tbody>
</table>
### 1.3 Reading Literature

**Students read and respond to works of literature—with emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.**

<table>
<thead>
<tr>
<th>Integration of Knowledge and Ideas</th>
<th>Sources of Information</th>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.1.3.PK.G</td>
<td>Describe pictures in books using details.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.K.G</td>
<td>Make connections between the illustrations and the text in a story (read or read aloud).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.1.G</td>
<td>Use illustrations and details in a story to describe characters, setting, or events.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.2.G</td>
<td>Use information from illustrations and words, in print or digital text, to demonstrate understanding of characters, setting, or plot.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.3.G</td>
<td>Explain how specific aspects of a text’s illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.4.G</td>
<td>Make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.5.G</td>
<td>Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folklore, myth, poem).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Integration of Knowledge and Ideas</th>
<th>Text Analysis</th>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.1.3.PK.H</td>
<td>Answer questions to compare and contrast the adventures and experiences of characters in familiar stories.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.K.H</td>
<td>Compare and contrast the adventures and experiences of characters in familiar stories.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.1.H</td>
<td>Compare and contrast the adventures and experiences of characters in stories.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.2.H</td>
<td>Compare and contrast two or more versions of the same story by different authors or from different cultures.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.3.H</td>
<td>Compare and contrast similar themes, settings, and plots of stories written by the same author about the same or similar characters.</td>
<td>E03.A-C.3.1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.4.H</td>
<td>Compare and contrast similar themes, topics, and patterns of events in literature, including texts from different cultures.</td>
<td>E04.A-C.3.1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.5.H</td>
<td>Compare and contrast texts in the same genre on their approaches to similar themes and topics as well as additional literary elements.</td>
<td>E05.A-C.3.1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.3 Reading Literature

Students read and respond to works of literature—with emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>Vocabulary Acquisition and Use Strategies</th>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.1.3.PK.I With prompting and support, clarify unknown words or phrases read aloud.</td>
<td>CC.1.3.K.I Determine or clarify the meaning of unknown or multiple-meaning words and phrases based upon grade-level reading and content.</td>
<td>CC.1.3.1.I Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content.</td>
<td>CC.1.3.2.I Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing from a range of strategies and tools.</td>
<td>CC.1.3.3.I Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.</td>
<td>E03.A-V.4.1.1</td>
<td>E04.A-V.4.1.1</td>
<td>E05.A-V.4.1.1</td>
</tr>
</tbody>
</table>
### 1.3 Reading Literature

Students read and respond to works of literature—with emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vocabulary Acquisition and Use</strong></td>
<td><strong>Range of Reading</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.PK.J Use new vocabulary and phrases acquired in conversations and being read to.</td>
<td>CC.1.3.PK.K With prompting and support, actively engage in group reading activities with purpose and understanding.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.K.J Use words and phrases acquired through conversations, reading, and being read to, and responding to texts.</td>
<td>CC.1.3.K.K Actively engage in group reading activities with purpose and understanding.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.1.J Use words and phrases acquired through conversations, reading, and being read to, and responding to texts, including words that signal connections and relationships between the words and phrases.</td>
<td>CC.1.3.1.K Read and comprehend literature on grade level, reading independently and proficiently.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.2.J Acquire and use grade-appropriate conversational, general academic, and domain-specific words and phrases.</td>
<td>CC.1.3.2.K Read and comprehend literature on grade level, reading independently and proficiently.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.3.J Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships. E03.A-V.4.1.1 E03.A-V.4.1.2</td>
<td>CC.1.3.3.K Read and comprehend literary fiction on grade level, reading independently and proficiently.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.4.J Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being and that are basic to a particular topic. E04.A-V.4.1.1 E04.A-V.4.1.2</td>
<td>CC.1.3.4.K Read and comprehend literary fiction on grade level, reading independently and proficiently.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.3.5.J Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships. E05.A-V.4.1.1 E05.A-V.4.1.2</td>
<td>CC.1.3.5.K Read and comprehend literary fiction on grade level, reading independently and proficiently.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 1.4 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Informative/Explanatory</strong></td>
<td><strong>Informative/Explanatory Focus</strong></td>
<td><strong>Informative/Explanatory</strong></td>
<td><strong>Informative/Explanatory Focus</strong></td>
<td><strong>Informative/Explanatory</strong></td>
<td><strong>Informative/Explanatory Focus</strong></td>
<td><strong>Informative/Explanatory</strong></td>
</tr>
<tr>
<td>Draw/dictate to compose informative/explanatory texts examining a topic.</td>
<td>With prompting and support, draw/dictate about one specific topic.</td>
<td>Use a combination of drawing, dictating, and writing to compose informative/explanatory texts.</td>
<td>Use a combination of drawing, dictating, and writing to focus on one specific topic.</td>
<td>Write informative/explanatory texts to examine a topic and convey ideas and information.</td>
<td>Identify and write about one specific topic.</td>
<td>Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</td>
</tr>
</tbody>
</table>
### Writing
Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre K</td>
<td>CC.1.4.PK.C</td>
<td>CC.1.4.K.C</td>
<td>CC.1.4.1.C</td>
<td>CC.1.4.2.C</td>
<td>CC.1.4.3.C</td>
<td>CC.1.4.4.C</td>
<td>CC.1.4.5.C</td>
</tr>
<tr>
<td></td>
<td>With prompting and support, generate ideas to convey information.</td>
<td>With prompting and support, generate ideas and details to convey information that relates to the chosen topic.</td>
<td>Develop the topic with two or more facts.</td>
<td>Develop the topic with facts and/or definitions.</td>
<td>Develop the topic with facts, definitions, details, and illustrations, as appropriate.</td>
<td>Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic; include illustrations and multimedia when useful to aiding comprehension.</td>
<td>Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic; include illustrations and multimedia when useful to aiding comprehension.</td>
</tr>
<tr>
<td>K</td>
<td>E03C.1.2.2</td>
<td>E04C.1.2.2</td>
<td>E05C.1.2.2</td>
<td>E04E.1.1.2</td>
<td>E05E.1.1.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 1.4 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Pre K</th>
<th>K</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Informative/Explanatory Organization</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.4.PK.D</td>
<td>With prompting and support, make logical connections between drawing and dictation.</td>
<td>CC.1.4.K.D</td>
<td>Make logical connections between drawing and dictation/writing.</td>
<td>CC.1.4.1.D</td>
<td>Group information and provide some sense of closure.</td>
<td>CC.1.4.2.D</td>
<td>Group information and provide a concluding statement or section.</td>
</tr>
</tbody>
</table>
### 1.4 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Style</th>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informative/Explanatory</td>
<td>Intentionally Blank</td>
<td>CC.1.4.K.E</td>
<td>CC.1.4.1.E</td>
<td>CC.1.4.2.E</td>
<td>CC.1.4.3.E</td>
<td>CC.1.4.4.E</td>
<td>CC.1.4.5.E</td>
</tr>
<tr>
<td></td>
<td></td>
<td>With prompting and support, illustrate using details and dictate/write using descriptive words.</td>
<td>Choose words and phrases for effect.</td>
<td>Choose words and phrases for effect.</td>
<td>Use precise language and domain-specific vocabulary to inform about or explain the topic.</td>
<td>Write with an awareness of style. • Use precise language and domain-specific vocabulary to inform about or explain the topic. • Use sentences of varying length.</td>
<td></td>
</tr>
</tbody>
</table>
### Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intentionally Blank</td>
<td>CC.1.4.K.1</td>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
<td>CC.1.4.1.F</td>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
<td>CC.1.4.2.F</td>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
</tr>
<tr>
<td></td>
<td>E03.D.1.1.1</td>
<td>Use commas and apostrophes appropriately.</td>
<td>E03.D.1.1.2</td>
<td>Spell words drawing on common spelling patterns.</td>
<td>E03.D.1.1.3</td>
<td>E03.D.1.1.4</td>
</tr>
</tbody>
</table>
1.4 Writing
Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Opinion/Argumentative Focus</th>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use a combination of drawing, dictating, and writing to compose opinion pieces on familiar topics.</td>
<td>Write opinion pieces on familiar topics.</td>
<td>Write opinion pieces on familiar topics or texts.</td>
<td>Write opinion pieces on topics or texts.</td>
<td>Write opinion pieces on topics or texts.</td>
<td>Write opinion pieces on topics or texts.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opinion/Argumentative Content</th>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form an opinion by choosing between two given topics.</td>
<td>Form an opinion by choosing among given topics.</td>
<td>Identify the topic and state an opinion.</td>
<td>Introduce the topic and state an opinion on the topic.</td>
<td>Introduce the topic and state an opinion on the topic.</td>
<td>Introduce the topic and state an opinion on the topic.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opinion/Argumentative Content</th>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intentionally Blank</td>
<td>CC.1.4.K.I</td>
<td>CC.1.4.1.I</td>
<td>CC.1.4.2.I</td>
<td>CC.1.4.3.I</td>
<td>CC.1.4.4.I</td>
<td>CC.1.4.5.I</td>
<td></td>
</tr>
<tr>
<td>Support the opinion with reasons.</td>
<td>Support the opinion with reasons related to the opinion.</td>
<td>Support an opinion with reasons that include details connected to the opinion.</td>
<td>Support an opinion with reasons.</td>
<td>Support an opinion with reasons that include details connected to the opinion.</td>
<td>Support an opinion with reasons that include details connected to the opinion.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 1.4 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intentionally Blank</td>
<td>CC.1.4.K.J Make logical connections between drawing and writing.</td>
<td>CC.1.4.1.J Create an organizational structure that includes reasons and provides some sense of closure.</td>
<td>CC.1.4.2.J Create an organizational structure that includes reasons and includes a concluding statement.</td>
<td>CC.1.4.3.J Create an organizational structure that includes reasons linked in a logical order with a concluding statement or section.</td>
<td>CC.1.4.4.J Create an organizational structure that includes related ideas grouped to support the writer's purpose and linked in a logical order with a concluding statement or section related to the opinion.</td>
<td>CC.1.4.5.J Create an organizational structure that includes related ideas grouped to support the writer's purpose; link opinion and reasons using words, phrases, and clauses; provide a concluding statement or section related to the opinion.</td>
</tr>
</tbody>
</table>

**Opinion/Argumentative Organization**

E03.C.1.1.1 E03.C.1.1.3 E03.C.1.1.4

E04.C.1.1.1 E04.C.1.1.3 E04.C.1.1.4

E04.E.1.1.1 E04.E.1.1.3 E04.E.1.1.5

E05.C.1.1.1 E05.C.1.1.3 E05.C.1.1.5 E05.E.1.1.1 E05.E.1.1.3 E05.E.1.1.6
### Writing Standards

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td><strong>CC.1.4.1.K</strong> Use a variety of words and phrases.</td>
<td><strong>CC.1.4.2.K</strong> Use a variety of words and phrases to appeal to the audience.</td>
<td><strong>CC.1.4.3.K</strong> Use a variety of words and sentence types to appeal to the audience.</td>
<td><strong>CC.1.4.4.K</strong> Choose words and phrases to convey ideas precisely.</td>
<td><strong>CC.1.4.5.K</strong> Write with an awareness of style.</td>
</tr>
</tbody>
</table>

- **CC.1.4.1.K** Use a variety of words and phrases.
- **CC.1.4.2.K** Use a variety of words and phrases to appeal to the audience.
- **CC.1.4.3.K** Use a variety of words and sentence types to appeal to the audience.
- **CC.1.4.4.K** Choose words and phrases to convey ideas precisely.
- **CC.1.4.5.K** Write with an awareness of style.
  - Use sentences of varying length.
  - Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.

**Additional Standards:**
- E03.D.1.1.9
- E03.D.2.1.3
- E04.D.1.1.4
- E05.C.1.1.4
- E05.D.1.1.1
- E05.D.1.2
- E05.D.2.1.2
- E05.D.2.1.3
- E05.D.2.1.4
- E05.E.1.1.4
- E05.E.1.1.5
### Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intentionally Blank</td>
<td>CC.1.4.K.L</td>
<td>CC.1.4.1.L</td>
<td>CC.1.4.2.L</td>
<td>CC.1.4.3.L</td>
<td>CC.1.4.4.L</td>
<td>CC.1.4.5.L</td>
</tr>
</tbody>
</table>

**Opinion/Argumentative Conventions of Language**

- Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.
  - Capitalize the first word in a sentence and the pronoun I.
  - Recognize and use end punctuation.
  - Spell simple words phonetically.

**Conventions of Language**

- Capitalize dates and names of people.
- Use end punctuation; use commas in dates and words in series.
- Spell words drawing on common spelling patterns.
  - Consult reference material as needed.
## 1.4 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Narrative</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.4.PK.M</td>
<td>Dictate narratives to describe real or imagined experiences or events.</td>
<td>CC.1.4.K.M</td>
<td>Use a combination of drawing, dictating, and writing to compose narratives that describe real or imagined experiences or events.</td>
<td>CC.1.4.1.M</td>
<td>Write narratives to develop real or imagined experiences or events.</td>
<td>CC.1.4.2.M</td>
</tr>
<tr>
<td><strong>Narrative Focus</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.4.PK.N</td>
<td>Establish who and what the narrative will be about.</td>
<td>CC.1.4.K.N</td>
<td>Establish who and what the narrative will be about.</td>
<td>CC.1.4.1.N</td>
<td>Establish who and what the narrative will be about.</td>
<td>CC.1.4.2.N</td>
</tr>
</tbody>
</table>
### 1.4 Writing
Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.4.1</td>
<td>CC.1.4.PK.O</td>
<td>With prompting and support describe experiences and events.</td>
<td>CC.1.4.K.O</td>
<td>Describe experiences and events.</td>
<td>CC.1.4.1.O</td>
<td>Include thoughts and feelings to describe experiences and events.</td>
<td>CC.1.4.2.O</td>
</tr>
<tr>
<td></td>
<td>CC.1.4.3.O</td>
<td>Use narrative techniques such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations; use concrete words and phrases and sensory details to convey experiences and events precisely.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4.2</td>
<td>E03.C.1.3.2</td>
<td></td>
<td></td>
<td></td>
<td>E04.C.1.3.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4.3</td>
<td>E04.C.1.3.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Narrative Organization</th>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CC.1.4.PK.P</td>
<td>CC.1.4.K.P</td>
<td>CC.1.4.1.P</td>
<td>CC.1.4.2.P</td>
<td>CC.1.4.3.P</td>
<td>CC.1.4.4.P</td>
<td>CC.1.4.5.P</td>
</tr>
<tr>
<td></td>
<td>Recount a single event and tell about the events in the order in which they occurred.</td>
<td>Recount a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened.</td>
<td>Recount two or more appropriately sequenced events; using temporal words to signal event order and provide some sense of closure.</td>
<td>Organize a short sequence of events; using temporal words to signal event order; provide a sense of closure.</td>
<td>Organize an event sequence that unfolds naturally, using temporal words and phrases to signal event order; provide a sense of closure.</td>
<td>Organize an event sequence that unfolds naturally, using a variety of transitional words and phrases to manage the sequence of events; provide a conclusion that follows from the narrated experiences and events.</td>
<td>Organize an event sequence that unfolds naturally, using a variety of transitional words and phrases to manage the sequence of events; provide a conclusion that follows from the narrated experiences and events.</td>
</tr>
</tbody>
</table>
## 1.4 Writing
Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Narrative Style</th>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>CC.1.4.1.Q</td>
<td>Use a variety of words and phrases.</td>
<td>CC.1.4.2.Q</td>
<td>Choose words and phrases for effect</td>
<td>CC.1.4.3.Q</td>
<td>Choose words and phrases to convey ideas precisely.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>E03.D.2.1.1 E04.C.1.3.4 E04.D.2.1.1 E04.D.2.1.3 E04.E.1.1.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>E05.C.1.3.4 E05.D.2.1.1 E05.D.2.1.2 E05.D.2.1.3 E05.D.2.1.4</td>
</tr>
</tbody>
</table>
### Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Narrative of Language</th>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventions of Language</td>
<td>Intentionally Blank</td>
<td>CC.1.4.1.R Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling. • Capitalize first word in sentence and pronoun I. • Recognize and use end punctuation. • Spell simple words phonetically.</td>
<td>CC.1.4.2.R Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling. • Capitalize proper nouns. • Use commas and apostrophes appropriately. • Spell words drawing on common spelling patterns, phonemic awareness, and spelling conventions.</td>
<td>CC.1.4.3.R Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling. • Capitalize proper nouns. • Use commas and apostrophes appropriately. • Spell words drawing on common spelling patterns. • Consult reference material as needed.</td>
<td>CC.1.4.4.R Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
<td>CC.1.4.5.R Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
<td></td>
</tr>
</tbody>
</table>
### Writing
Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>CC.1.4.3.S</td>
<td>CC.1.4.4.S</td>
<td>CC.1.4.5.S</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Draw evidence from literary or informational texts to support analysis, reflection, and research, applying grade-level reading standards for literature and informational texts.</td>
<td>Draw evidence from literary or informational texts to support analysis, reflection, and research, applying grade-level reading standards for literature and informational texts.</td>
<td>Draw evidence from literary or informational texts to support analysis, reflection, and research, applying grade-level reading standards for literature and informational texts.</td>
</tr>
</tbody>
</table>

- CC.1.4.3.S
- CC.1.4.4.S
- CC.1.4.5.S

E04.E.1.1.1  E04.E.1.1.2  E04.E.1.1.3  E04.E.1.1.4  E04.E.1.1.5  E05.E.1.1.1  E05.E.1.1.2  E05.E.1.1.3  E05.E.1.1.4  E05.E.1.1.5  E05.E.1.1.6
### 1.4 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th></th>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Production and Distribution of Writing</strong></td>
<td>CC.1.4.PK.T</td>
<td>With guidance and support from adults and peers, respond to questions and suggestions, add details as needed.</td>
<td>CC.1.4.K.T</td>
<td>With guidance and support from adults and peers, respond to questions and suggestions, add details as needed.</td>
<td>CC.1.4.1.T</td>
<td>With guidance and support from adults and peers, focus on a topic, respond to questions and suggestions from peers and add details to strengthen writing as needed.</td>
<td>CC.1.4.2.T</td>
</tr>
</tbody>
</table>
### 1.4 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intentionally Blank</td>
<td>CC.1.4.K.U With guidance and support, explore a variety of digital tools to produce and publish writing or in collaboration with peers.</td>
<td>CC.1.4.1.U With guidance and support, use a variety of digital tools to produce and publish writing including in collaboration with peers.</td>
<td>CC.1.4.2.U With guidance and support, use a variety of digital tools to produce and publish writing including in collaboration with peers.</td>
<td>CC.1.4.3.U With some guidance and support, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others.</td>
<td>CC.1.4.4.U With some guidance and support, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.</td>
<td>CC.1.4.5.U With some guidance and support, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.</td>
</tr>
</tbody>
</table>
### 1.4 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask questions about topics of personal interest to gain information; with teacher guidance and support, locate information on the chosen topic.</td>
<td>Participate in individual or shared research projects on a topic of interest.</td>
<td>Participate in individual or shared research and writing projects.</td>
<td>Conduct short research projects that build knowledge about a topic.</td>
<td>Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.4.PK.W</td>
<td>CC.1.4.K.W</td>
<td>CC.1.4.1.W</td>
<td>CC.1.4.2.W</td>
<td>CC.1.4.3.W</td>
<td>CC.1.4.4.W</td>
<td>CC.1.4.5.W</td>
</tr>
<tr>
<td>With guidance and support, recall information from experiences or books.</td>
<td>With guidance and support, recall information from experiences or gather information from provided sources to answer a question.</td>
<td>Recall information from experiences or gather information from provided sources to answer a question.</td>
<td>Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.</td>
<td>Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.4 Writing
Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intentionally Blank</td>
<td>CC.1.4.K.X</td>
<td>CC.1.4.1.X</td>
<td>Write routinely over extended time frames (time for research, reflection, and revision)</td>
<td>CC.1.4.2.X</td>
<td>Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</td>
<td>CC.1.4.3.X</td>
</tr>
</tbody>
</table>
### 1.5 Speaking and Listening

Students present appropriately in formal speaking situations, listen critically, and respond intelligently as individuals or in group discussions.

<table>
<thead>
<tr>
<th></th>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehension and Collaboration</td>
<td>CC.1.5.PK.A Participate in collaborative conversations with peers and adults in small and larger groups.</td>
<td>CC.1.5.K.A Participate in collaborative conversations with peers and adults in small and larger groups.</td>
<td>CC.1.5.1.A Participate in collaborative conversations with peers and adults in small and larger groups.</td>
<td>CC.1.5.2.A Participate in collaborative conversations with peers and adults in small and larger groups.</td>
<td>CC.1.5.3.A Engage effectively in a range of collaborative discussions on grade-level topics and texts, building on others’ ideas and expressing their own clearly.</td>
<td>CC.1.5.4.A Engage effectively in a range of collaborative discussions on grade-level topics and texts, building on others’ ideas and expressing their own clearly.</td>
<td>CC.1.5.5.A Engage effectively in a range of collaborative discussions on grade-level topics and texts, building on others’ ideas and expressing their own clearly.</td>
</tr>
</tbody>
</table>
### 1.5 Speaking and Listening

Students present appropriately in formal speaking situations, listen critically, and respond intelligently as individuals or in group discussions.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.1.5.PK.B</td>
<td>CC.1.5.K.B</td>
<td>CC.1.5.1.B</td>
<td>CC.1.5.2.B</td>
<td>CC.1.5.3.B</td>
<td>CC.1.5.4.B</td>
<td>CC.1.5.5.B</td>
</tr>
<tr>
<td>Answer questions about key details in a text read aloud or information presented orally or through other media.</td>
<td>Ask and answer questions about key details in a text read aloud or information presented orally or through other media.</td>
<td>Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.</td>
<td>Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.</td>
<td>Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.</td>
<td>Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.</td>
<td>Summarize the main points of written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.</td>
</tr>
<tr>
<td>1.5 Speaking and Listening</td>
<td>Grade Pre K</td>
<td>Grade K</td>
<td>Grade 1</td>
<td>Grade 2</td>
<td>Grade 3</td>
<td>Grade 4</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Students present appropriately in formal speaking situations, listen critically, and respond intelligently as individuals or in group discussions.</td>
<td>CC.1.5.PK.C</td>
<td>CC.1.5.K.C</td>
<td>CC.1.5.1.C</td>
<td>CC.1.5.2.C</td>
<td>CC.1.5.3.C</td>
<td>CC.1.5.4.C</td>
</tr>
<tr>
<td>Comprehension and Collaboration Evaluating Information</td>
<td>Respond to what a speaker says in order to follow directions, seek help, or gather information.</td>
<td>Ask and answer questions in order to seek help, get information, or clarify something that is not understood.</td>
<td>Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.</td>
<td>Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.</td>
<td>Identify the reasons and evidence a speaker provides to support particular points.</td>
<td>Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.</td>
</tr>
</tbody>
</table>
# 1.5 Speaking and Listening

Students present appropriately in formal speaking situations, listen critically, and respond intelligently as individuals or in group discussions.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Purpose, Audience, and Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre K</td>
<td>CC.1.5.PK.D Using simple sentences, share stories, familiar experiences, and interests, speaking clearly enough to be understood by most audiences.</td>
</tr>
<tr>
<td>K</td>
<td>CC.1.5.K.D Share stories, places, things, and events with relevant details, expressing ideas and feelings clearly.</td>
</tr>
<tr>
<td>1</td>
<td>CC.1.5.1.D Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.</td>
</tr>
<tr>
<td>2</td>
<td>CC.1.5.2.D Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.</td>
</tr>
<tr>
<td>3</td>
<td>CC.1.5.3.D Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly with adequate volume, appropriate pacing, and clear pronunciation.</td>
</tr>
<tr>
<td>4</td>
<td>CC.1.5.4.D Report on a topic or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly with adequate volume, appropriate pacing, and clear pronunciation.</td>
</tr>
<tr>
<td>5</td>
<td>CC.1.5.5.D Report on a topic or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly with adequate volume, appropriate pacing, and clear pronunciation.</td>
</tr>
</tbody>
</table>
## 1.5 Speaking and Listening

Students present appropriately in formal speaking situations, listen critically, and respond intelligently as individuals or in group discussions.

<table>
<thead>
<tr>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Presentation of Knowledge and Ideas</strong></td>
<td><strong>Context</strong></td>
<td><strong>Multimedia</strong></td>
<td><strong>Integration of Knowledge and Ideas</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.5.PK.E</td>
<td>Using simple sentences, express thoughts, feelings, and ideas, speaking clearly enough to be understood by most audiences.</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.5.K.E</td>
<td>Speak audibly and express thoughts, feelings, and ideas clearly.</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.5.1.E</td>
<td>Produce complete sentences when appropriate to task and situation.</td>
<td>CC.1.5.1.F</td>
<td>Add drawings or other visual displays when sharing aloud to clarify ideas, thoughts, and feelings.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.5.2.E</td>
<td>Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.</td>
<td>CC.1.5.2.F</td>
<td>Add drawings or other visual displays to presentations when appropriate to clarify ideas, thoughts, and feelings.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.5.3.E</td>
<td>Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification.</td>
<td>CC.1.5.3.F</td>
<td>Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.5.4.E</td>
<td>Differentiate between contexts that require formal English versus informal situations.</td>
<td>CC.1.5.4.F</td>
<td>Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.5.5.E</td>
<td>Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation.</td>
<td>CC.1.5.5.F</td>
<td>Include multimedia components and visual displays in presentations when appropriate to enhance the development of main ideas or themes.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 1.5 Speaking and Listening

Students present appropriately in formal speaking situations, listen critically, and respond intelligently as individuals or in group discussions.

<table>
<thead>
<tr>
<th>Conventions of Standard English</th>
<th>Grade Pre K</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.1.5.PK.G</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate command of the conventions of standard English when speaking, based on prekindergarten level and content.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.5.K.G</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate command of the conventions of standard English when speaking, based on kindergarten level and content.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.5.1.G</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate command of the conventions of standard English when speaking, based on Grade 1 level and content.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.5.2.G</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate command of the conventions of standard English when speaking, based on Grade 2 level and content.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.5.3.G</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate command of the conventions of standard English when speaking, based on Grade 3 level and content.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.5.4.G</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate command of the conventions of standard English when speaking, based on Grade 4 level and content.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.1.5.5.G</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate command of the conventions of standard English when speaking, based on Grade 5 level and content.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Pennsylvania Core Standards for English Language Arts

Grades 6-12

INTRODUCTION

These standards describe what students should know and be able to do in the English Language Arts Standards also provide parents and community members with information about what students should know and be able to do in as more complex texts.

Stressing an academically focused vocabulary so that students can access texts and information presented in the flex that real ends, and are prepared to serve in the flex, they read.

Supportive writing from sources (i.e., using evidence from text to inform or grow the written, so that students develop college or career ready writing and confidence in their writing), so that students can address, reading informational and literary texts so that students can develop a staircase of growth (i.e., each grade level requires a "step" of access to higher levels of writing and) as well as the ability to engage in evidence-based analysis of text and research.

Building a staircase of complexity (i.e., each grade level requires a "step" of accessing on close and careful reading of text so that students can learn.

Stressed in Common Core, and career readiness, the instructional shifts include:

- Balancing the reading of informational and literary texts so that students can access nonfiction and authentic texts, as well as literature.
- Focusing on close and careful reading of text so that students can access nonfiction and authentic texts, as well as literature.
- Building the reading of informational and literary texts so that students can develop a staircase of complexity (i.e., each grade level requires a "step" of accessing on close and careful reading of text so that students can learn.
- Supporting the reading of informational and literary texts so that students can develop a staircase of complexity (i.e., each grade level requires a "step" of accessing on close and careful reading of text so that students can learn.
- Stressing an academically focused vocabulary so that students can access texts and information presented in the flex that real ends, and are prepared to serve in the flex, they read.

The English Language Arts Standards also provide parents and community members with information about what students should know and be able to do in as more complex texts.

**Academic Standards and Assessments**

Ch. 4
they progress through the educational program and at graduation. With a clearly defined target provided by the standards, parents, students, educators, and community members become partners in learning. Each standard implies an end-of-year goal—with the understanding that exceeding the standard is an even more desirable end goal.

Note: The Aligned Eligible Content is displayed with the standard statement. On Standard Aligned System portal, it is a live link.

TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Foundational Skills (Pre K-5)</th>
<th>1.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students gain a working knowledge of concepts of print, alphabetic principle, and other basic conventions. These foundational skills are not an end in and of themselves; rather, students apply them as effective readers.</td>
<td></td>
</tr>
<tr>
<td>Book Handling</td>
<td>Print Concepts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reading Informational Text</th>
<th>1.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students read and respond to informational text—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with an emphasis on evidence. Students read informational text, and respond to informational text with an emphasis on evidence.</td>
<td></td>
</tr>
<tr>
<td>Fluency</td>
<td>Pronoun and Word Recognition</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reading Literature</th>
<th>1.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students read and respond to works of literature—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence. Students read and respond to works of literature with an emphasis on evidence.</td>
<td></td>
</tr>
<tr>
<td>Fluency</td>
<td>Literary Analysis</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Writing</th>
<th>1.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and actionable content.</td>
<td></td>
</tr>
<tr>
<td>Informative/Explanatory</td>
<td>Opinion/Argumentative</td>
</tr>
</tbody>
</table>

22

TABLE OF CONTENTS

On Jnownik Aright 1Syisn pota, is is il the ink. Now: he AlignEd Education Content is displayed with the standad statemnt. Connect and share—when the understanding that exceeds the standard is an even more

The National Education Framework provides the students’ parents’ education and community leaders through the educational program and graduation with a clarity
Students present appropriately in formal speaking situations, listen critically, and respond intelligently to individuals or in group discussions.

Speaking and Listening

- Comprehension and Collaboration
- Presentation of Knowledge and Ideas
- Integration of Knowledge and Ideas
- Conventions of Standard English
## 1.2 Reading Informational Text

Students read, understand, and respond to informational text—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>Key Ideas and Details</th>
<th>Main Idea</th>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Text Analysis</strong></td>
<td><strong>CC.1.2.6.A</strong></td>
<td><strong>Determine the central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.</strong></td>
<td><strong>E06.B-K.1.1.2</strong></td>
<td><strong>CC.1.2.7.A</strong></td>
<td><strong>Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.</strong></td>
<td><strong>E07.B-K.1.1.2</strong></td>
</tr>
<tr>
<td><strong>Key Ideas and Details</strong></td>
<td><strong>CC.1.2.6.B</strong></td>
<td><strong>Cite textual evidence to support analysis of what the text says explicitly, as well as inferences and/or generalizations drawn from the text.</strong></td>
<td><strong>E06.B-K.1.1.1</strong></td>
<td><strong>CC.1.2.7.B</strong></td>
<td><strong>Cite several pieces of textual evidence to support analysis of what the text says explicitly, as well as inferences, conclusions, and/or generalizations drawn from the text.</strong></td>
<td><strong>E07.B-K.1.1.1</strong></td>
</tr>
</tbody>
</table>
### 1.2 Reading Informational Text

Students read, understand, and respond to informational text—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>Key Ideas and Details</th>
<th>Text Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grade 6</strong></td>
<td><strong>Grade 7</strong></td>
</tr>
<tr>
<td>CC.1.2.6.C</td>
<td>CC.1.2.7.C</td>
</tr>
<tr>
<td>Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text.</td>
<td>Analyze the interactions between individuals, events, and ideas in a text.</td>
</tr>
<tr>
<td>E06.B-K.1.1.3</td>
<td>E07.B-K.1.1.3</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(371163) No. 474 May 14
## 1.2 Reading Informational Text

Students read, understand, and respond to informational text—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>Craft and Structure</th>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Point of View</strong></td>
<td>CC.1.2.6.D</td>
<td>CC.1.2.7.D</td>
<td>CC.1.2.8.D</td>
<td>CC.1.2.9-10.D</td>
<td>CC.1.2.11-12.D</td>
</tr>
<tr>
<td></td>
<td>Determine an author’s point of view or purpose in a text and explain how it is conveyed in the text.</td>
<td>Determine an author’s point of view or purpose in a text and analyze how the author distinguishes his or her position from that of others.</td>
<td>Determine an author’s point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.</td>
<td>Evaluate how an author’s point of view or purpose shapes the content and style of a text.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>E06.B-C.2.1.1</td>
<td>E07.B-C.2.1.1</td>
<td>E08.B-C.2.1.1</td>
<td>L.N.2.3.6</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Craft and Structure</th>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Analyze the author’s structure through the use of paragraphs, chapters, or sections.</td>
<td>Analyze the structure of the text through evaluation of the author’s use of graphics, charts, and the major sections of the text.</td>
<td>Analyze the structure of the text through evaluation of the author’s use of specific sentences and paragraphs to develop and refine a concept.</td>
<td>Analyze in detail how an author’s ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>E06.B-C.2.1.2</td>
<td>E07.B-C.2.1.2</td>
<td>E08.B-C.2.1.2</td>
<td>L.N.1.1.3</td>
<td>L.N.2.4.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L.N.2.4.3</td>
</tr>
</tbody>
</table>
### 1.2 Reading Informational Text

Students read, understand, and respond to informational text—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Craft and Structure/Vocabulary</strong></td>
<td><strong>Integration of Knowledge and Ideas/ Diverse Media</strong></td>
<td><strong>Integration of Knowledge and Ideas/ Diverse Media</strong></td>
<td><strong>Integration of Knowledge and Ideas/ Diverse Media</strong></td>
<td><strong>Integration of Knowledge and Ideas/ Diverse Media</strong></td>
</tr>
<tr>
<td>Determine the meaning of words and phrases as they are used in grade-level reading and content, including interpretation of figurative language in context.</td>
<td>Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.</td>
<td>Compare and contrast a text to an audio, video, or multimedia version of the text, analyzing each medium’s portrayal of the subject (e.g., how the delivery of a speech affects the impact of the words).</td>
<td>Evaluate the advantages and disadvantages of using different media (e.g., print or digital text, video, multimedia) to present a particular topic or idea.</td>
<td>Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.</td>
</tr>
<tr>
<td>E06.B-V.4.1.1</td>
<td>L.N.1.1.4</td>
<td>E07.B-V.4.1.1</td>
<td>L.N.2.2.3</td>
<td>L.N.2.2.3</td>
</tr>
<tr>
<td></td>
<td>E07.B-V.4.1.3</td>
<td></td>
<td>Evaluate various accounts of a subject told in different mediums (e.g., a person’s life story in both print and multimedia), determining which details are emphasized in each account.</td>
<td>Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>L.N.2.2.3</td>
<td>L.N.2.2.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CC.1.2.9-10.F</td>
<td>CC.1.2.9-10.F</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Analyze how words and phrases shape meaning and tone in texts.</td>
<td>Evaluate how words and phrases shape meaning and tone in texts.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>L.N.1.1.4</td>
<td></td>
</tr>
</tbody>
</table>
## Reading Informational Text

Students read, understand, and respond to informational text—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>Integration of Knowledge and Ideas</th>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>E06.B-C.3.1.1</td>
<td>E07.B-C.3.1.1</td>
<td>E08.B-C.3.1.1</td>
<td>L.N.2.5.4</td>
<td>L.N.2.5.5</td>
<td>L.N.2.5.6</td>
</tr>
<tr>
<td>Examine how two authors present similar information in different types of text.</td>
<td>CC.1.2.6.I</td>
<td>CC.1.2.7.I</td>
<td>CC.1.2.8.I</td>
<td>CC.1.2.9-10.I</td>
<td>CC.1.2.11-12.I</td>
</tr>
<tr>
<td>E06.B-C.3.1.2</td>
<td>E07.B-C.3.1.2</td>
<td>E08.B-C.3.1.2</td>
<td>L.N.2.5.4</td>
<td>L.N.2.5.5</td>
<td>L.N.2.5.6</td>
</tr>
</tbody>
</table>

## Analysis Across Texts

Students analyze and compare information presented in different types of texts, as well as making inferences and drawing conclusions from the information presented.

<table>
<thead>
<tr>
<th>Integration of Knowledge and Ideas</th>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluating Arguments</td>
<td>CC.1.2.6.I</td>
<td>CC.1.2.7.I</td>
<td>CC.1.2.8.I</td>
<td>CC.1.2.9-10.I</td>
<td>CC.1.2.11-12.I</td>
</tr>
<tr>
<td>E06.B-C.3.1.2</td>
<td>E07.B-C.3.1.2</td>
<td>E08.B-C.3.1.2</td>
<td>L.N.2.5.4</td>
<td>L.N.2.5.5</td>
<td>L.N.2.5.6</td>
</tr>
<tr>
<td>Examine how two authors present similar information in different types of text.</td>
<td>CC.1.2.6.I</td>
<td>CC.1.2.7.I</td>
<td>CC.1.2.8.I</td>
<td>CC.1.2.9-10.I</td>
<td>CC.1.2.11-12.I</td>
</tr>
<tr>
<td>E06.B-C.3.1.2</td>
<td>E07.B-C.3.1.2</td>
<td>E08.B-C.3.1.2</td>
<td>L.N.2.5.4</td>
<td>L.N.2.5.5</td>
<td>L.N.2.5.6</td>
</tr>
</tbody>
</table>
### 1.2 Reading Informational Text

Students read, understand, and respond to informational text—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vocabulary Acquisition and Use</strong></td>
<td><strong>Vocabulary Acquisition and Use</strong></td>
<td><strong>Vocabulary Acquisition and Use</strong></td>
<td><strong>Vocabulary Acquisition and Use</strong></td>
<td><strong>Vocabulary Acquisition and Use</strong></td>
</tr>
<tr>
<td>CC.1.2.6.J Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression. E06.B-V.4.1.1 E06.B-V.4.1.2</td>
<td>CC.1.2.7.J Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression. E07.B-V.4.1.1 E07.B-V.4.1.2</td>
<td>CC.1.2.8.J Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression. E08.B-V.4.1.1 E08.B-V.4.1.2</td>
<td>CC.1.2.9-10.J Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college- and career-readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression. L.N.1.2.4 L.N.1.2.1 L.N.1.2.2 L.N.1.2.3</td>
<td>CC.1.2.11-12.J Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college- and career-readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.</td>
</tr>
</tbody>
</table>
# 1.2 Reading Informational Text

Students read, understand, and respond to informational text—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vocabulary Acquisition and Use</strong></td>
<td><strong>Vocabulary Acquisition and Use</strong></td>
<td><strong>Vocabulary Acquisition and Use</strong></td>
<td><strong>Vocabulary Acquisition and Use</strong></td>
<td><strong>Vocabulary Acquisition and Use</strong></td>
</tr>
<tr>
<td>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.</td>
<td>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.</td>
<td>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.</td>
<td>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.</td>
<td></td>
</tr>
<tr>
<td>E06.B-V.4.1.1</td>
<td>E07.B-V.4.1.1</td>
<td>E08.B-V.4.1.1</td>
<td>L.N.1.2.1</td>
<td>L.N.1.2.2</td>
</tr>
<tr>
<td><strong>Range of Reading</strong></td>
<td><strong>Range of Reading</strong></td>
<td><strong>Range of Reading</strong></td>
<td><strong>Range of Reading</strong></td>
<td><strong>Range of Reading</strong></td>
</tr>
<tr>
<td>CC.1.2.6.L</td>
<td>CC.1.2.7.L</td>
<td>CC.1.2.8.L</td>
<td>CC.1.2.9-10.L</td>
<td>CC.1.2.11-12.L</td>
</tr>
<tr>
<td>Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.</td>
<td>Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.</td>
<td>Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.</td>
<td>Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.</td>
<td></td>
</tr>
<tr>
<td><strong>L.N.1.2.3</strong></td>
<td><strong>L.N.1.2.4</strong></td>
<td><strong>L.N.1.2.5</strong></td>
<td><strong>L.N.1.2.6</strong></td>
<td><strong>L.N.1.2.7</strong></td>
</tr>
</tbody>
</table>
### 1.3 Reading Literature

Students read and respond to works of literature—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Key Ideas and Details</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 6</td>
<td>CC.1.3.6.A</td>
<td>Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments. E06.A-K.1.1.2</td>
</tr>
<tr>
<td>Grade 7</td>
<td>CC.1.3.7.A</td>
<td>Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text. E07.A-K.1.1.2</td>
</tr>
<tr>
<td>Grade 8</td>
<td>CC.1.3.8.A</td>
<td>Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text. E08.A-K.1.1.2</td>
</tr>
<tr>
<td>Grades 9-10</td>
<td>CC.1.3.9-10.A</td>
<td>Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.</td>
</tr>
<tr>
<td>Grades 11-12</td>
<td>CC.1.3.11-12.A</td>
<td>Determine and analyze the relationship between two or more themes or central ideas of a text, including the development and interaction of the themes; provide an objective summary of the text.</td>
</tr>
</tbody>
</table>

- **CC.1.3.6.A**
- **CC.1.3.7.A**
- **CC.1.3.8.A**
- **CC.1.3.9-10.A**
- **CC.1.3.11-12.A**
- **L.F.1.1.2**
- **L.F.1.3.1**
- **L.F.1.3.2**
- **L.F.2.3.4**
# 1.3 Reading Literature

Students read and respond to works of literature—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.

<table>
<thead>
<tr>
<th></th>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key Ideas and Details</strong></td>
<td><strong>Text Analysis</strong></td>
<td><strong>Key Ideas and Details</strong></td>
<td><strong>Literary Elements</strong></td>
<td><strong>Key Ideas and Details</strong></td>
<td><strong>Literary Elements</strong></td>
</tr>
<tr>
<td><strong>CC.1.3.6.B</strong></td>
<td>Cite textual evidence to support analysis of what the text says explicitly, as well as inferences and/or generalizations drawn from the text.</td>
<td>CC.1.3.6.C</td>
<td>Describe how a particular story or drama’s plot unfolds in a series of episodes, as well as how the characters respond or change as the plot moves toward a resolution.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 6</td>
<td>E06.A-K.1.1.1</td>
<td>Grade 6</td>
<td>E06.A-K.1.1.3</td>
<td>Grade 6</td>
<td>E06.A-K.1.1.1</td>
</tr>
<tr>
<td>Grade 7</td>
<td>CC.1.3.7.B</td>
<td>Grade 7</td>
<td>CC.1.3.7.C</td>
<td>Grade 7</td>
<td>CC.1.3.7.C</td>
</tr>
<tr>
<td>Grade 8</td>
<td>CC.1.3.8.B</td>
<td>Grade 8</td>
<td>CC.1.3.8.C</td>
<td>Grade 8</td>
<td>CC.1.3.8.C</td>
</tr>
<tr>
<td>Grades 9-10</td>
<td>CC.1.3.9-10.B</td>
<td>Grades 9-10</td>
<td>CC.1.3.9-10.C</td>
<td>Grades 9-10</td>
<td>CC.1.3.9-10.C</td>
</tr>
<tr>
<td>Grades 11-12</td>
<td>CC.1.3.11-12.B</td>
<td>Grades 11-12</td>
<td>CC.1.3.11-12.C</td>
<td>Grades 11-12</td>
<td>CC.1.3.11-12.C</td>
</tr>
<tr>
<td><strong>L.F.1.1.1</strong></td>
<td><strong>L.F.1.3.1</strong></td>
<td><strong>L.F.2.1.2</strong></td>
<td><strong>L.F.1.1.3</strong></td>
<td><strong>L.F.2.3.1</strong></td>
<td><strong>L.F.2.3.4</strong></td>
</tr>
</tbody>
</table>

**CC.1.3.6.B**
Cite textual evidence to support analysis of what the text says explicitly, as well as inferences and/or generalizations drawn from the text.

**E06.A-K.1.1.1**

**CC.1.3.7.B**
Cite several pieces of textual evidence to support analysis of what the text says explicitly, as well as inferences, conclusions, and/or generalizations drawn from the text.

**E07.A-K.1.1.1**

**CC.1.3.8.B**
Cite the textual evidence that most strongly supports an analysis of what the text says explicitly, as well as inferences, conclusions, and/or generalizations drawn from the text.

**E08.A-K.1.1.1**

**CC.1.3.9-10.B**
Cite strong and thorough textual evidence to support analysis of what the text says explicitly, as well as inferences and conclusions based on an author’s explicit assumptions and beliefs about a subject.

**L.F.1.1.1**
**L.F.1.3.1**
**L.F.2.1.2**

**CC.1.3.11-12.B**
Cite strong and thorough textual evidence to support analysis of what the text says explicitly, as well as inferences and conclusions based on and related to an author’s implicit and explicit assumptions and beliefs.

**L.F.1.1.3**
**L.F.2.3.1**
**L.F.2.3.4**

**CC.1.3.6.C**
Describe how a particular story or drama’s plot unfolds in a series of episodes, as well as how the characters respond or change as the plot moves toward a resolution.

**E06.A-K.1.1.3**

**CC.1.3.7.C**
Analyze how particular elements of a story or drama interact and how setting shapes the characters or plot.

**E07.A-K.1.1.3**

**CC.1.3.8.C**
Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.

**E08.A-K.1.1.3**

**CC.1.3.9-10.C**
Analyze how complex characters develop over the course of a text, interact with other characters, and advance the plot or develop the theme.

**L.F.1.1.3**
**L.F.2.3.1**
**L.F.2.3.4**

**CC.1.3.11-12.C**
Analyze the impact of the author’s choices regarding how to develop and relate elements of a story or drama.
### 1.3 Reading Literature

Students read and respond to works of literature—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Craft and Structure</strong></td>
<td><strong>Craft and Structure</strong></td>
<td><strong>Craft and Structure</strong></td>
<td><strong>Craft and Structure</strong></td>
<td><strong>Craft and Structure</strong></td>
</tr>
<tr>
<td><strong>Point of View</strong></td>
<td><strong>Point of View</strong></td>
<td><strong>Point of View</strong></td>
<td><strong>Point of View</strong></td>
<td><strong>Point of View</strong></td>
</tr>
<tr>
<td>CC.1.3.6.D</td>
<td>CC.1.3.7.D</td>
<td>CC.1.3.8.D</td>
<td>CC.1.3.9-10.D</td>
<td>CC.1.3.11-12.D</td>
</tr>
<tr>
<td>Determine an author’s purpose in a text and explain how it is conveyed in a text.</td>
<td>Analyze how an author develops and contrasts the points of view of different characters or narrators in a text.</td>
<td>Analyze how differences in the points of view of the characters and the audience or reader (e.g., created through the use of dramatic irony) create such effects as suspense or humor.</td>
<td>Determine the point of view of the text and analyze the impact the point of view has on the meaning of the text.</td>
<td>Evaluate how an author’s point of view or purpose shapes the content and style of a text.</td>
</tr>
<tr>
<td>E06.A-C.2.1.1</td>
<td>E07.A-C.2.1.1</td>
<td>E08.A-C.2.1.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Text Structure</strong></td>
<td><strong>Text Structure</strong></td>
<td><strong>Text Structure</strong></td>
<td><strong>Text Structure</strong></td>
<td><strong>Text Structure</strong></td>
</tr>
<tr>
<td>CC.1.3.6.E</td>
<td>CC.1.3.7.E</td>
<td>CC.1.3.8.E</td>
<td>CC.1.3.9-10.E</td>
<td>CC.1.3.11-12.E</td>
</tr>
<tr>
<td>Analyze how the structure of a text contributes to the development of theme, setting, and plot.</td>
<td>Analyze how the structure of a text contributes to its meaning.</td>
<td>Compare and contrast the structure of two or more texts and analyze how the differing structure of each text contributes to its meaning and style.</td>
<td>Analyze how an author’s choices concerning how to structure a text, order events within it, and manipulate time create an effect.</td>
<td>Evaluate the structure of texts including how specific sentences, paragraphs, and larger portions of the texts relate to each other and the whole.</td>
</tr>
<tr>
<td>E06.A-C.2.1.2</td>
<td>E07.A-C.2.1.2</td>
<td>E08.A-C.2.1.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 1.3 Reading Literature

Students read and respond to works of literature—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Craft and Structure</strong></td>
<td><strong>Vocabulary</strong></td>
<td><strong>Craft and Structure</strong></td>
<td><strong>Vocabulary</strong></td>
<td><strong>Craft and Structure</strong></td>
</tr>
<tr>
<td>CC.1.3.6.F</td>
<td>Determine the meaning of words and phrases as they are used in grade-level reading and content, including interpretation of figurative language in context.</td>
<td>E06.A-C.2.1.3</td>
<td>E06.A-V.4.1.1</td>
<td>E06.A-V.4.1.2</td>
</tr>
<tr>
<td>CC.1.3.7.F</td>
<td>Determine the meaning of words and phrases as they are used in grade-level reading and content, including interpretation of figurative, connotative meanings.</td>
<td>E07.A-C.2.1.3</td>
<td>E07.A-V.4.1.1</td>
<td>E07.A-V.4.1.2</td>
</tr>
<tr>
<td>CC.1.3.8.F</td>
<td>Analyze the influence of the words and phrases in a text including figurative and connotative meanings and how they shape meaning and tone.</td>
<td>E08.A-C.2.1.3</td>
<td>E08.A-V.4.1.1</td>
<td>E08.A-V.4.1.2</td>
</tr>
<tr>
<td>CC.1.3.9-10.F</td>
<td>Analyze how words and phrases shape meaning and tone in texts.</td>
<td>L.F.2.3.5</td>
<td>L.F.2.5.1</td>
<td></td>
</tr>
<tr>
<td><strong>Integration of Knowledge and Ideas</strong></td>
<td><strong>Sources of Information</strong></td>
<td><strong>Integration of Knowledge and Ideas</strong></td>
<td><strong>Sources of Information</strong></td>
<td><strong>Integration of Knowledge and Ideas</strong></td>
</tr>
<tr>
<td>CC.1.3.6.G</td>
<td>Compare and contrast the experiences of reading a story, drama, or poem to listening to or viewing an audio, video, or live version of the text, including contrasting what is “seen” and “heard” when reading the text to what is perceived when listening or watching.</td>
<td>CC.1.3.7.G</td>
<td>Compare and contrast a written story, drama, or poem to its audio, filmed, staged, or multimedia version, analyzing the effects of techniques unique to each medium (e.g., lighting, sound, color, or camera focus and angles in a film).</td>
<td>CC.1.3.8.G</td>
</tr>
<tr>
<td><strong>CC.1.3.11-12.G</strong></td>
<td>Analyze multiple interpretations of a story, drama, or poem (e.g., recorded or live production of a play or recorded novel or poetry), evaluating how each version interprets the source text. (Include at least one play by Shakespeare and one play by an American dramatist.)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.3 Reading Literature
Students read and respond to works of literature—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compare and contrast texts in different forms or genres in terms of their approaches to similar themes and topics as well as their use of additional literary elements.</td>
<td>Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history.</td>
<td>Analyze how a modern work of fiction draws on themes, patterns of events, or character types from traditional works, including describing how the material is rendered new.</td>
<td>Analyze how an author draws on and transforms themes, topics, character types, and/or other text elements from source material in a specific work.</td>
<td>Demonstrate knowledge of foundational works of literature that reflect a variety of genres in the respective major periods of literature, including how two or more texts from the same period treat similar themes or topics.</td>
</tr>
<tr>
<td>E06.A-C.3.1.1</td>
<td>E07.A-C.3.1.1</td>
<td>E08.A-C.3.1.1</td>
<td>L.F.2.2.2</td>
<td>L.F.1.2.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.1.3.6.I</td>
<td>CC.1.3.7.I</td>
<td>CC.1.3.8.I</td>
<td>CC.1.3.9-10.I</td>
<td>CC.1.3.11-12.I</td>
</tr>
<tr>
<td>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.</td>
<td>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.</td>
<td>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.</td>
<td>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.</td>
<td>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.</td>
</tr>
<tr>
<td>E06.A-V.4.1.1</td>
<td>E07.A-V.4.1.1</td>
<td>E08.A-V.4.1.1</td>
<td>L.F.1.2.2</td>
<td>L.F.1.2.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.1.3.6.I</td>
<td>CC.1.3.7.I</td>
<td>CC.1.3.8.I</td>
<td>CC.1.3.9-10.I</td>
<td>CC.1.3.11-12.I</td>
</tr>
<tr>
<td>Vocabulary Acquisition and Use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 1.3 Reading Literature

Students read and respond to works of literature—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Vocabulary Acquisition and Use</strong></td>
<td><strong>Vocabulary Acquisition and Use</strong></td>
<td><strong>Vocabulary Acquisition and Use</strong></td>
<td><strong>Vocabulary Acquisition and Use</strong></td>
<td><strong>Vocabulary Acquisition and Use</strong></td>
</tr>
<tr>
<td></td>
<td>CC.1.3.6.J Acquire and use accurately grade-appropriate general academic</td>
<td>CC.1.3.7.J Acquire and use accurately grade-appropriate general academic</td>
<td>CC.1.3.8.J Acquire and use accurately grade-appropriate general academic</td>
<td>CC.1.3.9-10.J Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.</td>
<td>CC.1.3.11-12.J Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; sufficient for reading, writing, speaking, and listening at the college- and career-readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.</td>
</tr>
<tr>
<td></td>
<td>and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.</td>
<td>and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.</td>
<td>and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.</td>
<td>and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.</td>
<td>and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.</td>
</tr>
<tr>
<td></td>
<td>E06.A-V.4.1.1 E06.A-V.4.1.2</td>
<td>E07.A-V.4.1.1 E07.A-V.4.1.2</td>
<td>E08.A-V.4.1.1 E08.A-V.4.1.2</td>
<td>L.F.1.2.1 L.F.1.2.2 L.F.1.2.3 L.F.1.2.4</td>
<td>L.F.1.2.1 L.F.1.2.2 L.F.1.2.3 L.F.1.2.4</td>
</tr>
<tr>
<td></td>
<td><strong>Range of Reading</strong></td>
<td><strong>Range of Reading</strong></td>
<td><strong>Range of Reading</strong></td>
<td><strong>Range of Reading</strong></td>
<td><strong>Range of Reading</strong></td>
</tr>
<tr>
<td></td>
<td>CC.1.3.6.K Read and comprehend literary fiction on grade level, reading independently and proficiently.</td>
<td>CC.1.3.7.K Read and comprehend literary fiction on grade level, reading independently and proficiently.</td>
<td>CC.1.3.8.K Read and comprehend literary fiction on grade level, reading independently and proficiently.</td>
<td>CC.1.3.9-10.K Read and comprehend literary fiction on grade level, reading independently and proficiently.</td>
<td>CC.1.3.11-12.K Read and comprehend literary fiction on grade level, reading independently and proficiently.</td>
</tr>
</tbody>
</table>
## Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th></th>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Informative/Explanatory Focus</strong></td>
<td>CC.1.4.6.B Identify and introduce the topic for the intended audience. E06.C.1.2.1 E06.E.1.1.1</td>
<td>CC.1.4.7.B Identify and introduce the topic clearly, including a preview of what is to follow. E07.C.1.2.1 E07.E.1.1.1</td>
<td>CC.1.4.8.B Identify and introduce the topic clearly, including a preview of what is to follow. E08.C.1.2.1 E08.E.1.1.1</td>
<td>CC.1.4.9-10.B Write with a sharp, distinct focus identifying topic, task, and audience. C.E.1.1.1</td>
<td>CC.1.4.11-12.B Write with a sharp, distinct focus identifying topic, task, and audience.</td>
</tr>
<tr>
<td><strong>Informative/Explanatory</strong></td>
<td>CC.1.4.6.A Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information clearly.</td>
<td>CC.1.4.7.A Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information clearly.</td>
<td>CC.1.4.8.A Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information clearly.</td>
<td>CC.1.4.9-10.A Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately.</td>
<td>CC.1.4.11-12.A Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately.</td>
</tr>
</tbody>
</table>
1.4 Writing
Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop and analyze the topic with relevant facts, definitions, concrete details, quotations, or other information and examples; include graphics and multimedia when useful to aiding comprehension.</td>
<td>Develop and analyze the topic with relevant facts, definitions, concrete details, quotations, or other information and examples; include graphics and multimedia when useful to aiding comprehension.</td>
<td>Develop and analyze the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples; include graphics and multimedia when useful to aiding comprehension.</td>
<td>Develop and analyze the topic with relevant, well-chosen, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic; include graphics and multimedia when useful to aiding comprehension.</td>
<td>Develop and analyze the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic; include graphics and multimedia when useful to aiding comprehension.</td>
</tr>
<tr>
<td>E06.C.1.2.2</td>
<td>E06.C.1.2.2</td>
<td>E07.C.1.2.2</td>
<td>E08.C.1.2.2</td>
<td>C.E.1.1.2</td>
</tr>
<tr>
<td>E06.E.1.1.2</td>
<td>E07.E.1.1.2</td>
<td>E08.E.1.1.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Writing**

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CC.1.4.6.D</strong></td>
<td><strong>CC.1.4.7.D</strong></td>
<td><strong>CC.1.4.8.D</strong></td>
<td><strong>CC.1.4.9-10.D</strong></td>
<td><strong>CC.1.4.11-12.D</strong></td>
</tr>
<tr>
<td>Organize ideas, concepts, and information using strategies such as definition, classification, comparison/contrast, and cause/effect; use appropriate transitions to clarify the relationships among ideas and concepts; provide a concluding statement or section; include formatting when useful to aiding comprehension.</td>
<td>Organize ideas, concepts, and information using strategies such as definition, classification, comparison/contrast, and cause/effect; use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts; provide a concluding statement or section; include formatting when useful to aiding comprehension.</td>
<td>Organize ideas, concepts, and information into broader categories; use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts; provide a concluding statement or section; include formatting when useful to aiding comprehension.</td>
<td>Organize ideas, concepts, and information to make important connections and distinctions; use appropriate and varied transitions to link the major sections of the text; include formatting when useful to aiding comprehension; provide a concluding statement or section.</td>
<td>Organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a whole; use appropriate and varied transitions and syntax to link the major sections of the text; provide a concluding statement or section that supports the information presented; include formatting when useful to aiding comprehension.</td>
</tr>
<tr>
<td>E06.C.1.2.1</td>
<td>E07.C.1.2.1</td>
<td>E08.C.1.2.1</td>
<td>C.E.1.1.3</td>
<td>E.C.1.1.5</td>
</tr>
<tr>
<td>E06.C.1.2.3</td>
<td>E07.C.1.2.3</td>
<td>E08.C.1.2.6</td>
<td>E08.E.1.1.1</td>
<td>E08.E.1.1.3</td>
</tr>
<tr>
<td>E06.C.1.2.6</td>
<td>E07.C.1.2.6</td>
<td>E08.E.1.1.1</td>
<td>E08.E.1.1.6</td>
<td>E08.E.1.1.6</td>
</tr>
<tr>
<td>E06.E.1.1.1</td>
<td>E07.E.1.1.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E06.E.1.1.3</td>
<td>E07.E.1.1.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E06.E.1.1.6</td>
<td>E07.E.1.1.6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.4 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write with an awareness of the stylistic aspects of composition.</td>
<td>Write with an awareness of the stylistic aspects of composition.</td>
<td>Write with an awareness of the stylistic aspects of composition.</td>
<td>Write with an awareness of the stylistic aspects of composition.</td>
<td>Write with an awareness of the stylistic aspects of composition.</td>
</tr>
<tr>
<td>• Use precise language and domain-specific vocabulary to inform about or explain the topic.</td>
<td>• Use precise language and domain-specific vocabulary to inform about or explain the topic.</td>
<td>• Use precise language and domain-specific vocabulary to inform about or explain the topic.</td>
<td>• Use precise language and domain-specific vocabulary to manage the complexity of the topic.</td>
<td>• Use precise language and domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.</td>
</tr>
<tr>
<td>• Use sentences of varying lengths and complexities.</td>
<td>• Use sentences of varying lengths and complexities.</td>
<td>• Use sentences of varying lengths and complexities.</td>
<td>• Establish and maintain a formal style and objective tone while attending to the norms of the discipline in which they are writing.</td>
<td>• Establish and maintain a formal style and objective tone while attending to the norms of the discipline in which they are writing.</td>
</tr>
<tr>
<td>• Develop and maintain a consistent voice.</td>
<td>• Establish and maintain a formal style.</td>
<td>• Establish and maintain a formal style.</td>
<td>• Establish and maintain a formal style and objective tone while attending to the norms of the discipline in which they are writing.</td>
<td>• Establish and maintain a formal style and objective tone while attending to the norms of the discipline in which they are writing.</td>
</tr>
</tbody>
</table>

E06.C.1.2.4  E06.C.1.2.5  E06.D.2.1.1  E06.D.2.1.2  E06.D.2.1.3  E06.D.2.1.4  E06.D.2.1.5  E06.E.1.1.4  E06.E.1.1.5
E07.C.1.2.4  E07.C.1.2.5  E07.D.2.1.1  E07.D.2.1.2  E07.D.2.1.3  E07.D.2.1.4  E07.D.2.1.5  E07.E.1.1.4  E07.E.1.1.5  E08.C.1.2.4  E08.C.1.2.5  E08.D.2.1.1  E08.D.2.1.2  E08.D.2.1.3  E08.D.2.1.4  E08.D.2.1.5  E08.D.2.1.6  E08.E.1.1.4  E08.E.1.1.5  C.E.1.1.4  C.E.2.1.1  C.E.2.1.2  C.E.2.1.3  C.E.2.1.4  C.E.2.1.6  C.E.2.1.7
## I.4 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.1.4.6.F</td>
<td>CC.1.4.7.F</td>
<td>CC.1.4.8.F</td>
<td>CC.1.4.9-10.F</td>
<td>CC.1.4.11-12.F</td>
</tr>
<tr>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
</tr>
<tr>
<td>E06.D.1.1.1</td>
<td>E07.D.1.1.1</td>
<td>E08.D.1.1.1</td>
<td>C.E.1.1.5</td>
<td></td>
</tr>
<tr>
<td>E06.D.1.1.2</td>
<td>E07.D.1.1.2</td>
<td>E08.D.1.1.2</td>
<td>C.E.3.1.1</td>
<td></td>
</tr>
<tr>
<td>E06.D.1.1.3</td>
<td>E07.D.1.1.3</td>
<td>E08.D.1.1.3</td>
<td>C.E.3.1.2</td>
<td></td>
</tr>
<tr>
<td>E06.D.1.1.4</td>
<td>E07.D.1.1.4</td>
<td>E08.D.1.1.4</td>
<td>C.E.3.1.3</td>
<td></td>
</tr>
<tr>
<td>E06.D.1.1.5</td>
<td>E07.D.1.1.5</td>
<td>E08.D.1.1.5</td>
<td>C.E.3.1.4</td>
<td></td>
</tr>
<tr>
<td>E06.D.1.1.6</td>
<td>E07.D.1.1.6</td>
<td>E08.D.1.1.6</td>
<td>C.E.3.1.5</td>
<td></td>
</tr>
<tr>
<td>E06.D.1.1.7</td>
<td>E07.D.1.1.7</td>
<td>E08.D.1.1.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E06.D.1.1.8</td>
<td>E07.D.1.1.8</td>
<td>E08.D.1.1.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E06.D.1.2.1</td>
<td>E07.D.1.1.9</td>
<td>E08.D.1.1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E06.D.1.2.2</td>
<td>E07.D.1.2.1</td>
<td>E08.D.1.1.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E06.D.1.2.3</td>
<td>E07.D.1.2.2</td>
<td>E08.D.1.1.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E06.D.1.2.4</td>
<td>E07.D.1.2.3</td>
<td>E08.D.1.2.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E06.D.1.2.5</td>
<td>E07.D.1.2.4</td>
<td>E08.D.1.2.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E06.D.1.2.6</td>
<td>E07.D.1.2.5</td>
<td>E08.D.1.2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E06.D.1.2.7</td>
<td>E07.D.1.2.6</td>
<td>E08.D.1.2.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E06.D.1.2.8</td>
<td>E07.D.1.2.7</td>
<td>E08.D.1.2.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 1.4 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Opinion/Argumentative Focus</th>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.1.4.6.G</td>
<td>Write arguments to support claims.</td>
<td>CC.1.4.7.G</td>
<td>Write arguments to support claims.</td>
<td>CC.1.4.8.G</td>
<td>Write arguments to support claims.</td>
</tr>
<tr>
<td>CC.1.4.6.H</td>
<td>Introduce and state an opinion on a topic.</td>
<td>CC.1.4.7.H</td>
<td>Introduce and state an opinion on a topic.</td>
<td>CC.1.4.8.H</td>
<td>Write with a sharp, distinct focus identifying topic, task, and audience.</td>
</tr>
<tr>
<td>E06.C.1.1.1 E06.E.1.1.1</td>
<td></td>
<td>E07.C.1.1.1 E07.E.1.1.1</td>
<td></td>
<td>E08.C.1.1.1 E08.E.1.1.1</td>
<td><em>Introduce the precise claim.</em></td>
</tr>
<tr>
<td>CC.1.4.9-10.G</td>
<td>Write arguments to support claims in an analysis of substantive topics.</td>
<td>CC.1.4.9-10.H</td>
<td>Write arguments to support claims in an analysis of substantive topics.</td>
<td>CC.1.4.11-12.H</td>
<td>Write with a sharp, distinct focus identifying topic, task, and audience.</td>
</tr>
<tr>
<td>CC.1.4.11-12.G</td>
<td>Write arguments to support claims in an analysis of substantive topics.</td>
<td></td>
<td></td>
<td></td>
<td><em>Introduce the precise, knowledgeable claim.</em></td>
</tr>
</tbody>
</table>
### Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Opinion/Argumentative Content</th>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CC.1.4.6.I</strong> Use clear reasons and relevant evidence to support claims, using credible sources and demonstrating an understanding of the topic.</td>
<td><strong>CC.1.4.7.I</strong> Acknowledge alternate or opposing claims and support claim with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic.</td>
<td><strong>CC.1.4.8.I</strong> Acknowledge and distinguish the claim(s) from alternate or opposing claims and support claim with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic.</td>
<td><strong>CC.1.4.9-10.I</strong> Distinguish the claim(s) from alternate or opposing claims; develop claim(s) fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience’s knowledge level and concerns.</td>
<td><strong>CC.1.4.11-12.I</strong> Distinguish the claim(s) from alternate or opposing claims; develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience’s knowledge level, concerns, values, and possible biases.</td>
<td></td>
</tr>
<tr>
<td>E06.C.1.1.2 E06.E.1.1.2</td>
<td>E07.C.1.1.2 E07.E.1.1.2</td>
<td>E08.C.1.1.2 E08.E.1.1.2</td>
<td>C.P.1.1.2</td>
<td>C.P.1.1.3</td>
<td></td>
</tr>
</tbody>
</table>
### 1.4 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organize the claim(s) with clear reasons and evidence clearly; clarify relationships among claim(s) and reasons by using words, phrases, and clauses; provide a concluding statement or section that follows from the argument presented.</td>
<td>Organize the claim(s) with clear reasons and evidence clearly; clarify relationships among claim(s) and reasons by using words, phrases, and clauses to create cohesion; provide a concluding statement or section that follows from and supports the argument presented.</td>
<td>Organize the claim(s) with clear reasons and evidence clearly; clarify relationships among claim(s), counterclaims, reasons, and evidence; use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims; provide a concluding statement or section that follows from and supports the argument presented.</td>
<td>Create organization that logically sequences claim(s), counterclaims, reasons, and evidence; use words, phrases, and clauses as well as varied syntax to link the major sections of the text to create cohesion and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims; provide a concluding statement or section that follows from and supports the argument presented.</td>
<td></td>
</tr>
</tbody>
</table>

- E06.C.1.1.1
- E06.C.1.1.3
- E06.C.1.1.5
- E06.E.1.1.1
- E06.E.1.1.3
- E06.E.1.1.6

- E07.C.1.1.1
- E07.C.1.1.3
- E07.C.1.1.5
- E07.E.1.1.1
- E07.E.1.1.3
- E07.E.1.1.6

- E08.C.1.1.1
- E08.C.1.1.3
- E08.C.1.1.5
- E08.E.1.1.1
- E08.E.1.1.3
- E08.E.1.1.6

- C.P.1.1.2
- C.P.1.1.3
- C.P.2.1.5
- C.P.2.1.6
## Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write with an awareness of the stylistic aspects of composition.</td>
<td>Write with an awareness of the stylistic aspects of composition.</td>
<td>Write with an awareness of the stylistic aspects of composition.</td>
<td>Write with an awareness of the stylistic aspects of composition.</td>
<td>Write with an awareness of the stylistic aspects of composition.</td>
</tr>
<tr>
<td>• Use precise language and domain-specific vocabulary to inform about or explain the topic.</td>
<td>• Use precise language and domain-specific vocabulary to inform about or explain the topic.</td>
<td>• Use precise language and domain-specific vocabulary to inform about or explain the topic.</td>
<td>• Use precise language and domain-specific vocabulary to inform about or explain the topic.</td>
<td>• Use precise language and domain-specific vocabulary to inform about or explain the topic.</td>
</tr>
<tr>
<td>• Use sentences of varying lengths and complexities.</td>
<td>• Use sentences of varying lengths and complexities.</td>
<td>• Use sentences of varying lengths and complexities.</td>
<td>• Establish and maintain a formal style.</td>
<td>• Establish and maintain a formal style.</td>
</tr>
<tr>
<td>• Develop and maintain a consistent voice.</td>
<td>• Establish and maintain a consistent voice.</td>
<td>• Develop and maintain a consistent voice.</td>
<td>• Establish and maintain a formal style.</td>
<td>• Establish and maintain a formal style.</td>
</tr>
<tr>
<td>• Establish and maintain a formal style.</td>
<td>• Establish and maintain a formal style.</td>
<td>• Establish and maintain a formal style.</td>
<td>• Establish and maintain a formal style.</td>
<td>• Establish and maintain a formal style.</td>
</tr>
</tbody>
</table>

**Opinion/Argumentative Style**

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>E06.B.1.4</td>
<td>E07.B.1.4</td>
<td>E07.B.1.4</td>
<td>E08.B.1.4</td>
<td>C.P.1.1.4</td>
</tr>
<tr>
<td>E06.B.2.1.1</td>
<td>E07.B.2.1.1</td>
<td>E07.B.2.1.1</td>
<td>E08.B.2.1.1</td>
<td>C.P.2.1.1</td>
</tr>
<tr>
<td>E06.B.2.1.2</td>
<td>E07.B.2.1.2</td>
<td>E07.B.2.1.2</td>
<td>E08.B.2.1.2</td>
<td>C.P.2.1.2</td>
</tr>
<tr>
<td>E06.B.2.1.3</td>
<td>E07.B.2.1.3</td>
<td>E07.B.2.1.3</td>
<td>E08.B.2.1.3</td>
<td>C.P.2.1.3</td>
</tr>
<tr>
<td>E06.B.2.1.4</td>
<td>E07.B.2.1.4</td>
<td>E07.B.2.1.4</td>
<td>E08.B.2.1.4</td>
<td>C.P.2.1.4</td>
</tr>
<tr>
<td>E06.B.2.1.5</td>
<td>E07.B.2.1.5</td>
<td>E07.B.2.1.5</td>
<td>E08.B.2.1.5</td>
<td>C.P.2.1.5</td>
</tr>
<tr>
<td>E06.E.1.1.4</td>
<td>E07.E.1.1.4</td>
<td>E07.E.1.1.4</td>
<td>E08.E.1.1.4</td>
<td>C.P.2.1.6</td>
</tr>
<tr>
<td>E06.E.1.1.5</td>
<td>E07.E.1.1.5</td>
<td>E07.E.1.1.5</td>
<td>E08.E.1.1.5</td>
<td>C.P.2.1.7</td>
</tr>
</tbody>
</table>
### 1.4 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.1.4.6.L</td>
<td>CC.1.4.7.L</td>
<td>CC.1.4.8.L</td>
<td>CC.1.4.9-10.L</td>
<td>CC.1.4.11-12.L</td>
</tr>
<tr>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
</tr>
<tr>
<td>E06.D.1.1.1</td>
<td>E06.D.1.1.2</td>
<td>E06.D.1.1.3</td>
<td>E06.D.1.1.4</td>
<td>E06.D.1.1.5</td>
</tr>
<tr>
<td>E06.D.1.1.6</td>
<td>E06.D.1.1.7</td>
<td>E06.D.1.1.8</td>
<td>E06.D.1.2.1</td>
<td>E06.D.1.2.2</td>
</tr>
<tr>
<td>E06.D.1.2.3</td>
<td>E07.D.1.1.1</td>
<td>E07.D.1.1.2</td>
<td>E07.D.1.1.3</td>
<td>E07.D.1.1.4</td>
</tr>
<tr>
<td>E07.D.1.1.5</td>
<td>E07.D.1.1.6</td>
<td>E07.D.1.1.7</td>
<td>E07.D.1.1.8</td>
<td>E07.D.1.1.9</td>
</tr>
<tr>
<td>E07.D.1.2.1</td>
<td>E07.D.1.2.2</td>
<td>E07.D.1.2.3</td>
<td>E07.D.1.2.4</td>
<td>E08.D.1.1.1</td>
</tr>
<tr>
<td>E08.D.1.1.2</td>
<td>E08.D.1.1.3</td>
<td>E08.D.1.1.4</td>
<td>E08.D.1.1.5</td>
<td>E08.D.1.1.6</td>
</tr>
<tr>
<td>E08.D.1.1.7</td>
<td>E08.D.1.1.8</td>
<td>E08.D.1.1.9</td>
<td>E08.D.1.1.10</td>
<td>E08.D.1.1.11</td>
</tr>
<tr>
<td>E08.D.1.2.1</td>
<td>E08.D.1.2.2</td>
<td>E08.D.1.2.3</td>
<td>E08.D.1.2.4</td>
<td>E08.D.1.2.5</td>
</tr>
</tbody>
</table>

C.P.1.1.5
C.P.3.1.1
C.P.3.1.2
C.P.3.1.3
C.P.3.1.4
C.P.3.1.5
### Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Narrative</strong></td>
<td><strong>Narrative</strong></td>
<td><strong>Narrative</strong></td>
<td><strong>Narrative</strong></td>
<td><strong>Narrative</strong></td>
</tr>
<tr>
<td>Write narratives to develop real or imagined experiences or events.</td>
<td>Write narratives to develop real or imagined experiences or events.</td>
<td>Write narratives to develop real or imagined experiences or events.</td>
<td>Write narratives to develop real or imagined experiences or events.</td>
<td>Write narratives to develop real or imagined experiences or events.</td>
</tr>
<tr>
<td><strong>Narrative Focus</strong></td>
<td><strong>Narrative Focus</strong></td>
<td><strong>Narrative Focus</strong></td>
<td><strong>Narrative Focus</strong></td>
<td><strong>Narrative Focus</strong></td>
</tr>
<tr>
<td>Engage and orient the reader by establishing a context and introducing a narrator and/or characters.</td>
<td>Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters.</td>
<td>Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters.</td>
<td>Engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple points of view, and introducing a narrator and/or characters.</td>
<td>Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple points of view, and introducing a narrator and/or characters.</td>
</tr>
<tr>
<td>E06.C.1.3.1</td>
<td>E07.C.1.3.1</td>
<td>E08.C.1.3.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.4 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Narrative Content</strong></td>
<td><strong>CC.1.4.6.O</strong> Use narrative techniques such as dialogue, description, and pacing to develop experiences, events, and/or characters; use precise words and phrases, relevant descriptive details, and sensory language to convey experiences and events. E06.C.1.3.2 E06.C.1.3.4</td>
<td><strong>CC.1.4.7.O</strong> Use narrative techniques such as dialogue, description, and pacing to develop experiences, events, and/or characters; use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events. E07.C.1.3.2 E07.C.1.3.4</td>
<td><strong>CC.1.4.8.O</strong> Use narrative techniques such as dialogue, description, reflection, and pacing to develop experiences, events, and/or characters; use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events. E08.C.1.3.2 E08.C.1.3.4</td>
<td><strong>CC.1.4.9-10.O</strong> Use narrative techniques such as dialogue, description, reflection, multiple plotlines, and pacing to develop experiences, events, and/or characters; use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, settings, and/or characters.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>CC.1.4.11-12.O</strong> Use narrative techniques such as dialogue, description, reflection, multiple plotlines, and pacing to develop experiences, events, and/or characters; use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, settings, and/or characters.</td>
</tr>
<tr>
<td>Grade 6</td>
<td>Grade 7</td>
<td>Grade 8</td>
<td>Grades 9-10</td>
<td>Grades 11-12</td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>-------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Organize an event sequence that unfolds naturally and logically, using a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another; provide a conclusion that follows from and reflects on the narrated experiences and events.</td>
<td>Organize an event sequence that unfolds naturally and logically, using a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another; provide a conclusion that follows from and reflects on the narrated experiences and events.</td>
<td>Organize an event sequence that unfolds naturally and logically, using a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another; provide a conclusion that follows from and reflects on the narrated experiences and events.</td>
<td>Organize an event sequence that unfolds naturally and logically, using a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another; provide a conclusion that follows from and reflects on the narrated experiences and events.</td>
<td>Organize an event sequence that unfolds naturally and logically, using a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another; provide a conclusion that follows from and reflects on the narrated experiences and events.</td>
</tr>
<tr>
<td>E06.C.1.3.1</td>
<td>E06.C.1.3.3</td>
<td>E06.C.1.3.5</td>
<td>E07.C.1.3.1</td>
<td>E07.C.1.3.3</td>
</tr>
</tbody>
</table>

### Narrative Organization

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.
1.4 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
</table>
| CC.1.4.6.Q | Write with an awareness of the stylistic aspects of writing.  
- Vary sentence patterns for meaning, reader/listener interest, and style.  
- Use precise language.  
- Develop and maintain a consistent voice.  
| E06.C.1.3.4 | E06.D.2.1.1 | E06.D.2.1.2 | E06.D.2.1.3 | E06.D.2.1.4 | E06.D.2.1.5 | E06.E.1.1.4 |
| CC.1.4.7.Q | Write with an awareness of the stylistic aspects of writing.  
- Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.  
- Use sentences of varying lengths and complexities.  
- Use precise language.  
- Develop and maintain a consistent voice.  
| CC.1.4.8.Q | Write with an awareness of the stylistic aspects of writing.  
- Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects.  
- Use sentences of varying lengths and complexities.  
- Create tone and voice through precise language.  
| E08.C.1.3.4 | E08.D.2.1.1 | E08.D.2.1.2 | E08.D.2.1.3 | E08.D.2.1.4 | E08.D.2.1.5 | E08.D.2.1.6 |
| CC.1.4.9-10.Q | Write with an awareness of the stylistic aspects of writing.  
- Use parallel structure.  
- Use various types of phrases and clauses to convey meaning and add variety and interest.  
| E08.D.2.1.7 | E08.D.2.1.8 | E08.D.2.1.9 | E08.D.2.1.10 | E08.D.2.1.11 | E08.D.2.1.12 | E08.D.2.1.13 |
| CC.1.4.11-12.Q | Write with an awareness of the stylistic aspects of writing.  
- Use parallel structure.  
- Use various types of phrases and clauses to convey specific meanings and add variety and interest.  
- Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.  
## 1.4 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
<td>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</td>
</tr>
<tr>
<td>E06.D.1.1.1</td>
<td>E07.D.1.1.1</td>
<td>E08.D.1.1.1</td>
<td>E09.D.1.1.1</td>
<td>E10.D.1.1.1</td>
</tr>
<tr>
<td>E06.D.1.1.2</td>
<td>E07.D.1.1.2</td>
<td>E08.D.1.1.2</td>
<td>E09.D.1.1.2</td>
<td>E10.D.1.1.2</td>
</tr>
<tr>
<td>E06.D.1.1.3</td>
<td>E07.D.1.1.3</td>
<td>E08.D.1.1.3</td>
<td>E09.D.1.1.3</td>
<td>E10.D.1.1.3</td>
</tr>
<tr>
<td>E06.D.1.1.4</td>
<td>E07.D.1.1.4</td>
<td>E08.D.1.1.4</td>
<td>E09.D.1.1.4</td>
<td>E10.D.1.1.4</td>
</tr>
<tr>
<td>E06.D.1.1.5</td>
<td>E07.D.1.1.5</td>
<td>E08.D.1.1.5</td>
<td>E09.D.1.1.5</td>
<td>E10.D.1.1.5</td>
</tr>
<tr>
<td>E06.D.1.1.6</td>
<td>E07.D.1.1.6</td>
<td>E08.D.1.1.6</td>
<td>E09.D.1.1.6</td>
<td>E10.D.1.1.6</td>
</tr>
<tr>
<td>E06.D.1.1.7</td>
<td>E07.D.1.1.7</td>
<td>E08.D.1.1.7</td>
<td>E09.D.1.1.7</td>
<td>E10.D.1.1.7</td>
</tr>
<tr>
<td>E06.D.1.1.8</td>
<td>E07.D.1.1.8</td>
<td>E08.D.1.1.8</td>
<td>E09.D.1.1.8</td>
<td>E10.D.1.1.8</td>
</tr>
<tr>
<td>E06.D.1.2.1</td>
<td>E07.D.1.2.1</td>
<td>E08.D.1.2.1</td>
<td>E09.D.1.2.1</td>
<td>E10.D.1.2.1</td>
</tr>
<tr>
<td>E06.D.1.2.2</td>
<td>E07.D.1.2.2</td>
<td>E08.D.1.2.2</td>
<td>E09.D.1.2.2</td>
<td>E10.D.1.2.2</td>
</tr>
<tr>
<td>E06.D.1.2.3</td>
<td>E07.D.1.2.3</td>
<td>E08.D.1.2.3</td>
<td>E09.D.1.2.3</td>
<td>E10.D.1.2.3</td>
</tr>
<tr>
<td>E06.D.1.2.4</td>
<td>E07.D.1.2.4</td>
<td>E08.D.1.2.4</td>
<td>E09.D.1.2.4</td>
<td>E10.D.1.2.4</td>
</tr>
<tr>
<td>E06.D.1.2.5</td>
<td>E07.D.1.2.5</td>
<td>E08.D.1.2.5</td>
<td>E09.D.1.2.5</td>
<td>E10.D.1.2.5</td>
</tr>
</tbody>
</table>
### Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draw evidence from literary or informational texts to support analysis, reflection, and research, applying grade-level reading standards for literature and literary nonfiction.</td>
<td>Draw evidence from literary or informational texts to support analysis, reflection, and research, applying grade-level reading standards for literature and literary nonfiction.</td>
<td>Draw evidence from literary or informational texts to support analysis, reflection, and research, applying grade-level reading standards for literature and literary nonfiction.</td>
<td>Draw evidence from literary or informational texts to support analysis, reflection, and research, applying grade-level reading standards for literature and literary nonfiction.</td>
<td>Draw evidence from literary or informational texts to support analysis, reflection, and research, applying grade-level reading standards for literature and literary nonfiction.</td>
</tr>
<tr>
<td>E06.E.1.1.1</td>
<td>E07.E.1.1.1</td>
<td>E08.E.1.1.1</td>
<td>E08.E.1.1.1</td>
<td>E08.E.1.1.1</td>
</tr>
<tr>
<td>E06.E.1.1.2</td>
<td>E07.E.1.1.2</td>
<td>E08.E.1.1.2</td>
<td>E08.E.1.1.2</td>
<td>E08.E.1.1.2</td>
</tr>
<tr>
<td>E06.E.1.1.3</td>
<td>E07.E.1.1.3</td>
<td>E08.E.1.1.3</td>
<td>E08.E.1.1.3</td>
<td>E08.E.1.1.3</td>
</tr>
<tr>
<td>E06.E.1.1.4</td>
<td>E07.E.1.1.4</td>
<td>E08.E.1.1.4</td>
<td>E08.E.1.1.4</td>
<td>E08.E.1.1.4</td>
</tr>
<tr>
<td>E06.E.1.1.5</td>
<td>E07.E.1.1.5</td>
<td>E08.E.1.1.5</td>
<td>E08.E.1.1.5</td>
<td>E08.E.1.1.5</td>
</tr>
<tr>
<td>E06.E.1.1.6</td>
<td>E07.E.1.1.6</td>
<td>E08.E.1.1.6</td>
<td>E08.E.1.1.6</td>
<td>E08.E.1.1.6</td>
</tr>
</tbody>
</table>
### Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Production and Distribution of Writing</strong>&lt;br&gt;<strong>Writing Process</strong>&lt;br&gt;CC.1.4.6.T With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.</td>
<td><strong>CC.1.4.7.T</strong> With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.</td>
<td><strong>CC.1.4.8.T</strong> With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.</td>
<td><strong>CC.1.4.9-10.T</strong> Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</td>
<td><strong>CC.1.4.11-12.T</strong> Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</td>
</tr>
<tr>
<td><strong>Technology and Publication</strong>&lt;br&gt;CC.1.4.6.U Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.</td>
<td><strong>CC.1.4.7.U</strong> Use technology, including the Internet, to produce and publish writing and link to and cite sources as well as to interact and collaborate with others, including linking to and citing sources.</td>
<td><strong>CC.1.4.8.U</strong> Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.</td>
<td><strong>CC.1.4.9-10.U</strong> Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology’s capacity to link to other information and to display information flexibly and dynamically.</td>
<td><strong>CC.1.4.11-12.U</strong> Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments and information.</td>
</tr>
</tbody>
</table>
### Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.</td>
<td>Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.</td>
<td>Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.</td>
<td>Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</td>
<td>Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</td>
</tr>
</tbody>
</table>
## 1.4 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CC.1.4.6.W</strong></td>
<td>Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.</td>
<td><strong>CC.1.4.7.W</strong></td>
<td>Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.</td>
<td><strong>CC.1.4.8.W</strong></td>
</tr>
<tr>
<td><strong>CC.1.4.6.X</strong></td>
<td>Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</td>
<td><strong>CC.1.4.7.X</strong></td>
<td>Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</td>
<td><strong>CC.1.4.8.X</strong></td>
</tr>
</tbody>
</table>
## 1.5 Speaking and Listening

Students present appropriately in formal speaking situations, listen critically, and respond intelligently as individuals or in group discussions.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.1.5.6.A</td>
<td>CC.1.5.7.A</td>
<td>CC.1.5.8.A</td>
<td>CC.1.5.9-10.A</td>
<td>CC.1.5.11-12.A</td>
</tr>
<tr>
<td>Engage effectively in a range of collaborative discussions, on grade-level topics, texts, and issues, building on others’ ideas and expressing their own clearly.</td>
<td>Engage effectively in a range of collaborative discussions, on grade-level topics, texts, and issues, building on others’ ideas and expressing their own clearly.</td>
<td>Engage effectively in a range of collaborative discussions, on grade-level topics, texts, and issues, building on others’ ideas and expressing their own clearly.</td>
<td>Initiate and participate effectively in a range of collaborative discussions on grade-level topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</td>
<td>Initiate and participate effectively in a range of collaborative discussions on grade-level topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</td>
</tr>
</tbody>
</table>

### Comprehension and Collaboration

#### Critical Listening

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delineate a speaker’s argument and specific claims by identifying specific reasons and evidence and recognize arguments or claims not supported by factual evidence.</td>
<td>Delineate a speaker’s argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.</td>
<td>Delineate a speaker’s argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.</td>
<td>Evaluate a speaker’s perspective, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.</td>
<td>Evaluate how the speaker’s perspective, reasoning, and use of evidence and rhetoric affect the credibility of an argument through the author’s stance, premises, links among ideas, word choice, points of emphasis, and tone.</td>
</tr>
</tbody>
</table>
## 1.5 Speaking and Listening

Students present appropriately in formal speaking situations, listen critically, and respond intelligently as individuals or in group discussions.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comprehension and Collaboration</strong></td>
<td><strong>Evaluating Information</strong></td>
<td><strong>Purpose, Audience, and Task</strong></td>
<td><strong>Presentation of Knowledge and Ideas</strong></td>
<td><strong>Academic Standards and Assessments</strong></td>
</tr>
<tr>
<td>CC.1.5.6.C</td>
<td>CC.1.5.6.D</td>
<td>CC.1.5.6.C</td>
<td>CC.1.5.6.C</td>
<td>CC.1.5.6.C</td>
</tr>
<tr>
<td>Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.</td>
<td>Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.</td>
<td>Present claims and supporting details presented in diverse media formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.</td>
<td>Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.</td>
<td>Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.</td>
</tr>
<tr>
<td>CC.1.5.7.C</td>
<td>CC.1.5.7.D</td>
<td>CC.1.5.7.C</td>
<td>CC.1.5.7.D</td>
<td>CC.1.5.7.D</td>
</tr>
<tr>
<td>Analyze the main ideas and supporting details presented in diverse media formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.</td>
<td>Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound, valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume and clear pronunciation.</td>
<td>Analyze the purpose of information presented in diverse formats and media (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.</td>
<td>Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning; ensure that the presentation is appropriate to purpose, audience, and task.</td>
<td>Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.</td>
</tr>
<tr>
<td>CC.1.5.8.C</td>
<td>CC.1.5.8.D</td>
<td>CC.1.5.9-10.C</td>
<td>CC.1.5.9-10.D</td>
<td>CC.1.5.9-10.D</td>
</tr>
<tr>
<td>Analyze the purpose of information presented in diverse media formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.</td>
<td>Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound, valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume and clear pronunciation.</td>
<td>Integrate multiple sources of information presented in diverse media formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.</td>
<td>Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning; ensure that the presentation is appropriate to purpose, audience, and task.</td>
<td>Present information, findings, and supporting evidence, conveying a clear and distinct perspective; organization, development, substance, and style are appropriate to purpose, audience, and task.</td>
</tr>
</tbody>
</table>
### 1.5 Speaking and Listening

Students present appropriately in formal speaking situations, listen critically, and respond intelligently as individuals or in group discussions.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.1.5.6.E</td>
<td>CC.1.5.7.E</td>
<td>CC.1.5.8.E</td>
<td>CC.1.5.9-10.E</td>
<td>CC.1.5.11-12.E</td>
</tr>
<tr>
<td>Adapt speech to a variety of contexts and tasks.</td>
<td>Adapt speech to a variety of contexts and tasks.</td>
<td>Adapt speech to a variety of contexts and tasks.</td>
<td>Adapt speech to a variety of contexts and tasks.</td>
<td>Adapt speech to a variety of contexts and tasks.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Integration of Knowledge and Ideas</th>
<th>Multimedia</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.1.5.6.F</td>
<td>CC.1.5.7.F</td>
</tr>
<tr>
<td>Include multimedia components and visual displays in presentations to clarify information.</td>
<td>Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.</td>
</tr>
</tbody>
</table>
### 1.5 Speaking and Listening

Students present appropriately in formal speaking situations, listen critically, and respond intelligently as individuals or in group discussions.

<table>
<thead>
<tr>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grades 9-10</th>
<th>Grades 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate command of the conventions of standard English when speaking based on Grade 6 level and content.</td>
<td>Demonstrate command of the conventions of standard English when speaking based on Grade 7 level and content.</td>
<td>Demonstrate command of the conventions of standard English when speaking based on Grade 8 level and content.</td>
<td>Demonstrate command of the conventions of standard English when speaking based on Grades 9-10 level and content.</td>
<td>Demonstrate command of the conventions of standard English when speaking based on Grades 11-12 level and content.</td>
</tr>
</tbody>
</table>

**Pennsylvania Core Standards for Mathematics**

*Grades PreK—High School*

**INTRODUCTION**

The Pennsylvania Core Standards in Mathematics in grades PreK-5 lay a solid foundation in whole numbers, addition, subtraction, multiplication, division, fractions, and decimals. Taken together, these elements support a student’s ability to learn and apply more demanding math concepts and procedures. The middle school and high school standards call on students to practice applying mathematical ways of thinking to real world issues and challenges; they prepare students to think and reason mathematically. Additionally, they set a rigorous definition of college and career readiness by demanding that students develop a depth of understanding and ability to apply mathematics to novel situations, as college students and employees regularly do. Although the standards are not a curriculum or a prescribed series of activities, school entities will use them to develop a local school curriculum that will meet local students’ needs.

This document includes PA Core Standards for Mathematical Content and Mathematical Practice. The mathematics standards define what students should understand and be able to do. Mathematical Practice Standards describes the habits of mind required to reach a level of mathematical proficiency.
### Standards for Mathematical Content

<table>
<thead>
<tr>
<th>2.1 Numbers and Operations</th>
<th>2.2 Algebraic Concepts</th>
<th>2.3 Geometry</th>
<th>2.4 Measurement, Data, and Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>A) Counting and Cardinality</td>
<td>A) Operations and Algebraic Thinking</td>
<td>A) Geometry</td>
<td>A) Measurement and Data</td>
</tr>
<tr>
<td>B) Numbers and Operations in Base Ten</td>
<td>B) Expressions &amp; Equations</td>
<td>B) Functions</td>
<td>B) Statistics and Probability</td>
</tr>
<tr>
<td>C) Numbers and Operations—Fractions</td>
<td>C) Functions</td>
<td>D) Geometry</td>
<td></td>
</tr>
<tr>
<td>D) Ratios and Proportional Relationships</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E) The Number System</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F) Number and Quantity</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Standards for Mathematical Practice

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and make sense of regularity in repeated reasoning.

Standards cannot be viewed or addressed in isolation, as each standard depends upon or may lead into multiple standards across grades; thus, it is imperative that educators are familiar with both the standards that come before and those that follow a particular grade level. These revised standards reflect instructional shifts that cannot occur without the integrated emphasis on content and practice.

Standards are overarching statements of what a proficient math student should know and be able to do. The Pennsylvania Assessment Anchors and Eligible Content closely align with the revised standards and are an invaluable source for greater detail.
Key Points in Mathematics

- The standards stress both procedural skills and conceptual understanding to ensure students are learning and applying the critical information they need to succeed at higher levels.
- K-5 standards, which provide students with a solid foundation in whole numbers, addition, subtraction, multiplication, division, fractions, and decimals, help young students build the foundation to successfully apply more demanding math concepts and procedures, and move into application. They also provide detailed guidance to teachers on how to navigate their way through topics such as fractions, negative numbers, and geometry, and do so by maintaining a continuous progression from grade to grade.
- Having built a strong foundation at K-5, students can do hands-on learning in geometry, algebra, and probability and statistics. Students who have mastered the content and skills through the seventh grade will be well-prepared for algebra in grade 8.
- High school standards emphasize practicing applying mathematical ways of thinking to real world issues and challenges.

The PA Core Standards for Mathematics detail four standard areas: Numbers and Operations, Algebraic Concepts, Geometry, and Measurement, Data, and Probability. These standard areas are reflective of the reporting categories in the PA Core Assessment Anchors and Eligible Content. The intent of this document is to provide a useful tool for designing curriculum, instruction, and assessment. The grade level curriculum and instructional shifts in mathematics cannot occur without the integrated emphasis on content and practice. The chart below illustrates the four standard areas and the development and progression of the strands, with an understanding that all is framed around the Standards for Mathematical Practice.
Mathematical Standards: Development and Progression

<table>
<thead>
<tr>
<th>Standards for Mathematical Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make sense of problems and persevere in solving them.</td>
</tr>
<tr>
<td>Construct viable arguments and critique the reasoning of others.</td>
</tr>
<tr>
<td>Use appropriate tools strategically.</td>
</tr>
<tr>
<td>Look for and make use of structure.</td>
</tr>
<tr>
<td>Reason abstractly and quantitatively.</td>
</tr>
<tr>
<td>Model with mathematics.</td>
</tr>
<tr>
<td>Attend to precision.</td>
</tr>
<tr>
<td>Look for and express regularity in repeated reasoning.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>PreK</th>
<th>K</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>HS</th>
</tr>
</thead>
<tbody>
<tr>
<td>**2.1 Numbers and</td>
<td>(A)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operations**</td>
<td>Counting &amp;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cardinality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Numbers and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Operations in</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Base Ten</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Numbers and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Operations—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fractions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(D)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ratios and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Proportional</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relationships</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quantity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2.2 Algebraic Concepts</strong></td>
<td>(A)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Operations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Algebraic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thinking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Expressions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(D)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Algebra</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Functions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2.3 Geometry</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(A)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Geometry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2.4 Measurement, Data, and Probability</strong></td>
<td>(A)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Measurement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Probability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Statistics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Probability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.1 Numbers and Operations

<table>
<thead>
<tr>
<th>Grade PreK</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.PreK</td>
<td>2.1.K</td>
<td>2.1.1</td>
<td>2.1.2</td>
<td>2.1.3</td>
<td>2.1.4</td>
<td>2.1.5</td>
</tr>
</tbody>
</table>

Pennsylvania's public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

A1. Counting & Cardinality

<table>
<thead>
<tr>
<th></th>
<th>CC.2.1.PreK.A.1</th>
<th>CC.2.1.K.A.1</th>
<th>Intentionally</th>
<th>Intentionally</th>
<th>Intentionally</th>
<th>Intentionally</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Know number names and the count sequence.</td>
<td>Know number names and write and recite the count sequence.</td>
<td>Blank</td>
<td>Blank</td>
<td>Blank</td>
<td>Blank</td>
</tr>
<tr>
<td></td>
<td>CC.2.1.PreK.A.2</td>
<td>CC.2.1.K.A.2</td>
<td>Intentionally</td>
<td>Intentionally</td>
<td>Intentionally</td>
<td>Intentionally</td>
</tr>
<tr>
<td></td>
<td>Count to tell the number of objects.</td>
<td>Apply one-to-one correspondence to count the number of objects.</td>
<td>Blank</td>
<td>Blank</td>
<td>Blank</td>
<td>Blank</td>
</tr>
<tr>
<td></td>
<td>CC.2.1.PreK.A.3</td>
<td>CC.2.1.K.A.3</td>
<td>Intentionally</td>
<td>Intentionally</td>
<td>Intentionally</td>
<td>Intentionally</td>
</tr>
<tr>
<td></td>
<td>Compare numbers.</td>
<td>Apply the concept of magnitude to compare numbers and quantities.</td>
<td>Blank</td>
<td>Blank</td>
<td>Blank</td>
<td>Blank</td>
</tr>
</tbody>
</table>
### 2.1 Numbers and Operations

#### The Standards of Mathematical Practices
- Make sense of problems and persevere in solving them.
- Construct viable arguments and critique the reasoning of others.
- Use appropriate tools strategically.
- Look for and make use of structure.
- Reason abstractly and quantitatively.
- Model with mathematics.
- Attend to precision.
- Look for and express regularity in repeated reasoning.

#### Pennsylvania’s public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

<table>
<thead>
<tr>
<th>Grade</th>
<th>2.1 PreK</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.1</td>
<td>CC.2.1.K.B.1 Use place value to compose and decompose numbers within 19.</td>
<td>CC.2.1.1.B.1 Extend the counting sequence to read and write numerals to represent objects.</td>
<td>CC.2.1.2.B.1 Use place-value concepts to represent amounts of tens and ones and to compare three digit numbers.</td>
<td>CC.2.1.3.B.1 Apply place-value understanding and properties of operations to perform multi-digit arithmetic.</td>
<td>CC.2.1.4.B.1 Apply place-value concepts to show an understanding of multi-digit whole numbers.</td>
<td>CC.2.1.5.B.1 Apply place-value concepts to show an understanding of operations and rounding as they pertain to whole numbers and decimals.</td>
<td></td>
</tr>
<tr>
<td>2.1.2</td>
<td>Intentionally Blank</td>
<td>CC.2.1.2.B.2 Use place-value concepts to read, write, and skip count to 1000.</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>CC.2.1.4.B.2 Use place-value understanding and properties of operations to perform multi-digit arithmetic.</td>
<td>CC.2.1.5.B.2 Extend an understanding of operations with whole numbers to perform operations including decimals.</td>
<td></td>
</tr>
<tr>
<td>2.1.3</td>
<td>CC.2.1.3.B.3 Use place-value concepts and properties of operations to add and subtract within 100.</td>
<td>CC.2.1.3.B.3 Use place-value understanding and properties of operations to add and subtract within 1000.</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
</tr>
</tbody>
</table>
Ch. 4

The Standards of Mathematical Practices
Make sense of problems and persevere in solving them.
Construct viable arguments and critique the reasoning of others.
Use appropriate tools strategically.
Look for and make use of structure.
Grade PreK
2.1.PreK

Grade K
2.1.K

Reason abstractly and quantitatively.
Model with mathematics.
Attend to precision.
Look for and express regularity in repeated reasoning.
Grade 1
2.1.1

Grade 2
2.1.2

Grade 3
2.1.3

Grade 4
2.1.4

Grade 5
2.1.5

Pennsylvania’s public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:
CC.2.1.3.C.1
Explore and develop an
understanding of fractions as numbers.

(C) Numbers & Operations—Fractions

4-112.23

M03.A-F.1.1.1
M03.A-F.1.1.2
M03.A-F.1.1.3
M03.A-F.1.1.4
M03.A-F.1.1.5

Intentionally
Blank

Intentionally
Blank

Intentionally
Blank

Intentionally
Blank

Intentionally
Blank

Intentionally
Blank

CC.2.1.4.C.1
Extend the understanding
of fractions to show
equivalence and
ordering.

CC.2.1.5.C.1
Use the understanding of
equivalency to add and
subtract fractions.
M05.A-F.1.1.1

M04.A-F.1.1.1
M04.A-F.1.1.2
CC.2.1.4.C.2
Build fractions from unit
fractions by applying and
extending previous
understandings of
operations on whole
numbers.

CC.2.1.5.C.2
Apply and extend
previous understandings of multiplication and division to
multiply and divide
fractions.

M04.A-F.2.1.1
M04.A-F.2.1.2
M04.A-F.2.1.3
M04.A-F.2.1.4
M04.A-F.2.1.5
M04.A-F.2.1.6
M04.A-F.2.1.7

M05.A-F.2.1.1
M05.A-F.2.1.2
M05.A-F.2.1.3
M05.A-F.2.1.4

CC.2.1.4.C.3
Connect decimal notation
to fractions, and compare
decimal fractions (base
10 denominator, e.g.,
19/100).

22

M04.A-F.3.1.1
M04.A-F.3.1.2
M04.A-F.3.1.3

Intentionally
Blank

ACADEMIC STANDARDS AND ASSESSMENTS

(371203) No. 474 May 14

2.1 Numbers and Operations


### 2.2 Algebraic Concepts

#### The Standards of Mathematical Practices

| Make sense of problems and persevere in solving them. |
| Construct viable arguments and critique the reasoning of others. |
| Use appropriate tools strategically. |
| Look for and make use of structure. |

| Reason abstractly and quantitatively. |
| Model with mathematics. |
| Attend to precision. |
| Look for and express regularity in repeated reasoning. |

| Pennsylvania’s public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to: |

<table>
<thead>
<tr>
<th>Grade PreK</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.2.2.PreK.A.1</td>
<td>CC.2.2.K.A.1</td>
<td>CC.2.2.1.A.1</td>
<td>CC.2.2.2.A.1</td>
<td>CC.2.2.3.A.1</td>
<td>CC.2.2.4.A.1</td>
<td>CC.2.2.5.A.1</td>
</tr>
<tr>
<td>Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.</td>
<td>Extend the concepts of putting together and adding to and subtract within 10.</td>
<td>Represent and solve problems involving addition and subtraction within 20.</td>
<td>Represent and solve problems involving addition and subtraction within 100.</td>
<td>Represent and solve problems involving multiplication and division.</td>
<td>Represent and solve problems involving the four operations.</td>
<td>Interpret and evaluate numerical expressions using order of operations.</td>
</tr>
<tr>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>CC.2.2.1.A.2</td>
<td>CC.2.2.2.A.2</td>
<td>CC.2.2.3.A.2</td>
<td>Intentionally Blank</td>
</tr>
<tr>
<td>Understand and apply properties of operations and the relationship between addition and subtraction.</td>
<td>Use mental strategies to add and subtract within 20.</td>
<td>Understand properties of multiplication and the relationship between multiplication and division.</td>
<td>Use equal groups of objects to gain foundations for multiplication.</td>
<td>Demonstrate multiplication and division fluency.</td>
<td>Develop and/or apply number theory concepts to find factors and multiples.</td>
<td>Intentionally Blank</td>
</tr>
<tr>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
</tr>
<tr>
<td>Solve problems involving the four operations, and identify and explain patterns in arithmetic.</td>
<td>Generate and analyze patterns using one rule.</td>
<td>Generate and analyze patterns using two rules.</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
</tr>
<tr>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
</tr>
</tbody>
</table>

---

CC.2.2.1.A.2: Understand and apply properties of operations and the relationship between addition and subtraction.
- M03.B-O.2.1.1
- M03.B-O.2.1.2
- M03.B-O.2.2.1

CC.2.2.2.A.2: Use mental strategies to add and subtract within 20.
- M03.B-O.1.1.1
- M03.B-O.1.1.2
- M03.B-O.1.2.1
- M03.B-O.1.2.2

CC.2.2.3.A.2: Understand properties of multiplication and the relationship between multiplication and division.
- M04.B-O.1.1.1
- M04.B-O.1.1.2
- M04.B-O.1.1.3
- M04.B-O.1.1.4

CC.2.2.4.A.2: Develop and/or apply number theory concepts to find factors and multiples.
- M04.B-O.2.1.1

CC.2.2.1.A.3: Work with equal groups of objects to gain foundations for multiplication.
- M03.B-O.3.1.1
- M03.B-O.3.1.2
- M03.B-O.3.1.3
- M03.B-O.3.1.4
- M03.B-O.3.1.5
- M03.B-O.3.1.6
- M03.B-O.3.1.7
### 2.3 Geometry

#### The Standards of Mathematical Practices

<table>
<thead>
<tr>
<th>Make sense of problems and persevere in solving them.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construct viable arguments and critique the reasoning of others.</td>
</tr>
<tr>
<td>Use appropriate tools strategically.</td>
</tr>
<tr>
<td>Look for and make use of structure.</td>
</tr>
<tr>
<td>Reason abstractly and quantitatively.</td>
</tr>
<tr>
<td>Model with mathematics.</td>
</tr>
<tr>
<td>Attend to precision.</td>
</tr>
<tr>
<td>Look for and express regularity in repeated reasoning.</td>
</tr>
</tbody>
</table>

#### Pennsylvania’s public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

<table>
<thead>
<tr>
<th>Grade PreK</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.2.3.PreK.A.1</td>
<td>CC.2.3.K.A.1</td>
<td>CC.2.3.1.A.1</td>
<td>CC.2.3.2.A.1</td>
<td>CC.2.3.3.A.1</td>
<td>CC.2.3.4.A.1</td>
<td>CC.2.3.5.A.1</td>
</tr>
<tr>
<td>Identify and describe shapes.</td>
<td>Identify and describe two- and three-dimensional shapes.</td>
<td>Compose and distinguish between two- and three-dimensional shapes based on their attributes.</td>
<td>Analyze and draw two- and three-dimensional shapes having specified attributes.</td>
<td>Identify, compare, and classify shapes and their attributes. M03.C-G.1.1.1 M03.C-G.1.1.2</td>
<td>Draw lines and angles and identify these in two-dimensional figures. M04.C-G.1.1.1</td>
<td>Graph points in the first quadrant on the coordinate plane and interpret these points when solving real-world and mathematical problems. M05.C-G.1.1.1 M05.C-G.1.1.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CC.2.3.PreK.A.2</th>
<th>CC.2.3.K.A.2</th>
<th>CC.2.3.1.A.2</th>
<th>CC.2.3.2.A.2</th>
<th>CC.2.3.3.A.2</th>
<th>CC.2.3.4.A.2</th>
<th>CC.2.3.5.A.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyze, compare, create, and compose shapes.</td>
<td>Analyze, compare, create, and compose two- and three-dimensional shapes.</td>
<td>Use the understanding of fractions to partition shapes into halves and quarters.</td>
<td>Use the understanding of fractions to partition shapes into halves, quarters, and thirds.</td>
<td>Use the understanding of fractions to partition shapes into parts with equal areas and express the area of each part as a unit fraction of the whole. M03.C-G.1.1.3</td>
<td>Classify two-dimensional figures by properties of their lines and angles. M04.C-G.1.1.2</td>
<td>Classify two-dimensional figures into categories based on an understanding of their properties. M05.C-G.2.1.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intentionally Blank</th>
<th>Intentionally Blank</th>
<th>Intentionally Blank</th>
<th>Intentionally Blank</th>
<th>Intentionally Blank</th>
<th>Intentionally Blank</th>
<th>Intentionally Blank</th>
</tr>
</thead>
</table>

**Ch. 4 ACADEMIC STANDARDS AND ASSESSMENTS**

4-12.5
2.4 Measurement, Data, and Probability

### The Standards of Mathematical Practices

- Make sense of problems and persevere in solving them.
- Construct viable arguments and critique the reasoning of others.
- Use appropriate tools strategically.
- Look for and make use of structure.
- Reason abstractly and quantitatively.
- Model with mathematics.
- Attend to precision.
- Look for and express regularity in repeated reasoning.

<table>
<thead>
<tr>
<th>Grade PreK</th>
<th>Grade K</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.2.4.PreK.A.1</td>
<td>CC.2.4.K.A.1</td>
<td>CC.2.4.1.A.1</td>
<td>CC.2.4.2.A.1</td>
<td>CC.2.4.3.A.1</td>
<td>CC.2.4.4.A.1</td>
<td>CC.2.4.5.A.1</td>
</tr>
<tr>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
<td>Intentionally Blank</td>
</tr>
</tbody>
</table>

Pennsylvania’s public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

CC.2.4.1.A.2
Describe and compare measurable attributes of length and weight of everyday objects.

CC.2.4.2.A.2
Describe and compare attributes of length, area, weight, and capacity of everyday objects.

CC.2.4.3.A.2
Order lengths and measure them both indirectly and by repeating length units.

CC.2.4.4.A.2
Measure and estimate lengths in standard units using appropriate tools.

CC.2.4.5.A.2
Solve problems involving measurement and estimation of temperature, liquid volume, mass, and length.

CC.2.4.1.A.3
Solve problems involving conversion between customary and metric units.

CC.2.4.2.A.3
Solve problems involving conversion between customary and metric units.

CC.2.4.3.A.3
Solve problems involving conversion between customary and metric units.

CC.2.4.4.A.3
Solve problems involving conversion between customary and metric units.

CC.2.4.5.A.3
Solve problems involving conversion between customary and metric units.

M03.D-M.1.2.1
M03.D-M.1.2.2
M03.D-M.1.2.3

M04.D-M.1.1.1
M04.D-M.1.1.2
M04.D-M.1.1.3
M04.D-M.1.1.4

M05.D-M.1.1.1

M05.D-M.2.1.3

M05.D-M.2.1.2

M03.D-M.1.3.1
M03.D-M.1.3.2
M03.D-M.1.3.3

Intentionally Blank

Intentionally Blank

Intentionally Blank

Intentionally Blank

Intentionally Blank

Intentionally Blank

Intentionally Blank

Intentionally Blank
<table>
<thead>
<tr>
<th>Grade</th>
<th>PreK</th>
<th>K</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

Pennsylvania’s public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

- **CC.2.4.PreK.A.4** Classify objects and count the number of objects in each category.
- **CC.2.4.K.A.4** Classify objects and count the number of objects in each category.
- **CC.2.4.1.A.4** Represent and interpret data using tables/charts.
- **CC.2.4.2.A.4** Represent and interpret data using line plots, picture graphs, and bar graphs.
- **CC.2.4.3.A.4** Represent and interpret data involving fractions using information provided in a line plot.
- **CC.2.4.4.A.4** Solve problems involving computation of fractions using information provided in a line plot.
- **CC.2.4.5.A.4** Solve problems involving computation of fractions using information provided in a line plot.

**Intentionally Blank**
## 2.1 Numbers and Operations

### The Standards of Mathematical Practices

- Make sense of problems and persevere in solving them.
- Construct viable arguments and critique the reasoning of others.
- Use appropriate tools strategically.
- Look for and make use of structure.
- Reason abstractly and quantitatively.
- Model with mathematics.
- Attend to precision.
- Look for and express regularity in repeated reasoning.

### Pennsylvania's public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

#### (D) Ratios & Proportional Relationships

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.2.1.6.D.1</td>
<td>Understand ratio concepts and use ratio reasoning to solve problems.</td>
</tr>
<tr>
<td>M06.A-R.1.1.1</td>
<td></td>
</tr>
<tr>
<td>M06.A-R.1.1.2</td>
<td></td>
</tr>
<tr>
<td>M06.A-R.1.1.3</td>
<td></td>
</tr>
<tr>
<td>M06.A-R.1.1.4</td>
<td></td>
</tr>
<tr>
<td>M06.A-R.1.1.5</td>
<td></td>
</tr>
<tr>
<td>M07.A-R.1.1.1</td>
<td></td>
</tr>
<tr>
<td>M07.A-R.1.1.2</td>
<td></td>
</tr>
<tr>
<td>M07.A-R.1.1.3</td>
<td></td>
</tr>
<tr>
<td>M07.A-R.1.1.4</td>
<td></td>
</tr>
<tr>
<td>M07.A-R.1.1.5</td>
<td></td>
</tr>
<tr>
<td>M07.A-R.1.1.6</td>
<td></td>
</tr>
</tbody>
</table>

#### (E) The Number System

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.2.1.6.E.1</td>
<td>Apply and extend previous understandings of multiplication and division of fractions by fractions.</td>
</tr>
<tr>
<td>M06.A-N.1.1.1</td>
<td></td>
</tr>
<tr>
<td>M07.A-N.1.1.1</td>
<td></td>
</tr>
<tr>
<td>M07.A-N.1.1.2</td>
<td></td>
</tr>
<tr>
<td>M07.A-N.1.1.3</td>
<td></td>
</tr>
</tbody>
</table>

### (G) Rational & Proportional Relationships

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.2.1.7.D.1</td>
<td>Analyze proportional relationships and use them to model and solve real-world and mathematical problems.</td>
</tr>
</tbody>
</table>

### (F) Number and Quantity

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.2.1.HS.F.1</td>
<td>Apply and extend the properties of exponents to solve problems with rational exponents.</td>
</tr>
<tr>
<td>A1.1.1.1.1, A1.1.1.1.2, A1.1.1.3.1, A2.1.2.1.1, A2.1.2.1.2, A2.1.2.1.3, A2.1.2.1.4</td>
<td></td>
</tr>
<tr>
<td>CC.2.1.HS.F.2</td>
<td>Apply properties of rational and irrational numbers to solve real world or mathematical problems.</td>
</tr>
<tr>
<td>A1.1.1.1.1, A1.1.1.1.2, A1.1.1.3.1, A1.1.1.2.1</td>
<td></td>
</tr>
<tr>
<td>CC.2.1.HS.F.3</td>
<td>Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs, and data displays.</td>
</tr>
<tr>
<td>A1.1.2.1.1, A1.1.2.1.2, A1.1.2.1.3, A1.2.1.2.1, A1.2.1.2.2, A2.2.1.1, A2.2.1.2</td>
<td></td>
</tr>
<tr>
<td>CC.2.1.HS.F.4</td>
<td>Use units as a way to understand problems and to guide the solution of multi-step problems.</td>
</tr>
<tr>
<td>A1.1.2.1.1, A1.1.2.1.2, A1.1.2.1.3, A1.2.1.2.1, A1.2.1.2.2, A2.2.1.1, A2.2.1.2</td>
<td></td>
</tr>
<tr>
<td>CC.2.1.HS.F.5</td>
<td>Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</td>
</tr>
<tr>
<td>A1.1.2.1.1, A1.1.2.1.2, A1.1.2.1.3, A1.1.2.2.1, A1.1.2.2.2, A1.1.3.1.1, A1.1.3.1.2, A1.1.3.1.3, A1.1.3.2.1, A1.1.3.2.2, A2.2.3.1.1, A2.2.3.1.2</td>
<td></td>
</tr>
<tr>
<td>CC.2.1.HS.F.6</td>
<td>Extend the knowledge of arithmetic operations and apply to complex numbers.</td>
</tr>
<tr>
<td>A2.1.1.1.1, A2.1.1.1.2, A2.1.1.2.1, A2.1.1.2.2</td>
<td></td>
</tr>
<tr>
<td>CC.2.1.HS.F.7</td>
<td>Apply concepts of complex numbers in polynomial identities and quadratic equations to solve problems.</td>
</tr>
<tr>
<td>A2.2.1.1.1, A2.2.1.1.2, A2.2.1.1.3, A2.2.1.1.4</td>
<td></td>
</tr>
</tbody>
</table>

### (H) The Number System

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.2.1.6.E.2</td>
<td>Identify and choose appropriate processes to compute fluently with multi-digit numbers.</td>
</tr>
<tr>
<td>M06.A-N.2.1.1</td>
<td></td>
</tr>
<tr>
<td>CC.2.1.6.E.3</td>
<td>Develop and/or apply number theory concepts to find common factors and multiples.</td>
</tr>
<tr>
<td>M06.A-N.2.2.1</td>
<td></td>
</tr>
<tr>
<td>M06.A-N.2.2.2</td>
<td></td>
</tr>
<tr>
<td>A1.1.1.1</td>
<td></td>
</tr>
</tbody>
</table>

---

(371208) No. 474 May 14

Copyright © 2014 Commonwealth of Pennsylvania
2.1 Numbers and Operations

The Standards of Mathematical Practices

Make sense of problems and persevere in solving them.
Construct viable arguments and critique the reasoning of others.
Use appropriate tools strategically.
Look for and make use of structure.
Reason abstractly and quantitatively.
Model with mathematics.
Attend to precision.
Look for and express regularity in repeated reasoning.

2.1.6 Grade 6
2.1.7 Grade 7
2.1.8 Grade 8
2.1.HS High School

Pennsylvania's public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

CC.2.1.6.E.4
Apply and extend previous understandings of numbers to the system of rational numbers.

M06.A-N.3.1.1
M06.A-N.3.1.2
M06.A-N.3.1.3
M06.A-N.3.2.1
M06.A-N.3.2.2
M06.A-N.3.2.3

Intentionally Blank

CC.2.1.8.E.4
Estimate irrational numbers by comparing them to rational numbers.

M08.A-N.1.1.3
M08.A-N.1.1.4
M08.A-N.1.1.5
A1.1.1.1.1

4-112.29
(371209) No. 474 May 14
2.2 Algebraic Concepts

The Standards of Mathematical Practices

- Make sense of problems and persevere in solving them.
- Construct viable arguments and critique the reasoning of others.
- Use appropriate tools strategically.
- Look for and make use of structure.
- Reason abstractly and quantitatively.
- Model with mathematics.
- Attend to precision.
- Look for and express regularity in repeated reasoning.

2.2.6 Grade 6
2.2.7 Grade 7
2.2.8 Grade 8
2.2.HS High School

Pennsylvania's public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

(B) Expressions and Equations

CC.2.2.6.B.1 Apply and extend previous understandings of arithmetic to algebraic expressions.

M06.B-E.1.1.1 M06.B-E.1.1.2 M06.B-E.1.1.3 M06.B-E.1.1.4

CC.2.2.7.B.1 Apply properties of operations to generate equivalent expressions.

M07.B-E.1.1.1

CC.2.2.8.B.1 Apply concepts of radicals and integer exponents to generate equivalent expressions.

M08.B-E.1.1.1 M08.B-E.1.1.2 M08.B-E.1.1.3 M08.B-E.1.1.4 A1.1.1.3.1

(D) Algebra

CC.2.2.HS.D.1 Interpret the structure of expressions to represent a quantity in terms of its context.

A1.1.1.5.1, A1.1.1.5.2, A1.1.1.5.3, A2.1.2.2.1, A2.1.2.2.2

CC.2.2.HS.D.2 Write expressions in equivalent forms to solve problems.

A1.1.1.5.1, A1.1.1.5.2, A1.1.1.5.3, A2.1.2.1.1, A2.1.2.1.2, A2.1.2.1.3, A2.1.2.1.4, A2.1.2.2.1, A2.1.2.2.2

CC.2.2.HS.D.3 Extend the knowledge of arithmetic operations and apply to polynomials.

A1.1.1.5.1, A1.1.1.5.2, A1.1.1.5.3, A2.1.2.2.1, A2.1.2.2.2

CC.2.2.HS.D.4 Use polynomial identities to solve problems.

A1.1.1.5.1, A1.1.1.5.2, A1.1.1.5.3, A2.1.2.2.1, A2.1.2.2.2, A2.1.3.1.1, A2.1.3.1.2, A2.1.3.1.3, A2.1.3.1.4

CC.2.2.HS.D.5 Extend the knowledge of rational functions to rewrite in equivalent forms.

A1.1.1.5.1, A1.1.1.5.2, A1.1.1.5.3, A2.1.3.1.1, A2.1.3.1.2, A2.1.3.1.3, A2.1.3.1.4

CC.2.2.HS.D.6 Create and graph equations or inequalities to describe numbers or relationships.

A1.1.2.1.1, A1.1.2.1.2, A1.1.2.1.3, A1.1.2.2.1, A1.1.2.2.2, A1.1.3.1.1, A1.1.3.1.2, A1.1.3.1.3, A1.1.3.2.1, A1.1.3.2.2, A2.1.3.1.1, A2.1.3.1.2, A2.1.3.1.3, A2.1.3.1.4, A2.1.3.2.1, A2.2.2.1.1, A2.2.2.1.2, A2.2.2.1.3, A2.2.2.1.4

CC.2.2.HS.D.7 Apply inverse operations to solve equations or formulas for a given variable.

A1.1.2.1.1, A1.1.2.1.2, A1.1.2.1.3, A2.1.3.1.1, A2.1.3.1.2, A2.1.3.1.3, A2.1.3.1.4, A2.1.3.2.1, A2.1.3.2.2, A2.2.2.1.1, A2.2.2.1.2, A2.2.2.1.3, A2.2.2.1.4
2.2 Algebraic Concepts

The Standards of Mathematical Practices

Make sense of problems and persevere in solving them.

Construct viable arguments and critique the reasoning of others.

Use appropriate tools strategically.

Look for and make use of structure.

Reason abstractly and quantitatively.

Model with mathematics.

Attend to precision.

Look for and express regularity in repeated reasoning.

2.2.6 Grade 6

Pennsylvania's public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

(B) Expressions and Equations

CC.2.2.6.B.3 Represent and analyze quantitative relationships between dependent and independent variables.

M06.B-E.3.1.1

M06.B-E.3.1.2

CC.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations.

M07.B-E.2.1.1

M07.B-E.2.2.1

M07.B-E.2.2.2

M07.B-E.2.3.1

A1.1.1.4.1

CC.2.2.8.B.3 Analyze and solve linear equations and pairs of simultaneous linear equations.

M08.B-E.3.1.1

M08.B-E.3.1.2

M08.B-E.3.1.3

M08.B-E.3.1.4

M08.B-E.3.1.5

A1.1.2.1.1

A1.1.2.2.1

A1.1.2.2.2

(D) Algebra

CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.

A1.1.1.4.1, A1.1.2.1.1, A1.1.2.1.2, A1.1.2.1.3, A1.1.2.2.1, A1.1.2.2.2, A1.1.3.1.1, A1.1.3.1.2, A1.1.3.1.3, A2.1.3.1.1, A2.1.3.1.2, A2.1.3.1.3, A2.1.3.1.4

CC.2.2.HS.D.10 Represent, solve, and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.

A1.1.2.1.1, A1.1.2.1.2, A1.1.2.1.3, A1.1.2.2.1, A1.1.2.2.2, A1.1.3.1.1, A1.1.3.1.2, A1.1.3.1.3, A1.1.3.2.1, A1.1.3.2.2, A2.1.3.1.1, A2.1.3.1.2, A2.1.3.1.3, A2.1.3.1.4

The Standards of Academic and Assessments
2.2 Algebraic Concepts

The Standards of Mathematical Practices

- Make sense of problems and persevere in solving them.
- Construct viable arguments and critique the reasoning of others.
- Use appropriate tools strategically.
- Look for and make use of structure.
- Reason abstractly and quantitatively.
- Model with mathematics.
- Attend to precision.
- Look for and express regularity in repeated reasoning.

2.2.6 Grade 6 2.2.7 Grade 7 2.2.8 Grade 8 2.2.HS High School

Pennsylvania's public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

- (C) Functions
  - Intentionally
  - Blank
  - Intentionally

CC.2.2.8.C.1
Define, evaluate, and compare functions.

M08.B-F.1.1.1
M08.B-F.1.1.2
M08.B-F.1.1.3
A1.1.2.1.1
A1.2.1.1.2
A1.2.1.2.1
A1.2.1.2.2
CC.2.2.8.C.2
Use concepts of functions to model relationships between quantities.

M08.B-F.2.1.1
M08.B-F.2.1.2
A1.1.2.1.3
A1.2.1.1.1
A1.2.1.2.2
A1.2.2.1.3
A1.2.2.1.4
CC.2.2.HS.C.1
Use the concept and notation of functions to interpret and apply them in terms of their context.

A1.2.1.1.1, A1.2.1.1.2, A1.2.1.1.3,
A1.2.2.1.1, A1.2.2.1.2, A1.2.2.1.3,
A1.2.2.1.4, A2.2.1.1.1, A2.2.1.1.2,
A2.2.1.1.3, A2.2.1.1.4, G.2.2.2.1, G.2.2.2.2,
G.2.2.2.3, G.2.2.2.4, G.2.2.2.5
CC.2.2.HS.C.2
Graph and analyze functions and use their properties to make connections between the different representations.

A1.2.1.1.1, A1.2.1.1.2, A1.2.1.1.3,
A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1.1,
A2.1.3.1.4, A2.1.3.2.1, A2.1.3.2.2,
A2.2.1.1.1, A2.2.1.1.2, A2.2.1.1.3
CC.2.2.HS.C.3
Write functions or sequences that model relationships between two quantities.

A1.1.2.1.1, A1.1.2.1.2, A1.1.2.1.3,
A1.2.1.1.1, A1.2.1.1.2, A1.2.1.1.3,
A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1.3,
A1.2.2.1.4, A2.1.3.1.1, A2.1.3.1.2,
A2.1.3.1.3, A2.1.3.1.4, A2.1.3.2.1,
A2.1.3.2.2, A2.2.1.1.1, A2.2.1.1.2,
A2.2.1.1.3, A2.2.1.1.4, A2.2.2.1.1,
A2.2.2.1.2, A2.2.2.1.3, A2.2.2.1.4
CC.2.2.HS.C.4
Interpret the effects transformations have on functions and find the inverses of functions.

A1.2.1.2.1, A1.2.1.2.2, A2.1.3.1.3,
A2.1.3.1.4, A2.1.3.2.1, A2.2.2.1.1,
A2.2.2.1.2, A2.2.2.1.3, A2.2.2.1.4, A2.2.2.2.1
CC.2.2.HS.C.5
Construct and compare linear, quadratic, and exponential models to solve problems.

A1.2.2.1.1, A1.2.2.1.2, A1.2.2.1.3,
A1.2.2.1.4, A2.1.3.1.1, A2.1.3.1.2,
A2.1.3.1.3, A2.1.3.1.4, A2.2.1.1.1,
A2.2.1.1.2, A2.2.1.1.3, A2.2.1.1.4,
A2.2.2.1.1, A2.2.2.1.2, A2.2.2.1.3,
A2.2.2.1.4, A2.2.2.2.1
CC.2.2.HS.C.6
Interpret functions in terms of the situations they model.

A1.2.1.2.1, A1.2.2.1.2, A1.2.2.1.3,
A1.2.2.2.1, A2.1.3.1.3, A2.2.1.1.1,
A2.2.1.1.2, A2.2.1.1.3, A2.2.1.1.4,
A2.2.2.1.3, A2.2.2.1.4, A2.2.2.2.1
CC.2.2.HS.C.7
Apply radian measure of an angle and the unit circle to analyze the trigonometric functions.

CC.2.2.HS.C.8
Choose trigonometric functions to model periodic phenomena and describe the properties of the graphs.

CC.2.2.HS.C.9
Prove the Pythagorean identity and use it to calculate trigonometric ratios.

G.1.3.2.1, G.2.1.1.1, G.2.1.1.2
2.3 Geometry

The Standards of Mathematical Practices

Make sense of problems and persevere in solving them.
Construct viable arguments and critique the reasoning of others.
Use appropriate tools strategically.
Look for and make use of structure.
Reason abstractly and quantitatively.
Model with mathematics.
Attend to precision.
Look for and express regularity in repeated reasoning.

2.3.6 Grade 6

CC.2.3.6.A.1 Apply appropriate tools to solve real-world and mathematical problems involving area, surface area, and volume.

M06.C-G.1.1.1
M06.C-G.1.1.2
M06.C-G.1.1.3
M06.C-G.1.1.4
M06.C-G.1.1.5
M06.C-G.1.1.6

2.3.7 Grade 7

CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.

M07.C-G.2.1.1
M07.C-G.2.1.2
M07.C-G.2.2.1
M07.C-G.2.2.2

2.3.8 Grade 8

CC.2.3.8.A.1 Apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems.

M08.C-G.3.1.1
G.2.3.1.2

2.3.HS High School

CC.2.3.HS.A.1 Use geometric figures and their properties to represent transformations in the plane.

G.1.3.1.1, G.1.3.1.2

CC.2.3.HS.A.2 Apply rigid transformations to determine and explain congruence.

G.1.3.1.1, G.1.3.1.2

CC.2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures.

G.1.2.1.1, G.1.2.1.2, G.1.2.1.3, G.1.2.1.4, G.1.2.1.5, G.1.3.2.1, G.2.2.1.1, G.2.2.1.2, G.2.2.2.1, G.2.2.2.2, G.2.2.2.3, G.2.2.2.4, G.2.2.2.5

CC.2.3.HS.A.4 Apply the concept of congruence to create geometric constructions.

CC.2.3.HS.A.5 Create justifications based on transformations to establish similarity of plane figures.

G.1.3.1.1, G.1.3.1.2

CC.2.3.HS.A.6 Verify and apply theorems involving similarity as they relate to plane figures.

G.1.3.1.1, G.1.3.1.2, G.1.3.2.1

CC.2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles.

G.2.1.1.1, G.2.1.1.2

CC.2.3.HS.A.8 Apply geometric theorems to verify properties of circles.

G.1.1.1.1, G.1.1.1.2, G.1.1.1.3, G.1.1.1.4, G.1.3.2.1, G.2.2.3.1

CC.2.3.HS.A.9 Extend the concept of similarity to determine arc lengths and areas of sectors of circles.

G.1.1.1.1, G.1.1.1.2, G.1.1.1.3, G.1.1.1.4, G.2.2.2.1, G.2.2.2.2, G.2.2.2.3, G.2.2.2.4, G.2.2.2.5, G.2.2.3.1
2.3 Geometry

The Standards of Mathematical Practices

- Make sense of problems and persevere in solving them.
- Construct viable arguments and critique the reasoning of others.
- Use appropriate tools strategically.
- Look for and make use of structure.
- Reason abstractly and quantitatively.
- Model with mathematics.
- Attend to precision.
- Look for and express regularity in repeated reasoning.

2.3.6 Grade 6

Pennsylvania's public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

(A) Geometry

Understand and apply the Pythagorean Theorem to solve problems.

CC.2.3.A.3

M08.C-G.2.1.1
M08.C-G.2.1.2
M08.C-G.2.1.3
G.2.1.1.1
G.2.1.2.1

CC.2.3.HS.A.10

Translate between the geometric description and the equation for a conic section.

A2.2.1.1.4, A2.2.2.1.1

CC.2.3.HS.A.11

Apply coordinate geometry to prove simple geometric theorems algebraically.

G.2.1.2.1, G.2.1.2.2, G.2.1.2.3

CC.2.3.HS.A.12

Explain volume formulas and use them to solve problems.

G.2.3.1.1, G.2.3.1.2, G.2.3.1.3

CC.2.3.HS.A.13

Analyze relationships between two-dimensional and three-dimensional objects.

G.1.1.1.1, G.1.1.1.2, G.1.1.1.3, G.1.1.1.4,
G.1.2.1.1, G.1.2.1.2, G.1.2.1.3, G.1.2.1.4,
G.2.3.2.1

CC.2.3.HS.A.14

Apply geometric concepts to model and solve real-world problems.

G.2.2.4.1, G.2.3.1.1, G.2.3.1.2, G.2.3.1.3

2.3.7 Grade 7

2.3.8 Grade 8

2.3.HS High School
2.4 Measurement, Data, and Probability

The Standards of Mathematical Practices

Make sense of problems and persevere in solving them.
Construct viable arguments and critique the reasoning of others.
Use appropriate tools strategically.
Look for and make use of structure.
Reason abstractly and quantitatively.
Model with mathematics.
Attend to precision.
Look for and express regularity in repeated reasoning.

2.4.6 Grade 6 2.4.7 Grade 7 2.4.8 Grade 8 2.4.HS High School

Pennsylvania's public schools shall teach, challenge, and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

(B) Statistics and Probability

CC.2.4.6.B.1 Demonstrate an understanding of statistical variability by displaying, analyzing, and summarizing distributions.

M06.D-S.1.1.1
M06.D-S.1.1.2
M06.D-S.1.1.3

CC.2.4.7.B.1 Draw inferences about populations based on random sampling concepts.

M07.D-S.1.1.1
M07.D-S.S.1.1.2

CC.2.4.8.B.1 Analyze and/or interpret bivariate data displayed in multiple representations.

M08.D-S.1.1.1
M08.D-S.1.1.2
M08.D-S.1.1.3
A1.2.2.2.1

(C) Statistics and Probability

CC.2.4.HS.B.1 Summarize, represent, and interpret data on a single count or measurement variable.

A1.2.2.1.2, A1.2.3.1.1, A1.2.3.2.1, A1.2.3.2.2, A1.2.3.2.3

CC.2.4.HS.B.2 Summarize, represent, and interpret data on two categorical and quantitative variables.

A1.2.1.1.1, A1.2.1.1.2, A1.2.1.1.3, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.2.1, A2.2.3.1.1, A2.2.3.1.2

CC.2.4.HS.B.3 Analyze linear models to make interpretations based on the data.

A1.2.2.2.1, A1.2.3.1.1, A1.2.3.2.1, A1.2.3.2.2, A1.2.3.2.3, A2.2.3.1.1, A2.2.3.1.2

CC.2.4.HS.B.4 Recognize and evaluate random processes underlying statistical experiments.

A1.2.3.3.1, A2.2.3.2.1, A2.2.3.2.2, A2.2.3.2.3

CC.2.4.HS.B.5 Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.

A1.2.3.2.1, A1.2.3.2.2, A1.2.3.2.3, A2.2.3.2.1, A2.2.3.2.2, A2.2.3.2.3

CC.2.4.HS.B.6 Use the concepts of independence and conditional probability to interpret data.

A2.2.3.2.1, A2.2.3.2.2, A2.2.3.2.3

CC.2.4.HS.B.7 Apply the rules of probability to compute probabilities of compound events in a uniform probability model.

A1.2.3.3.1, A2.2.3.2.1, A2.2.3.2.2, A2.2.3.2.3

Intentionally blank

CC.2.4.7.B.2 Draw informal comparative inferences about two populations.

M07.D-S.2.1.1

CC.2.4.8.B.2 Understand that patterns of association can be seen in bivariate data utilizing frequencies.

M08.D-S.1.2.1

Intentionally blank

CC.2.4.7.B.3 Investigate chance processes and develop, use, and evaluate probability models.

M07.D-S.3.1.1
M07.D-S.3.2.1
M07.D-S.3.2.2
M07.D-S.3.2.3
A1.2.3.3.1

Intentionally blank

Key Terms for this Document

Standards for Mathematical Contents—These standards define what students should know and be able to do in their study of mathematics.

Standards for Mathematical Practice—These standards describe the processes and proficiencies in which all students grades K-12 should engage. Educators must instill these standards of practice in their students so that they become proficient in the application of the standards. The standards for mathematical practices should be used as the vehicle to deliver the standards of mathematical content.

Standard Algorithm—A locally agreed upon method of computation which is conventionally taught for solving mathematical problems.

Decimal Fraction—A fraction whose denominator is a power of ten (examples: 2/100, 8/10). These fractions are commonly expressed as decimals.

Unit Fraction—A rational number written as a fraction where the numerator is one and the denominator is a positive integer (example: 1/20).

Bivariate Data—The data involves two variables and is usually represented as a scatter plot.

Rule—A single operation (examples: add 5, multiply by 2).
APPENDIX B

Academic Standards for Science and Technology and
Environment and Ecology

Grades 6-12

Authority

The provisions of this Appendix B amended under sections 121, 2603-B and 2604-B of the Public

Source


The provisions of this Appendix B amended under sections 121, 2603-B and 2604-B of the Public

Appendix B

V. TABLE OF CONTENTS

Introduction ................................................. VIII.

THE ACADEMIC STANDARDS

Unifying Themes................................................ 3.1.

A. Systems
B. Models
C. Patterns
D. Scale
E. Change

Inquiry and Design.............................................. 3.2.

A. Nature of Scientific Knowledge
B. Process Knowledge
C. Scientific Method
D. Problem Solving in Technology

Biological Sciences .............................................. 3.3.

A. Living Forms
B. Structure and Function
C. Inheritance
D. Evolution

Physical Science, Chemistry and Physics........................... 3.4.

A. Matter
B. Energy
C. Forces and Motion
D. Astronomy

Cross References

VIII. INTRODUCTION

This document describes what students should know and be able to do in the following eight areas:

• 3.1. Unifying Themes of Science
• 3.2. Inquiry and Design
• 3.3. Biological Sciences
• 3.4. Physical Science, Chemistry and Physics
• 3.5. Earth Sciences
• 3.6. Technology Education
• 3.7. Technological Devices
• 3.8. Science, Technology and Human Endeavors

These standards describe what students should know and be able to do in the following areas:

Science, Technology, and Human Endeavors

This document describes what students should know and be able to do in the
Curriculum, instruction and assessment should focus on meeting the standard statement. Meeting standards should be approached as a collaborative effort among all curricular areas. They should involve the same kinds of fundamental concepts and processes that are made up of the same components as all other matters of life. Everyone can use them to solve real-life problems. These skills are developed across the grade levels and differ in the degree of sophistication, quantitative nature of the problems, the degree of sophistication in the processes, and the degree of sophistication in the models. Design, engineering, and experiment design are part of the processes. Everyone can use them to solve real-life problems. These skills include becoming independent learners. These skills include applying process knowledge to model situations in each standard.

Serves to benchmark the standard statement. The following descriptors explain the intent of each standard category:

3.1. Unifying Themes

Unifying themes of science and technology provide big ideas that integrate with significant concepts. There are only a few fundamental concepts and processes that are made up of the same components as all other matters of life and the same kinds of fundamental concepts and processes. These themes provide the context through which the content of the disciplines can be taught and are emphasized in each standard.

3.2. Inquiry and Design

The nature of science and technology is characterized by applying process knowledge that enables students to become independent learners. These skills include observing, classifying, inferring, predicting, measuring, computing, estimating, communicating, using space/time relationships, defining operationally, raising questions, formulating hypotheses, testing and experimenting, designing controlled experiments, recognizing variables, manipulating variables, interpreting data, formulating models, designing models, and producing solutions. Everyone can use them to solve real-life problems. These skills include becoming independent learners. These skills include applying process knowledge to model situations in each standard.

3.3. Biological Sciences

Biology concerns living things. Their appearance, differences, and application to the environment differ in the degree of sophistication, quantitative nature of the problems, the degree of sophistication in the processes, and the degree of sophistication in the models. Design, engineering, and experiment design are part of the processes. Everyone can use them to solve real-life problems. These skills include becoming independent learners. These skills include applying process knowledge to model situations in each standard.
3.4. Physical Science
Chemistry and Physics

Physics and chemistry involve the study of objects and their properties. Students examine changes to materials during mixing, freezing, heating and dissolving and then learn how to observe and measure results. In chemistry, students study the relationship between matter, atomic structure, and its activity. Laboratory investigations of the properties of substances and their changes through a range of chemical interactions provide a basis for students to understand atomic theory and a variety of reaction types and their applications in business, agriculture, and medicine. Physics deepens the understanding of the structure and properties of materials and includes atoms, waves, light, electricity, magnetism, and the role of energy, forces and motion.

3.5. Earth Sciences

The dynamics of earth science include the study of change in the Earth and the role of physical processes. The Earth's crust, mantle, and core form the structure of the Earth and influence its behavior. Understanding the behavior of the Earth's interior is crucial for predicting natural disasters and understanding the impact of human activities on the environment. Geologists use a variety of techniques to study the Earth, including mapping, sampling, and analyzing data to understand the Earth's history and current processes. Geologists also study the behavior of the Earth's crust, mantle, and core to understand how the Earth's interior interacts with the atmosphere and ocean. This knowledge is essential for predicting natural disasters, understanding the Earth's history, and conserving natural resources.

3.6. Technology Education

Technology education is the use of accumulated knowledge to process resources to meet human needs and improve the quality of life. Students develop the ability to select and correctly use materials, tools, techniques, and processes to answer questions, understand explanations, and solve problems encountered in real-life situations. These skills are essential for designing, creating, using, evaluating, and modifying systems of biotechnologies, information technologies, and physical technologies. Technology education focuses on the use of accumulated knowledge to solve problems and improve the quality of life. This knowledge is essential for designing, creating, using, evaluating, and modifying systems of biotechnologies, information technologies, and physical technologies. Technology education focuses on the use of accumulated knowledge to solve problems and improve the quality of life.
What Is Science?

Any study of science includes the search for understanding the natural world and facts, principles, theories and laws that have been verified by the scientific community and are used to explain and predict natural phenomena and events.

Acquiring scientific knowledge involves constructing hypotheses using observation and knowledge in the content area in order to formulate useful questions that provoke scientific inquiry. As a result of repeated, rigorous testing over time and applying multiple perspectives to a problem, consistent information emerges. A theory describes this verifiable event or phenomena. Theories are powerful elements in science and are used to predict other events. As theories lose their ability to predict, they are modified, expanded or generalized or incorporated into a broader theory.

Knowledge of what science is incorporates carefully developed and integrated components:

- **Nature of Science**—the ways in which scientists search for answers to questions and explanations of observations about the natural world; includes process knowledge of observing, classifying, inferring, predicting, measuring, hypothesizing, experimenting and interpreting data

- **Unifying Themes of Science**—concepts, generalizations and principles that result from and lead to inquiry

- **Knowledge**—facts, principles, theories and laws verifiable through scientific inquiry by the world community of scientists; includes physics, chemistry, earth science and biological sciences

- **Inquiry**—an Intellectual process of logic that includes verification of answers to questions about and explanations for natural objects, events and phenomena

- **Process Skills**—Recognition of how knowledge is acquired and applied

- **Problem Solving**—Application of concepts to problems of human adaptation to the environment that often leads to recognition of new problems; has social implications and leads to personal decision-making and action; a process which forms the link for interactions between scientific and technological results or findings

- **Scientific Thinking**—the disposition to suspend judgment, not make decisions and not take action until results, explanations or answers have been tested and verified with information.

What Is Technology Education?

It is the means by which we teach technology. Technology is a body of knowledge separate from but related to the sciences, engineering, mathematics, and computer science. It is the practical application of knowledge to solve problems and meet human needs.

Technology education involves the process of teaching students how to use technology to meet their needs and solve problems. It includes the development and use of tools, machines, and systems to accomplish tasks and improve the quality of life.

Knowledge of what technology education is incorporates carefully developed and integrated components:

- **Science Education**—the study of the natural world and the phenomena that occur within it, including biology, chemistry, physics, and earth science

- **Engineering Education**—the application of scientific principles to design and build structures, machines, and systems

- **Mathematics Education**—the study of numbers, quantities, shapes, and patterns

- **Computer Science Education**—the study of computer programming, data structures, algorithms, and computer systems

- **Technology Education**—the practical application of knowledge to solve problems and meet human needs

- **Inquiry**—an intellectual process of logic that includes verification of answers to questions about and explanations for natural objects, events and phenomena

- **Process Skills**—Recognition of how knowledge is acquired and applied
Technology education can be divided into these main themes that include bio-technical, informational, and physical technologies. Technology education involves a broad spectrum of knowledge, process, and skills in technology that involves learning experiences:

- Knowledge of content, process, and skills.
- Effective technology education involves a broad spectrum of knowledge, process, and skills.
- Knowledge, process, and skills can include unexpected benefits, unexpected costs.
- Technology education involves a broad spectrum of knowledge, process, and skills.

The relationship between science and technology is one where science builds principles or theories and technology provides the practical application of those principles or theories.
Biotechnological Systems
Bioconversion
Bioprocessing
Environment
Ergonomics
Engineering/Design Systems
Research and Development

Informational Systems
Computer-Aided Drafting/Design
Drafting & Design
Desktop Publishing
Electronic Communications
Engineering/Design Systems
Graphic Communications
Communications Systems
Multimedia Technology
Networking Systems
Research and Development
Video and Television

Transportation
Research and Development
Material Processes
Manipulating & Operation
Enterprise Organization
Engineering/Design Systems
Communications
Computer Graphics
Architectural and Energy Systems
Electronic Circuits/Control Systems
Energy Systems
Architecture and Community Planning
Engineering/Design Systems
Physical Systems
Computer-Aided and Informational Systems

Biotechnological Systems

Ch. 4
ACADEMIC STANDARDS AND ASSESSMENTS
### 3.1. Unifying Themes

<table>
<thead>
<tr>
<th>3.1.4. GRADE 4</th>
<th>3.1.7. GRADE 7</th>
<th>3.1.10. GRADE 10</th>
<th>3.1.12. GRADE 12</th>
</tr>
</thead>
</table>

**Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...**

A. **Know that natural and human-made objects are made up of parts.**
   - Identify and describe what parts make up a system.
   - Identify system parts that are natural and human-made (e.g., ball point pen, simple electrical circuits, plant anatomy).
   - Describe the purpose of analyzing systems.
   - Know that technologies include physical technology systems (e.g., construction, manufacturing, transportation), informational systems and biochemical-related systems.

A. **Explain the parts of a simple system and their relationship to each other.**
   - Describe a system as a group of related parts that work together to achieve a desired result (e.g., digestive system).
   - Explain the importance of order in a system.
   - Distinguish between system inputs, system processes and system outputs.
   - Distinguish between open loop and closed loop systems.
   - Apply systems analysis to solve problems.

A. **Discriminate among the concepts of systems, subsystems, feedback and control in solving technological problems.**
   - Identify the function of subsystems within a larger system (e.g., role of thermostat in an engine, pressure switch).
   - Describe the interrelationships among inputs, processes, outputs, feedback and control in specific systems.
   - Explain the concept of system redesign and apply it to improve technological systems.
   - Apply the universal systems model to illustrate specific solutions and troubleshoot specific problems.
   - Analyze and describe the effectiveness of systems to solve specific problems.

A. **Apply concepts of systems, subsystems, feedback and control to solve complex technological problems.**
   - Apply knowledge of control systems concept by designing and modeling control systems that solve specific problems.
   - Apply systems analysis to predict results.
   - Analyze and describe the function, interaction and relationship among subsystems and the system itself.
   - Compare and contrast several systems that could be applied to solve a single problem.
   - Evaluate the causes of a system's inefficiency.
3.1. Unifying Themes

<table>
<thead>
<tr>
<th>3.1.4. GRADE 4</th>
<th>3.1.7. GRADE 7</th>
<th>3.1.10. GRADE 10</th>
<th>3.1.12. GRADE 12</th>
</tr>
</thead>
</table>

*Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...*

**B. Know models as useful simplifications of objects or processes.**
- Identify different types of models.
- Identify and apply models as tools for prediction and insight.
- Apply appropriate simple modeling tools and techniques.
- Identify theories that serve as models (e.g., molecules).

**B. Describe the use of models as an application of scientific or technological concepts.**
- Identify and describe different types of models and their functions.
- Apply models to predict specific results and observations (e.g., population growth, effects of infectious organisms).
- Explain systems by outlining a system’s relevant parts and its purpose and/or designing a model that illustrates its function.

**B. Describe concepts of models as a way to predict and understand science and technology.**
- Distinguish between different types of models and modeling techniques and apply their appropriate use in specific applications (e.g., kinetic gas theory, DNA).
- Examine the advantages of using models to demonstrate processes and outcomes (e.g., blue print analysis, structural stability).
- Apply mathematical models to science and technology.

**B. Apply concepts of models as a method to predict and understand science and technology.**
- Evaluate technological processes by collecting data and applying mathematical models (e.g., process control).
- Apply knowledge of complex physical models to interpret data and apply mathematical models.
- Appraise the importance of computer models in interpreting science and technological systems.
### 3.1. Unifying Themes

<table>
<thead>
<tr>
<th>3.1.4. GRADE 4</th>
<th>3.1.7. GRADE 7</th>
<th>3.1.10. GRADE 10</th>
<th>3.1.12. GRADE 12</th>
</tr>
</thead>
</table>
| **C. Illustrate patterns that regularly occur and reoccur in nature.**  
- Identify observable patterns (e.g., growth patterns in plants, crystal shapes in minerals, climate, structural patterns in bird feathers).  
- Use knowledge of natural patterns to predict next occurrences (e.g., seasons, leaf patterns, lunar phases). | **C. Identify patterns as repeated processes or recurring elements in science and technology.**  
- Identify different forms of patterns and use them to group and classify specific objects.  
- Identify repeating structure patterns.  
- Identify and describe patterns that occur in physical systems (e.g., construction, manufacturing, transportation), informational systems and biochemical-related systems. | **C. Apply patterns as repeated processes or recurring elements in science and technology.**  
- Examine and describe recurring patterns that form the basis of biological classification, chemical periodicity, geological order and astronomical order.  
- Examine and describe stationary physical patterns.  
- Examine and describe physical patterns in motion. | **C. Assess and apply patterns in science and technology.**  
- Assess and apply recurring patterns in natural and technological systems.  
- Compare and contrast structure and function relationships as they relate to patterns.  
- Assess patterns in nature using mathematical formulas. |

*Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...*
Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...

<table>
<thead>
<tr>
<th>3.1. Unifying Themes</th>
<th>3.1.4. GRADE 4</th>
<th>3.1.7. GRADE 7</th>
<th>3.1.10. GRADE 10</th>
<th>3.1.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>D. Know that scale is an important attribute of natural and human made objects, events and phenomena.</td>
<td>• Identify the use of scale as it relates to the measurement of distance, volume and mass.</td>
<td>• Describe scale as a ratio (e.g., map scales).</td>
<td>• Explain the importance of scale in producing models and apply it to a model.</td>
<td>D. Apply scale as a way of relating concepts and ideas to one another by some measure.</td>
</tr>
<tr>
<td>D. Explain scale as a way of relating concepts and ideas to one another by some measure.</td>
<td>• Apply various applications of size and dimensions of scale to scientific, mathematical, and technological applications.</td>
<td>• Describe scale as a form of ratio and apply to a life situation.</td>
<td>• Apply dimensional analysis and scale as a ratio.</td>
<td>D. Analyze scale as a way of relating concepts and ideas to one another by some measure.</td>
</tr>
<tr>
<td>D. Apply scale as a way of relating concepts and ideas to one another by some measure.</td>
<td>• Convert one scale to another.</td>
<td></td>
<td>• Convert one scale to another.</td>
<td>D. Analyze scale as a way of relating concepts and ideas to one another by some measure.</td>
</tr>
<tr>
<td>D. Analyze scale as a way of relating concepts and ideas to one another by some measure.</td>
<td>• Compare and contrast various forms of dimensional analysis.</td>
<td>• Assess the use of several units of measurement to the same problem.</td>
<td>• Analyze and apply appropriate measurement scales when collecting data.</td>
<td>D. Analyze scale as a way of relating concepts and ideas to one another by some measure.</td>
</tr>
</tbody>
</table>
### 3.1. Unifying Themes

<table>
<thead>
<tr>
<th>3.1.4. GRADE 4</th>
<th>3.1.7. GRADE 7</th>
<th>3.1.10. GRADE 10</th>
<th>3.1.12. GRADE 12</th>
</tr>
</thead>
</table>
| **E.** Recognize change in natural and physical systems.  
  - Recognize change as fundamental to science and technology concepts.  
  - Examine and explain change by using time and measurement.  
  - Describe relative motion.  
  - Describe the change to objects caused by heat, cold, light or chemicals. | **E.** Identify change as a variable in describing natural and physical systems.  
  - Describe fundamental science and technology concepts that could solve practical problems.  
  - Explain how ratio is used to describe change.  
  - Describe the effect of making a change in one part of a system on the system as a whole. | **E.** Describe patterns of change in nature, physical and man made systems.  
  - Describe how fundamental science and technology concepts are used to solve practical problems (e.g., momentum, Newton’s laws of universal gravitation, tectonics, conservation of mass and energy, cell theory, theory of evolution, atomic theory, theory of relativity, Pasteur’s germ theory, relativity, heliocentric theory, gas laws, feedback systems).  
  - Recognize that stable systems often involve underlying dynamic changes (e.g., a chemical reaction at equilibrium has molecules reforming continuously). | **E.** Evaluate change in nature, physical systems and man made systems.  
  - Evaluate fundamental science and technology concepts and their development over time (e.g., DNA, cellular respiration, unified field theory, energy measurement, automation, miniaturization, Copernican and Ptolemaic universe theories).  
  - Analyze how models, systems and technologies have changed over time (e.g., germ theory, theory of evolution, solar system, cause of fire).  
  - Explain how correlation of variables does not necessarily imply causation. |

*Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...*
### 3.1. Unifying Themes

<table>
<thead>
<tr>
<th>3.1.4. GRADE 4</th>
<th>3.1.7. GRADE 7</th>
<th>3.1.10. GRADE 10</th>
<th>3.1.12. GRADE 12</th>
</tr>
</thead>
</table>
| **Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...** | - Describe the effects of error in measurements.  
- Describe changes to matter caused by heat, cold, light or chemicals using a rate function. | - Evaluate the patterns of change within a technology (e.g., changes in engineering in the automotive industry). |
### 3.2. Inquiry and Design

<table>
<thead>
<tr>
<th>3.2.4. GRADE 4</th>
<th>3.2.7. GRADE 7</th>
<th>3.2.10. GRADE 10</th>
<th>3.2.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A. Identify and use the nature of scientific and technological knowledge.
- Distinguish between a scientific fact and a belief.
- Provide clear explanations that account for observations and results.
- Relate how new information can change existing perceptions.

A. Explain and apply scientific and technological knowledge.
- Distinguish between a scientific theory and a belief.
- Answer “What if” questions based on observation, inference or prior knowledge or experience.
- Explain how skepticism about an accepted scientific explanation led to a new understanding.
- Explain how new information may change existing theories and practice.

A. Apply knowledge and understanding about the nature of scientific and technological knowledge.
- Compare and contrast scientific theories and beliefs.
- Know that science uses both direct and indirect observation means to study the world and the universe.
- Integrate new information into existing theories and explain implied results.

A. Evaluate the nature of scientific and technological knowledge.
- Know and use the ongoing scientific processes to continually improve and better understand how things work.
- Critically evaluate the status of existing theories (e.g., germ theory of disease, wave theory of light, classification of subatomic particles, theory of evolution, epidemiology of AIDS).
### 3.2. Inquiry and Design

<table>
<thead>
<tr>
<th>3.2.4. GRADE 4</th>
<th>3.2.7. GRADE 7</th>
<th>3.2.10. GRADE 10</th>
<th>3.2.12. GRADE 12</th>
</tr>
</thead>
</table>

*Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...*

#### B. Describe objects in the world using the five senses.
- Recognize observational descriptors from each of the five senses (e.g., see-blue, feel-rough).
- Use observations to develop a descriptive vocabulary.

#### B. Apply process knowledge to make and interpret observations.
- Measure materials using a variety of scales.
- Describe relationships by making inferences and predictions.
- Communicate, use space/time relationships, define operationally, raise questions, formulate hypotheses, test and experiment.
- Design controlled experiments, recognize variables, and manipulate variables.
- Interpret data, formulate models, design models, and produce solutions.

#### B. Apply process knowledge and organize scientific and technological phenomena in varied ways.
- Describe materials using precise quantitative and qualitative skills based on observations.
- Develop appropriate scientific experiments: raising questions, formulating hypotheses, testing, controlled experiments, recognizing variables, manipulating variables, interpreting data, and producing solutions.
- Use process skills to make inferences and predictions using collected information and to communicate, using space/time relationships, defining operationally.

#### B. Evaluate experimental information for appropriateness and adherence to relevant science processes.
- Evaluate experimental data correctly within experimental limits.
- Judge that conclusions are consistent and logical with experimental conditions.
- Interpret results of experimental research to predict new information or improve a solution.
### 3. Inquiry and Design

<table>
<thead>
<tr>
<th>3.2.4. GRADE 4</th>
<th>3.2.7. GRADE 7</th>
<th>3.2.10. GRADE 10</th>
<th>3.2.12. GRADE 12</th>
</tr>
</thead>
</table>
| **C. Recognize and use the elements of scientific inquiry to solve problems.**  
  • Generate questions about objects, organisms and/or events that can be answered through scientific investigations.  
  • Conduct an experiment.  
  • State a conclusion that is consistent with the information. | **C. Identify and use the elements of scientific inquiry to solve problems.**  
  • Generate questions about objects, organisms and/or events that can be answered through scientific investigations.  
  • Evaluate the appropriateness of questions.  
  • Design an investigation with limited variables to investigate a question.  
  • Conduct a two-part experiment.  
  • Judge the significance of experimental information in answering the question.  
  • Communicate appropriate conclusions from the experiment. | **C. Apply the elements of scientific inquiry to solve problems.**  
  • Generate questions about objects, organisms and/or events that can be answered through scientific investigations.  
  • Evaluate the appropriateness of questions.  
  • Design an investigation with adequate control and limited variables to investigate a question.  
  • Conduct a multiple step experiment.  
  • Organize experimental information using a variety of analytic methods.  
  • Judge the significance of experimental information in answering the question.  
  • Suggest additional steps that might be done experimentally. | **C. Apply the elements of scientific inquiry to solve multi-step problems.**  
  • Generate questions about objects, organisms and/or events that can be answered through scientific investigations.  
  • Evaluate the appropriateness of questions.  
  • Design an investigation with adequate control and limited variables to investigate a question.  
  • Organize experimental information using analytic and descriptive techniques.  
  • Evaluate the significance of experimental information in answering the question.  
  • Project additional questions from a research study that could be studied. |

*Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...*
3.2. Inquiry and Design

<table>
<thead>
<tr>
<th>3.2.4. GRADE 4</th>
<th>3.2.7. GRADE 7</th>
<th>3.2.10. GRADE 10</th>
<th>3.2.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

D. Recognize and use the technological design process to solve problems.
- Recognize and explain basic problems.
- Identify possible solutions and their course of action.
- Try a solution.
- Describe the solution, identify its impacts and modify if necessary.
- Show the steps taken and the results.

D. Know and use the technological design process to solve problems.
- Define different types of problems.
- Define all aspects of the problem, necessary information and questions that must be answered.
- Propose the best solution.
- Design and propose alternative methods to achieve solutions.
- Apply a solution.
- Explain the results, present improvements, identify and infer the impacts of the solution.

D. Identify and apply the technological design process to solve problems.
- Examine the problem, rank all necessary information and all questions that must be answered.
- Propose and analyze a solution.
- Implement the solution.
- Evaluate the solution, test, redesign and improve as necessary.
- Communicate the process and evaluate and present the impacts of the solution.

D. Analyze and use the technological design process to solve problems.
- Assess all aspects of the problem, prioritize the necessary information and formulate questions that must be answered.
- Propose, develop and appraise the best solution and develop alternative solutions.
- Implement and assess the solution.
- Evaluate and assess the solution, redesign and improve as necessary.
- Communicate and assess the process and evaluate and present the impacts of the solution.
### 3.3. Biological Sciences

<table>
<thead>
<tr>
<th>3.3.4. GRADE 4</th>
<th>3.3.7. GRADE 7</th>
<th>3.3.10. GRADE 10</th>
<th>3.3.12. GRADE 12</th>
</tr>
</thead>
</table>

**Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...**

**A. Know the similarities and differences of living things.**
- Identify life processes of living things (e.g., growth, digestion, react to environment).
- Know that some organisms have similar external characteristics (e.g., anatomical characteristics; appendages, type of covering, body segments) and that similarities and differences are related to environmental habitat.
- Describe basic needs of plants and animals.

**A. Describe the similarities and differences that characterize diverse living things.**
- Describe how the structures of living things help them function in unique ways.
- Explain how to use a dichotomous key to identify plants and animals.
- Account for adaptations among organisms that live in a particular environment.

**A. Explain the structural and functional similarities and differences found among living things.**
- Identify and characterize major life forms according to their placement in existing classification groups.
- Explain the relationship between structure and function at the molecular and cellular levels.
- Describe organizing schemes of classification keys.
- Identify and characterize major life forms by kingdom, phyla, class and order.

**A. Explain the relationship between structure and function at all levels of organization.**
- Identify and explain interactions among organisms (e.g., mutually beneficial, harmful relationships).
- Explain and analyze the relationship between structure and function at the molecular, cellular and organ-system level.
- Describe and explain structural and functional relationships in each of the five (or six) kingdoms.
- Explain significant biological diversity found in each of the biomes.
### 3.3. Biological Sciences

<table>
<thead>
<tr>
<th>3.3.4. GRADE 4</th>
<th>3.3.7. GRADE 7</th>
<th>3.3.10. GRADE 10</th>
<th>3.3.12. GRADE 12</th>
</tr>
</thead>
</table>
| **B.** Know that living things are made up of parts that have specific functions.  
- Identify examples of unicellular and multicellular organisms.  
- Determine how different parts of a living thing work together to make the organism function. | **B.** Describe the cell as the basic structural and functional unit of living things.  
- Identify the levels of organization from cell to organism.  
- Compare life processes at the organism level with life processes at the cell level.  
- Explain that cells and organisms have particular structures that underlie their functions.  
- Describe and distinguish among cell cycles, reproductive cycles and life cycles.  
- Explain disease effects on structures or functions of an organism. | **B.** Describe and explain the chemical and structural basis of living organisms.  
- Describe the relationship between the structure of organic molecules and the function they serve in living organisms.  
- Identify the specialized structures and regions of the cell and the functions of each.  
- Explain how cells store and use information to guide their functions.  
- Explain cell functions and processes in terms of chemical reactions and energy changes. | **B.** Analyze the chemical and structural basis of living organisms.  
- Identify and describe factors affecting metabolic function (e.g., temperature, acidity, hormones).  
- Evaluate metabolic activities using experimental knowledge of enzymes.  
- Evaluate relationships between structure and functions of different anatomical parts given their structure.  
- Describe potential impact of genome research on the biochemistry and physiology of life. |

*Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...*
### 3.3. Biological Sciences

<table>
<thead>
<tr>
<th>Grade 4</th>
<th>Grade 7</th>
<th>Grade 10</th>
<th>Grade 12</th>
</tr>
</thead>
</table>
| C. Know that characteristics are inherited and, thus, offspring closely resemble their parents.  
  • Identify characteristics for animal and plant survival in different climates.  
  • Identify physical characteristics that appear in both parents and offspring and differ between families, strains or species. | C. Know that every organism has a set of genetic instructions that determines its inherited traits.  
  • Identify and explain inheritable characteristics.  
  • Identify that the gene is the basic unit of inheritance.  
  • Identify basic patterns of inheritance (e.g., dominance, recessive, codominance).  
  • Describe how traits are inherited.  
  • Distinguish how different living things reproduce (e.g., vegetative budding, sexual).  
  • Recognize that mutations can alter a gene.  
  • Describe how selective breeding, natural selection and genetic technologies can change genetic makeup of organisms. | C. Describe how genetic information is inherited and expressed.  
  • Compare and contrast the function of mitosis and meiosis.  
  • Describe mutations’ effects on a trait’s expression.  
  • Distinguish different reproductive patterns in living things (e.g., budding, spores, fission).  
  • Compare random and selective breeding practices and their results (e.g., antibiotic resistant bacteria).  
  • Explain the relationship among DNA, genes and chromosomes.  
  • Explain different types of inheritance (e.g., multiple allele, sex-influenced traits).  
  • Describe the role of DNA in protein synthesis as it relates to gene expression. | C. Explain gene inheritance and expression at the molecular level.  
  • Analyze gene expression at the molecular level.  
  • Describe the roles of nucleic acids in cellular reproduction and protein synthesis.  
  • Describe genetic engineering techniques, applications and impacts.  
  • Explain birth defects from the standpoint of embryological development and/or changes in genetic makeup. |

*Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...*
### 3.3. Biological Sciences

<table>
<thead>
<tr>
<th>3.3.4. GRADE 4</th>
<th>3.3.7. GRADE 7</th>
<th>3.3.10. GRADE 10</th>
<th>3.3.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to. . .</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Identify changes in living things over time.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Compare extinct life forms with living organisms.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Explain basic concepts of natural selection.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identify adaptations that allow organisms to survive in their environment.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Describe how an environmental change can affect the survival of organisms and entire species.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Know that differences in individuals of the same species may give some advantage in surviving and reproducing.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Recognize that populations of organisms can increase rapidly.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Describe the role that fossils play in studying the past.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Explain how biologic extinction is a natural process.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Explain the mechanisms of the theory of evolution.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Analyze data from fossil records, similarities in anatomy and physiology, embryological studies and DNA studies that are relevant to the theory of evolution.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Explain the role of mutations and gene recombination in changing a population of organisms.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Compare modern day descendants of extinct species and propose possible scientific accounts for their present appearance.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Describe the factors (e.g., isolation, differential reproduction) affecting gene frequency in a population over time and their consequences.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Analyze the theory of evolution.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Examine human history by describing the progression from early hominids to modern humans.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Apply the concept of natural selection as a central concept in illustrating evolution theory.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.3. Biological Sciences

<table>
<thead>
<tr>
<th>3.3.4. GRADE 4</th>
<th>3.3.7. GRADE 7</th>
<th>3.3.10. GRADE 10</th>
<th>3.3.12. GRADE 12</th>
</tr>
</thead>
</table>

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...

- Describe and differentiate between the roles of natural selection and genetic drift.
- Describe changes that illustrate major events in the earth's development based on a time line.
- Explain why natural selection can act only on inherited traits.
- Apply the concept of natural selection to illustrate and account for a species' survival, extinction or change over time.

Ecosystem Standards are in the Environment and Ecology Standard Category (4.6).
Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...
### 3.4. Physical Science, Chemistry and Physics

<table>
<thead>
<tr>
<th>3.4.4. GRADE 4</th>
<th>3.4.7. GRADE 7</th>
<th>3.4.10. GRADE 10</th>
<th>3.4.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| - Recognize formulas for simple inorganic compounds.  
- Describe various types of chemical reactions by applying the laws of conservation of mass and energy.  
- Apply knowledge of mixtures to appropriate separation techniques.  
- Understand that carbon can form several types of compounds. |
| - Apply the conservation of energy concept to fields as diverse as mechanics, nuclear particles and studies of the origin of the universe.  
- Apply the predictability of nuclear decay to estimate the age of materials that contain radioactive isotopes.  
- Quantify the properties of matter (e.g., density, solubility coefficients) by applying mathematical formulas. |
### 3.4. Physical Science, Chemistry and Physics

<table>
<thead>
<tr>
<th>3.4.4. GRADE 4</th>
<th>3.4.7. GRADE 7</th>
<th>3.4.10. GRADE 10</th>
<th>3.4.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B. Know basic energy types, sources and conversions.</strong></td>
<td><strong>B. Relate energy sources and transfers to heat and temperature.</strong></td>
<td><strong>B. Analyze energy sources and transfers of heat.</strong></td>
<td><strong>B. Apply and analyze energy sources and conversions and their relationship to heat and temperature.</strong></td>
</tr>
<tr>
<td><em>Identify energy forms and examples (e.g., sunlight, heat, stored, motion).</em></td>
<td><em>Identify and describe sound changes in moving objects.</em></td>
<td><em>Determine the efficiency of chemical systems by applying mathematical formulas.</em></td>
<td><em>Determine the heat involved in illustrative chemical reactions.</em></td>
</tr>
<tr>
<td><em>Know the concept of the flow of energy by measuring flow through an object or system.</em></td>
<td><em>Know that the sun is a major source of energy that emits wavelengths of visible light, infrared and ultraviolet radiation.</em></td>
<td><em>Use knowledge of chemical reactions to generate an electrical current.</em></td>
<td><em>Evaluate mathematical formulas that calculate the efficiency of specific chemical and mechanical systems.</em></td>
</tr>
<tr>
<td><em>Describe static electricity in terms of attraction, repulsion and sparks.</em></td>
<td><em>Explain the conversion of one form of energy to another by applying knowledge of each form of energy.</em></td>
<td><em>Evaluate energy changes in chemical reactions.</em></td>
<td><em>Use knowledge of oxidation and reduction to balance complex reactions.</em></td>
</tr>
<tr>
<td><em>Apply knowledge of the basic electrical circuits to design and construction of simple direct current circuits.</em></td>
<td><em>Explain the parts and functions in an electrical circuit.</em></td>
<td><em>Use knowledge of conservation of energy and momentum to explain common phenomena (e.g., refrigeration system, rocket propulsion).</em></td>
<td><em>Apply appropriate thermodynamic concepts (e.g., conservation, entropy) to solve problems relating to energy and heat.</em></td>
</tr>
<tr>
<td><em>Classify materials as conductors and nonconductors.</em></td>
<td></td>
<td><em>Explain resistance, current and electro-motive force (Ohm’s Law).</em></td>
<td></td>
</tr>
</tbody>
</table>
### 3.4. Physical Science, Chemistry and Physics

<table>
<thead>
<tr>
<th>3.4.4. GRADE 4</th>
<th>3.4.7. GRADE 7</th>
<th>3.4.10. GRADE 10</th>
<th>3.4.12. GRADE 12</th>
</tr>
</thead>
</table>

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...

- Know the characteristics of light (e.g., reflection, refraction, absorption) and use them to produce heat, color or a virtual image.
### 3.4. Physical Science, Chemistry and Physics

<table>
<thead>
<tr>
<th>3.4.4. GRADE 4</th>
<th>3.4.7. GRADE 7</th>
<th>3.4.10. GRADE 10</th>
<th>3.4.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
</tr>
</tbody>
</table>
| Observe and describe different types of force and motion.  
- Identify characteristics of sound (pitch, loudness and echoes).  
- Recognize forces that attract or repel other objects and demonstrate them.  
- Describe various types of motions.  
- Compare the relative movement of objects and describe types of motion that are evident.  
- Describe the position of an object by locating it relative to another object or the background (e.g., geographic direction, left, up). | Identify and explain the principles of force and motion.  
- Describe the motion of an object based on its position, direction and speed.  
- Classify fluid power systems according to fluid used or mode of power transmission (e.g., air, oil).  
- Explain various motions using models.  
- Explain how convex and concave mirrors and lenses change light images.  
- Explain how sound and light travel in waves of differing speeds, sizes and frequencies. | Distinguish among the principles of force and motion.  
- Identify the relationship of electricity and magnetism as two aspects of a single electromagnetic force.  
- Identify elements of simple machines in compound machines.  
- Explain fluid power systems through the design and construction of appropriate models.  
- Describe sound effects (e.g., Doppler effect, amplitude, frequency, reflection, refraction, absorption, sonar, seismic).  
- Describe light effects (e.g., Doppler effect, dispersion, absorption, emission spectra, polarization, interference).  
- Describe and measure the motion of sound, light and other objects. | Apply the principles of motion and force.  
- Evaluate wave properties of frequency, wavelength and speed as applied to sound and light through different media.  
- Propose and produce modifications to specific mechanical power systems that will improve their efficiency.  
- Analyze the principles of translational motion, velocity and acceleration as they relate to free fall and projectile motion.  
- Analyze the principles of rotational motion to solve problems relating to angular momentum, and torque.  
- Interpret a model that illustrates circular motion and acceleration. |

(286/89) No. 328 Mar. 02

Ch. 4 ACADEMIC STANDARDS AND ASSESSMENTS 22
<table>
<thead>
<tr>
<th>3.4.4. GRADE 4</th>
<th>3.4.7. GRADE 7</th>
<th>3.4.10. GRADE 10</th>
<th>3.4.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</td>
<td>• Know Newton's laws of motion (including inertia, action and reaction) and gravity and apply them to solve problems related to forces and mass. • Determine the efficiency of mechanical systems by applying mathematical formulas.</td>
<td>• Describe inertia, motion, equilibrium, and action/reaction concepts through words, models and mathematical symbols.</td>
<td></td>
</tr>
</tbody>
</table>
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...

### 3.4. Physical Science, Chemistry and Physics

<table>
<thead>
<tr>
<th>3.4.4. GRADE 4</th>
<th>3.4.7. GRADE 7</th>
<th>3.4.10. GRADE 10</th>
<th>3.4.12. GRADE 12</th>
</tr>
</thead>
</table>
| D. Describe the composition and structure of the universe and the earth’s place in it.  
  - Recognize earth’s place in the solar system.  
  - Explain and illustrate the causes of seasonal changes.  
  - Identify planets in our solar system and their general characteristics.  
  - Describe the solar system motions and use them to explain time (e.g., days, seasons), major lunar phases and eclipses. | D. Describe essential ideas about the composition and structure of the universe and the earth’s place in it.  
  - Compare various planets’ characteristics.  
  - Describe basic star types and identify the sun as a star type.  
  - Describe and differentiate comets, asteroids and meteors.  
  - Identify gravity as the force that keeps planets in orbit around the sun and governs the rest of the movement of the solar system and the universe.  
  - Illustrate how the position of stars and constellations change in relation to the Earth during an evening and from month to month.  
  - Identify equipment and instruments that explore the universe. | D. Explain essential ideas about the composition and structure of the universe.  
  - Compare the basic structures of the universe (e.g., galaxy types, nova, black holes, neutron stars).  
  - Describe the structure and life cycle of star, using the Hertzsprung-Russell diagram.  
  - Describe the nuclear processes involved in energy production in a star.  
  - Explain the ‘red-shift’ and Hubble’s use of it to determine stellar distance and movement.  
  - Explain the impact of the Copernican and Newtonian thinking on man’s view of the universe. | D. Analyze the essential ideas about the composition and structure of the universe.  
  - Analyze the Big Bang Theory’s use of gravitation and nuclear reaction to explain a possible origin of the universe.  
  - Compare the use of visual, radio and x-ray telescopes to collect data regarding the structure and evolution of the universe.  
  - Correlate the use of the special theory of relativity and the life of a star. |
### 3.4. Physical Science, Chemistry and Physics

#### 3.4.4. GRADE 4  
#### 3.4.7. GRADE 7  
#### 3.4.10. GRADE 10  
#### 3.4.12. GRADE 12

**Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...**

<table>
<thead>
<tr>
<th>3.4.4. GRADE 4</th>
<th>3.4.7. GRADE 7</th>
<th>3.4.10. GRADE 10</th>
<th>3.4.12. GRADE 12</th>
</tr>
</thead>
</table>
| • Identify the accomplishments and contributions provided by selected past and present scientists in the field of astronomy.  
• Identify and articulate space program efforts to investigate possibilities of living in space and on other planets. | • Identify and analyze the findings of several space instruments in regard to the extent and composition of the solar system and universe. | | |

Refer to Technology Standard Category 3.6 for applied uses of these concepts and principles.
3.5. Earth Sciences

<table>
<thead>
<tr>
<th>3.5.4. GRADE 4</th>
<th>3.5.7. GRADE 7</th>
<th>3.5.10. GRADE 10</th>
<th>3.5.12. GRADE 12</th>
</tr>
</thead>
</table>

**Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...**

A. **Know basic landforms and earth history.**
   - Describe earth processes (e.g., rusting, weathering, erosion) that have affected selected physical features in students’ neighborhoods.
   - Identify various earth structures (e.g., mountains, faults, drainage basins) through the use of models.
   - Identify the composition of soil as weathered rock and decomposed organic remains.
   - Describe fossils and the type of environment they lived in (e.g., tropical, aquatic, desert).

A. **Describe earth features and processes.**
   - Describe major layers of the earth.
   - Describe the processes involved in the creation of geologic features (e.g., folding, faulting, volcanism, sedimentation) and that these processes seen today (e.g., erosion, weathering crustal plate movement) are similar to those in the past.
   - Describe the processes that formed Pennsylvania geologic structures and resources including mountains, glacial formations, water gaps and ridges.
   - Explain how the rock cycle affected rock formations in the state of Pennsylvania.

A. **Relate earth features and processes that change the earth.**
   - Illustrate and explain plate tectonics as the mechanism of continental movement and sea floor changes.
   - Compare examples of change to the earth’s surface over time as they related to continental movement and ocean basin formation (e.g., Delaware, Susquehanna, Ohio Rivers system formations, dynamics).
   - Interpret topographic maps to identify and describe significant geologic history/structures in Pennsylvania.
   - Evaluate and interpret geologic history using geologic maps.
   - Explain several methods of dating earth materials and structures.

A. **Analyze and evaluate earth features and processes that change the earth.**
   - Apply knowledge of geophysical processes to explain the formation and degradation of earth structures (e.g., mineral deposition, cave formations, soil composition).
   - Interpret geological evidence supporting evolution.
   - Apply knowledge of radioactive decay to assess the age of various earth features and objects.
<table>
<thead>
<tr>
<th>3.5. Earth Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3.5.4. GRADE 4</strong></td>
</tr>
<tr>
<td>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</td>
</tr>
<tr>
<td>• Distinguish between examples of rapid surface changes (e.g., landslides, earthquakes) and slow surface changes (e.g., weathering).</td>
</tr>
<tr>
<td>• Identify living plants and animals that are similar to fossil forms.</td>
</tr>
<tr>
<td>• Correlate rock units with general geologic time periods in the history of the earth.</td>
</tr>
<tr>
<td>• Describe and identify major types of rocks and minerals.</td>
</tr>
</tbody>
</table>
3.5. Earth Sciences

<table>
<thead>
<tr>
<th>3.5.4. GRADE 4</th>
<th>3.5.7. GRADE 7</th>
<th>3.5.10. GRADE 10</th>
<th>3.5.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B. Know types and uses of earth materials.</strong>&lt;br&gt;• Identify uses of various earth materials (e.g., buildings, highways, fuels, growing plants).&lt;br&gt;• Identify and sort earth materials according to a classification key (e.g., soil/rock type).</td>
<td><strong>B. Recognize earth resources and how they affect everyday life.</strong>&lt;br&gt;• Identify and locate significant earth resources (e.g., rock types, oil, gas, coal deposits) in Pennsylvania.&lt;br&gt;• Explain the processes involved in the formation of oil and coal in Pennsylvania.&lt;br&gt;• Explain the value and uses of different earth resources (e.g., selected minerals, ores, fuel sources, agricultural uses).&lt;br&gt;• Compare the locations of human settlements as related to available resources.</td>
<td><strong>B. Explain sources and uses of earth resources.</strong>&lt;br&gt;• Compare the locations of strategic minerals and earth resources in the world with their geologic history using maps and global information systems.&lt;br&gt;• Demonstrate the effects of sedimentation and erosion before and after a conservation plan is implemented.&lt;br&gt;• Evaluate the impact of geologic activities/hazards (e.g., earthquakes, sinkholes, landslides).&lt;br&gt;• Evaluate land use (e.g., agricultural, recreational, residential, commercial) in Pennsylvania based upon soil characteristics.</td>
<td><strong>B. Analyze the availability, location and extraction of earth resources.</strong>&lt;br&gt;• Describe how the location of earth’s major resources has affected a country’s strategic decisions.&lt;br&gt;• Compare locations of earth features and country boundaries.&lt;br&gt;• Analyze the impact of resources (e.g., coal deposits, rivers) on the life of Pennsylvania’s settlements and cities.</td>
</tr>
</tbody>
</table>

*Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to.*
### 3.5. Earth Sciences

<table>
<thead>
<tr>
<th>3.5.4. GRADE 4</th>
<th>3.5.7. GRADE 7</th>
<th>3.5.10. GRADE 10</th>
<th>3.5.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C. Know basic weather elements.</strong></td>
<td><strong>C. Describe basic elements of meteorology.</strong></td>
<td><strong>C. Interpret meteorological data.</strong></td>
<td><strong>C. Analyze atmospheric energy transfers.</strong></td>
</tr>
<tr>
<td>- Identify cloud types.</td>
<td>- Explain weather forecasts by interpreting weather data and symbols.</td>
<td>- Analyze information from meteorological instruments and online sources to predict weather patterns.</td>
<td>- Describe how weather and climate involve the transfer of energy in and out of the atmosphere.</td>
</tr>
<tr>
<td>- Identify weather patterns from data charts (including temperature, wind direction and speed, precipitation) and graphs of the data.</td>
<td>- Explain the oceans' impact on local weather and the climate of a region.</td>
<td>- Describe weather and climate patterns on global levels.</td>
<td>- Explain how unequal heating of the air, ocean and land produces wind and ocean currents.</td>
</tr>
<tr>
<td>- Explain how the different seasons affect plants, animals, food availability and daily human life.</td>
<td>- Identify how cloud types, wind directions and barometric pressure changes are associated with weather patterns in different regions of the country.</td>
<td>- Evaluate specific adaptations plants and animals have made that enable them to survive in different climates.</td>
<td>- Analyze the energy transformations that occur during the greenhouse effect and predict the long-term effects of increased pollutant levels in the atmosphere.</td>
</tr>
<tr>
<td>- Explain and illustrate the processes of cloud formation and precipitation.</td>
<td>- Describe and illustrate the major layers of the earth's atmosphere.</td>
<td>- Identify different air masses and global wind patterns and how they relate to the weather patterns in different regions of the U.S.</td>
<td>- Analyze the mechanisms that drive a weather phenomena (e.g., El Nino, hurricane, tornado) using the correlation of three methods of heat energy transfer.</td>
</tr>
<tr>
<td></td>
<td>3.5.4. GRADE 4</td>
<td>3.5.7. GRADE 7</td>
<td>3.5.10. GRADE 10</td>
</tr>
<tr>
<td>---</td>
<td>----------------</td>
<td>----------------</td>
<td>------------------</td>
</tr>
</tbody>
</table>
| D. | Recognize the earth’s different water resources.  
   • Know that approximately three-fourths of the earth is covered by water.  
   • Identify and describe types of fresh and saltwater bodies.  
   • Identify examples of water in the form of solid, liquid and gas on or near the surface of the earth.  
   • Explain and illustrate evaporation and condensation.  
   • Recognize other resources available from water (e.g., energy, transportation, minerals, food). | D. Explain the behavior and impact of the earth’s water systems.  
   • Explain the water cycle using the processes of evaporation and condensation.  
   • Describe factors that affect evaporation and condensation.  
   • Distinguish salt from fresh water (e.g., density, electrical conduction).  
   • Compare the effect of water type (e.g., polluted, fresh, salt water) and the life contained in them.  
   • Identify ocean and shoreline features (e.g., bays, inlets, spit, tidal marshes). | D. Assess the value of water as a resource.  
   • Compare specific sources of potable water (e.g., wells, public systems, rivers) used by people in Pennsylvania.  
   • Identify the components of a municipal/agricultural water supply system and a wastewater treatment system.  
   • Relate aquatic life to water conditions (e.g., turbidity, temperature, salinity, dissolved oxygen, nitrogen levels, pressure).  
   • Compare commercially important aquatic species in or near Pennsylvania.  
   • Identify economic resources found in marine areas.  
   • Assess the natural and man-made factors that affect the availability of clean water (e.g., rock and mineral deposits, man-made pollution). | D. Analyze the principles and history of hydrology.  
   • Analyze the operation and effectiveness of a water purification and desalination system.  
   • Evaluate the pros and cons of surface water appropriation for commercial and electrical use.  
   • Analyze the historical development of water use in Pennsylvania (e.g., recovery of Lake Erie).  
   • Compare the marine life and type of water found in the intertidal, neritic and bathyal zones. |

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...
3.5. Earth Sciences

<table>
<thead>
<tr>
<th>3.5.4. GRADE 4</th>
<th>3.5.7. GRADE 7</th>
<th>3.5.10. GRADE 10</th>
<th>3.5.12. GRADE 12</th>
</tr>
</thead>
</table>

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to... Refer to Environment and Ecology Standards Categories 4.1, 4.3, 4.8 for standards that deal with environmental impact of Earth structures and forces.

Pennsylvania Core Standards for Reading in Science and Technology

Grades 6-12

INTRODUCTION

These standards describe what students in the science classroom should know and be able to do with the English language in reading, grade 6 through 12. The standards provide the targets for instruction and student learning essential for success in all academic areas, not just language arts classrooms. Although the standards are not a curriculum or a prescribed series of activities, school entities will use them to develop a local school curriculum that will meet local students’ needs.

The standards below begin at grade 6; standards for K-5 reading in history/social studies, science, and technical subjects are integrated into the K-5 Reading standards.

The English Language Arts Standards for Science and Technical Subjects also provide parents and community members with information about what students should know and be able to do as they progress through the educational program and at graduation. With a clearly defined target provided by the standards, parents, students, educators and community members become partners in learning. Each standard implies an end of year goal—with the understanding that exceeding the standard is an even more desirable end goal.
# Reading Informational Text

Students read, understand, and respond to informational text—with emphasis on comprehension, making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>Grade 6-8</th>
<th>Grade 9-10</th>
<th>Grade 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key Ideas and Details</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.3.5.6-8.A.</td>
<td>CC.3.5.9-10.A.</td>
<td>CC.3.5.11-12.A.</td>
</tr>
<tr>
<td>Cite specific textual evidence to support analysis of science and technical texts.</td>
<td>Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</td>
<td>Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</td>
</tr>
<tr>
<td>CC.3.5.6-8.B.</td>
<td>CC.3.5.9-10.B.</td>
<td>CC.3.5.11-12.B.</td>
</tr>
<tr>
<td>Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.</td>
<td>Determine the central ideas or conclusions of a text; trace the text’s explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.</td>
<td>Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</td>
</tr>
<tr>
<td>CC.3.5.6-8.C.</td>
<td>CC.3.5.9-10.C.</td>
<td>CC.3.5.11-12.C.</td>
</tr>
<tr>
<td>Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.</td>
<td>Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.</td>
<td>Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.</td>
</tr>
</tbody>
</table>
### 3.5 Reading Informational Text

Students read, understand, and respond to informational text—with emphasis on comprehension, making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>GRADE 6-8</th>
<th>GRADE 9-10</th>
<th>GRADE 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Craft and Structure</strong></td>
<td><strong>Craft and Structure</strong></td>
<td><strong>Craft and Structure</strong></td>
</tr>
<tr>
<td>CC.3.5.6-8.D. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.</td>
<td>CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.</td>
<td>CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11-12 texts and topics.</td>
</tr>
<tr>
<td>CC.3.5.6-8.E. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.</td>
<td>CC.3.5.9-10.E. Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</td>
<td>CC.3.5.11-12.E. Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</td>
</tr>
<tr>
<td>CC.3.5.6-8.F. Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.</td>
<td>CC.3.5.9-10.F. Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.</td>
<td>CC.3.5.11-12.F. Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.</td>
</tr>
</tbody>
</table>
### 3.5 Reading Informational Text

Students read, understand, and respond to informational text—with emphasis on comprehension, making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>GRADE 6-8</th>
<th>GRADE 9-10</th>
<th>GRADE 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.3.5.6-8.G. Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).</td>
<td>CC.3.5.9-10.G. Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.</td>
<td>CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</td>
</tr>
<tr>
<td>CC.3.5.6-8.H. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.</td>
<td>CC.3.5.9-10.H. Assess the extent to which the reasoning and evidence in a text support the author’s claim or a recommendation for solving a scientific or technical problem.</td>
<td>CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</td>
</tr>
<tr>
<td>CC.3.5.6-8.I. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.</td>
<td>CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.</td>
<td>CC.3.5.11-12.I. Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</td>
</tr>
</tbody>
</table>
### 3.5 Reading Informational Text

Students read, understand, and respond to informational text—with emphasis on comprehension, making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>Range and Level of Complex Texts</th>
<th>GRADE 6-8</th>
<th>GRADE 9-10</th>
<th>GRADE 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.3.5.6-8.J.</td>
<td>By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently.</td>
<td>CC.3.5.9-10.J.</td>
<td>By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CC.3.5.11-12.J.</td>
</tr>
</tbody>
</table>
### 3.6. Technology Education

<table>
<thead>
<tr>
<th>3.6.4. GRADE 4</th>
<th>3.6.7. GRADE 7</th>
<th>3.6.10. GRADE 10</th>
<th>3.6.12. GRADE 12</th>
</tr>
</thead>
</table>

**Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...**

**A. Know that biotechnologies relate to propagating, growing, maintaining, adapting, treating and converting.**
- Identify agricultural and industrial production processes that involve plants and animals.
- Identify waste management treatment processes.
- Describe how knowledge of the human body influences or impacts ergonomic design.
- Describe how biotechnology has impacted various aspects of daily life (e.g., health care, agriculture, waste treatment).

**A. Explain biotechnologies that relate to related technologies of propagating, growing, maintaining, adapting, treating and converting.**
- Apply knowledge of plant and animal production processes in designing an improvement to existing processes.
- Apply knowledge of biomedical technology applications in designing a solution to a simple medical problem (e.g., wheel chair design, artificial arteries).
- Apply knowledge of how biomedical technology affects waste products in designing a solution that will result in reduced waste.
- Define and describe how fuels and energy can be generated through the process of biomass conversion.
- Identify and group basic plant and animal production processes.

**A. Apply biotechnologies that relate to propagating, growing, maintaining, adapting, treating and converting.**
- Apply knowledge of plant and animal production processes in designing an improvement to existing processes.
- Apply knowledge of how biomedical technology applications in designing a solution to a simple medical problem (e.g., wheel chair design, artificial arteries).
- Apply knowledge of how biomedical technology affects waste products in designing a solution that will result in reduced waste.
- Define and describe how fuels and energy can be generated through the process of biomass conversion.
- Identify and group basic plant and animal production processes.
- Describe various methods of biochemical conversion.

**A. Analyze biotechnologies that relate to propagating, growing, maintaining, adapting, treating and converting.**
- Analyze and solve a complex production process problem using biotechnologies (e.g., hydroponics, fish farming, crop propagation).
- Analyze specific examples where engineering has impacted society in protection, personal health application or physical enhancement.
- Appraise and evaluate the cause and effect and subsequent environmental, economic and societal impacts that result from biomass and biochemical conversion.
<table>
<thead>
<tr>
<th>3.6. Technology Education</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3.6.4. GRADE 4</strong></td>
</tr>
<tr>
<td>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</td>
</tr>
<tr>
<td>• Explain the impact that agricultural science has had on biotechnology.</td>
</tr>
<tr>
<td>3.6.4. GRADE 4</td>
</tr>
<tr>
<td>----------------</td>
</tr>
</tbody>
</table>
| **B. Know that information technologies involve encoding, transmitting, receiving, storing, retrieving and decoding.**  
- Identify electronic communication methods that exist in the community (e.g., digital cameras, telephone, internet, television, fiber optics).  
- Identify graphic reproduction methods.  
- Describe appropriate image generating techniques (e.g., photography, video).  
- Demonstrate the ability to communicate an idea by applying basic sketching and drawing techniques. | **B. Explain information technologies of encoding, transmitting, receiving, storing, retrieving and decoding.**  
- Demonstrate the effectiveness of image generating technique to communicate a story (e.g., photography, video).  
- Analyze and evaluate the effectiveness of a graphic object designed and produced to communicate a thought or concept.  
- Apply basic technical drawing techniques to communicate an idea or solution to a problem.  
- Apply the appropriate method of communications technology to communicate a thought. | **B. Apply knowledge of information technologies of encoding, transmitting, receiving, storing, retrieving and decoding.**  
- Describe the proper use of graphic and electronic communication systems.  
- Apply a variety of advanced mechanical and electronic drafting methods to communicate a solution to a specific problem.  
- Apply and analyze advanced communication techniques to produce an image that effectively conveys a message (e.g., desktop publishing, audio and/or video production).  
- Illustrate an understanding of a computer network system by modeling, constructing or assembling its components. | **B. Analyze knowledge of information technologies of processes encoding, transmitting, receiving, storing, retrieving and decoding.**  
- Apply and analyze advanced information techniques to produce a complex image that effectively conveys a message (e.g., desktop publishing, audio and/or video production).  
- Analyze and evaluate a message designed and produced using still, motion and animated communication techniques.  
- Describe the operation of fiber optic, microwave and satellite informational systems.  
- Apply various graphic and electronic information techniques to solve real world problems (e.g., data organization and analysis, forecasting, interpolation). |

*Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...*
<table>
<thead>
<tr>
<th>3.6. Technology Education</th>
<th>3.6.4. GRADE 4</th>
<th>3.6.7. GRADE 7</th>
<th>3.6.10. GRADE 10</th>
<th>3.6.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to. . .</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### C. Know physical technologies of structural design, analysis and engineering, finance, production, marketing, research and design.
- Identify and group a variety of construction tasks.
- Identify the major construction systems present in a specific local building.
- Identify specific construction systems that depend on each other in order to complete a project.
- Know skills used in construction.
- Identify examples of manufactured goods present in the home and school.
- Identify basic resources needed to produce a manufactured item.
- Identify basic component operations in a specific manufacturing enterprise (e.g., cutting, shaping, attaching).

### C. Explain physical technologies of structural design, analysis and engineering, personnel relations, financial affairs, structural production, marketing, research and design.
- Use knowledge of material effectiveness to solve specific construction problems (e.g., steel vs. wood bridges).
- Differentiate among the different types of construction applications (e.g., microwave tower, power plants, aircrafts).
- Explain basic material processes that manufactured objects undergo during production (e.g., separating, forming, combining).
- Evaluate a construction activity by specifying task analyses and necessary resources.

### C. Apply physical technologies to structural design, analysis and engineering, personnel relations, financial affairs, structural production, marketing, research and design to real world problems.
- Describe and classify common construction by their characteristics and composition.
- Compare and contrast specific construction systems that depend on each other in order to complete a project.
- Evaluate material failure common to specific applications.
- Demonstrate knowledge of various construction systems by building or interpreting models.
- Select and apply the necessary resources to successfully conduct a manufacturing enterprise.

### C. Analyze physical technologies of structural design, analysis and engineering, personnel relations, financial affairs, structural production, marketing, research and design to real world problems.
- Apply knowledge of construction technology by designing, planning and applying all the necessary resources to successfully solve a construction problem.
- Evaluate resource options in solving a specific manufacturing problem.
- Analyze and apply complex skills needed to process materials in complex manufacturing enterprises.
- Apply advanced information collection and communication techniques to successfully convey solutions to specific construction problems.
### 3.6. Technology Education

<table>
<thead>
<tr>
<th>3.6.4. GRADE 4</th>
<th>3.6.7. GRADE 7</th>
<th>3.6.10. GRADE 10</th>
<th>3.6.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>• Identify waste and pollution resulting from a manufacturing enterprise.</strong>&lt;br&gt;• Explain and demonstrate the concept of manufacturing (e.g., assemble a set of papers or ball point pens sequentially, mass produce an object).&lt;br&gt;• Identify transportation technologies of propelling, structuring, suspending, guiding, controlling and supporting.&lt;br&gt;• Identify and experiment with simple machines used in transportation systems.&lt;br&gt;• Explain how improved transportation systems have changed society.</td>
<td><strong>• Identify waste and pollution resulting from a manufacturing enterprise.</strong>&lt;br&gt;• Explain the difference between design engineering and production engineering processes.&lt;br&gt;• Analyze manufacturing steps that affect waste and pollutants.&lt;br&gt;• Explain transportation technologies of propelling, structuring, suspending, guiding, controlling and supporting.&lt;br&gt;• Identify and explain the workings of several mechanical power systems.&lt;br&gt;• Model and explain examples of vehicular propulsion, control, guidance, structure and suspension systems.&lt;br&gt;• Explain the limitations of land, marine, air and space transportation systems.</td>
<td><strong>• Apply concepts of design engineering and production engineering in the organization and application of a manufacturing activity.</strong>&lt;br&gt;• Apply the concepts of manufacturing by redesigning an enterprise to improve productivity or reduce or eliminate waste and/or pollution.&lt;br&gt;• Analyze transportation technologies of propelling, suspending, guiding, controlling and supporting.&lt;br&gt;• Analyze the impacts that transportation systems have on a community.</td>
<td><strong>• Assess the importance of capital on specific construction applications.</strong>&lt;br&gt;• Analyze the positive and negative qualities of several different types of materials as they would relate to specific construction applications.&lt;br&gt;• Analyze transportation technologies of propelling, structuring, suspending, guiding, controlling and supporting.&lt;br&gt;• Analyze the concepts of vehicular propulsion, guidance, control, suspension and structural systems while designing and producing specific complex transportation systems.</td>
</tr>
</tbody>
</table>

Ch. 4 ACADEMIC STANDARDS AND ASSESSMENTS

4-151
Pennsylvania Core Standards for Writing in Science and Technology

Grades 6-12

INTRODUCTION

These standards describe what students in the social studies classroom should know and be able to do at graduation. Parents, educators, and community members become partners in learning when social studies, science, and technical subjects are integrated into the K-5 English Language Arts Standards for History and Social Studies.

The English Language Arts Standards for History and Social Studies also provide parents and community members with information about what students should know and be able to do as they progress through the educational program. Parents and community members with information about when students should know and be able to do at graduation. Parents and community members with information about when students should know and be able to do are integral to the K-12 reading program.

The standards below begin at grade 6. Standards for K-5 reading in history/social studies need to be developed at a local level. Educators will use these standards to develop a local school curriculum that will meet local needs.

These standards describe what students in the social studies classroom should know and be able to do with the English language in writing. These standards describe what students in the social studies classroom should know and be able to do with the English language in writing.
### 3.6 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>GRADES 6-8</th>
<th>GRADES 9-10</th>
<th>GRADES 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.3.6.6-8.A. Write arguments focused on discipline-specific content.</td>
<td>CC.3.6.9-10.A. Write arguments focused on discipline-specific content.</td>
<td>CC.3.6.11-12.A. Write arguments focused on discipline-specific content.</td>
</tr>
<tr>
<td>• Introduce claims about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.</td>
<td>• Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</td>
<td>• Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</td>
</tr>
<tr>
<td>• Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.</td>
<td>• Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience’s knowledge level and concerns.</td>
<td>• Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</td>
</tr>
<tr>
<td>• Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.</td>
<td>• Establish and sustain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</td>
<td>• Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</td>
</tr>
<tr>
<td>• Provide a concluding statement or section that follows from and supports the argument presented.</td>
<td>• Provide a concluding statement or section that follows from or supports the argument presented.</td>
<td>• Provide a concluding statement or section that follows from or supports the argument presented.</td>
</tr>
</tbody>
</table>
### 3.6 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>GRADES 6-8</th>
<th>GRADES 9-10</th>
<th>GRADES 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CC.3.6.6-8.B.</strong> * Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. *</td>
<td><strong>CC.3.6.9-10.B.</strong> * Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. *</td>
<td><strong>CC.3.6.11-12.B.</strong> * Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. *</td>
</tr>
<tr>
<td>Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.</td>
<td>Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</td>
<td>Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</td>
</tr>
<tr>
<td>Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.</td>
<td>Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic.</td>
<td>Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic.</td>
</tr>
<tr>
<td>Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.</td>
<td>Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</td>
<td>Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</td>
</tr>
<tr>
<td>Use precise language and domain-specific vocabulary to inform about or explain the topic.</td>
<td>Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers.</td>
<td>Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic, convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</td>
</tr>
<tr>
<td>Establish and maintain a formal style and objective tone.</td>
<td>Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</td>
<td>Establish and maintain a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</td>
</tr>
<tr>
<td>Provide a concluding statement or section that follows from and supports the information or explanation presented.</td>
<td>Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</td>
<td>Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</td>
</tr>
</tbody>
</table>
3.6 Writing
Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>GRADES 6-8</th>
<th>GRADES 9-10</th>
<th>GRADES 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Production and Distribution of Writing</strong></td>
<td><strong>Production and Distribution of Writing</strong></td>
<td><strong>Production and Distribution of Writing</strong></td>
</tr>
<tr>
<td>CC.3.6.6-8.C. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</td>
<td>CC.3.6.9-10.C. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</td>
<td>CC.3.6.11-12.C. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</td>
</tr>
<tr>
<td>CC.3.6.6-8.D. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.</td>
<td>CC.3.6.9-10.D. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</td>
<td>CC.3.6.11-12.D. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</td>
</tr>
<tr>
<td>CC.3.6.6-8.E. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.</td>
<td>CC.3.6.9-10.E. Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology’s capacity to link to other information and to display information flexibly and dynamically.</td>
<td>CC.3.6.11-12.E. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</td>
</tr>
</tbody>
</table>
3.6 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>GRADES 6-8</th>
<th>GRADES 9-10</th>
<th>GRADES 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CC.3.6.6-8.F.</strong></td>
<td><strong>CC.3.6.9-10.F.</strong></td>
<td><strong>CC.3.6.11-12.F.</strong></td>
</tr>
<tr>
<td>Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.</td>
<td>Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</td>
<td>Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</td>
</tr>
<tr>
<td><strong>CC.3.6.6-8.G.</strong></td>
<td><strong>CC.3.6.9-10.G.</strong></td>
<td><strong>CC.3.6.11-12.G.</strong></td>
</tr>
<tr>
<td>Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.</td>
<td>Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.</td>
<td>Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</td>
</tr>
<tr>
<td><strong>CC.3.6.6-8.H.</strong></td>
<td><strong>CC.3.6.9-10.H.</strong></td>
<td><strong>CC.3.6.11-12.H.</strong></td>
</tr>
<tr>
<td>Draw evidence from informational texts to support analysis, reflection, and research.</td>
<td>Draw evidence from informational texts to support analysis, reflection, and research.</td>
<td>Draw evidence from informational texts to support analysis, reflection, and research.</td>
</tr>
</tbody>
</table>
3.6 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>Range of Writing</th>
<th>GRADES 6-8</th>
<th>GRADES 9-10</th>
<th>GRADES 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.3.6.6-8.I.</td>
<td>Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</td>
<td>CC.3.6.9-10.I. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</td>
<td>CC.3.6.11-12.I. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</td>
</tr>
</tbody>
</table>

* Students’ narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In history/social studies, students must be able to incorporate narrative accounts into their analyses of individuals or events of historical import. In science and technical subjects, students must be able to write precise enough descriptions of the step-by-step procedures they use in their investigations or technical work that others can replicate them and (possibly) reach the same results.
### 3.7. Technological Devices

<table>
<thead>
<tr>
<th>3.7.4. GRADE 4</th>
<th>3.7.7. GRADE 7</th>
<th>3.7.10. GRADE 10</th>
<th>3.7.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</em></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**A.** Explore the use of basic tools, simple materials and techniques to safely solve problems.
- Describe the scientific principles on which various tools are based.
- Group tools and machines by their function.
- Select and safely apply appropriate tools and materials to solve simple problems.

**A.** Describe the safe and appropriate use of tools, materials and techniques to answer questions and solve problems.
- Identify uses of tools, machines, materials, information, people, money, energy and time that meet specific design criteria.
- Describe safe procedures for using tools and materials.
- Assess materials for appropriateness of use.

**A.** Identify and safely use a variety of tools, basic machines, materials and techniques to solve problems and answer questions.
- Select and safely apply appropriate tools, materials and processes necessary to solve complex problems.
- Apply advanced tool and equipment manipulation techniques to solve problems.

**A.** Apply advanced tools, materials and techniques to answer complex questions.
- Demonstrate the safe use of complex tools and machines within their specifications.
- Select and safely apply appropriate tools, materials and processes necessary to solve complex problems that could result in more than one solution.
- Evaluate and use technological resources to solve complex multi-step problems.
### Technological Devices

<table>
<thead>
<tr>
<th>3.7.4. GRADE 4</th>
<th>3.7.7. GRADE 7</th>
<th>3.7.10. GRADE 10</th>
<th>3.7.12. GRADE 12</th>
</tr>
</thead>
</table>
| B. Select appropriate instruments to study materials.  
  - Develop simple skills to measure, record, cut and fasten.  
  - Explain appropriate instrument selection for specific tasks. | B. Use appropriate instruments and apparatus to study materials.  
  - Select appropriate instruments to measure the size, weight, shape and temperature of living and non-living objects.  
  - Apply knowledge of different measurement systems to measure and record objects’ properties. | B. Apply appropriate instruments and apparatus to examine a variety of objects and processes.  
  - Describe and use appropriate instruments to gather and analyze data.  
  - Compare and contrast different scientific measurement systems; select the best measurement system for a specific situation.  
  - Explain the need to estimate measurements within error of various instruments.  
  - Apply accurate measurement knowledge to solve everyday problems.  
  - Describe and demonstrate the operation and use of advanced instrumentation in evaluating material and chemical properties (e.g., scanning electron microscope, nuclear magnetic resonance machines). | B. Evaluate appropriate instruments and apparatus to accurately measure materials and processes.  
  - Apply and evaluate the use of appropriate instruments to accurately measure scientific and technologic phenomena within the error limits of the equipment.  
  - Evaluate the appropriate use of different measurement scales (macro and micro).  
  - Evaluate the utility and advantages of a variety of absolute and relative measurement scales for their appropriate application. |

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...
### 3.7. Technological Devices

<table>
<thead>
<tr>
<th>3.7.4. GRADE 4</th>
<th>3.7.7. GRADE 7</th>
<th>3.7.10. GRADE 10</th>
<th>3.7.12. GRADE 12</th>
</tr>
</thead>
</table>

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...

Computer literacy, including the use of hardware and software in standard statements C, D, and E, should be integrated across all content areas.

<table>
<thead>
<tr>
<th>C. Identify basic computer operations and concepts.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Identify the major parts necessary for a computer to input and output data.</td>
</tr>
<tr>
<td>• Explain and demonstrate the basic use of input and output devices (e.g., keyboard, monitor, printer, mouse).</td>
</tr>
<tr>
<td>• Explain and demonstrate the use of external and internal storage devices (e.g., disk drive, CD drive).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. Explain and demonstrate basic computer operations and concepts.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Know specialized computer applications used in the community.</td>
</tr>
<tr>
<td>• Describe the function of advanced input and output devices (e.g., scanners, video images, plotters, projectors) and demonstrate their use.</td>
</tr>
<tr>
<td>• Demonstrate age appropriate keyboarding skills and techniques.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. Apply basic computer operations and concepts.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Identify solutions to basic hardware and software problems.</td>
</tr>
<tr>
<td>• Apply knowledge of advanced input devices.</td>
</tr>
<tr>
<td>• Apply knowledge of hardware setup.</td>
</tr>
<tr>
<td>• Describe the process for basic software installation and demonstrate it.</td>
</tr>
<tr>
<td>• Analyze and solve basic operating systems problems.</td>
</tr>
<tr>
<td>• Apply touch keyboarding skills and techniques at expectable speed and accuracy.</td>
</tr>
<tr>
<td>• Demonstrate the ability to perform basic software installation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. Evaluate computer operations and concepts as to their effectiveness to solve specific problems.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Describe and demonstrate atypical software installation.</td>
</tr>
<tr>
<td>• Analyze and solve hardware and advanced software problems.</td>
</tr>
<tr>
<td>• Assess and apply multiple input and output devices to solve specific problems.</td>
</tr>
</tbody>
</table>
3.7. Technological Devices

<table>
<thead>
<tr>
<th>3.7.4. GRADE 4</th>
<th>3.7.7. GRADE 7</th>
<th>3.7.10. GRADE 10</th>
<th>3.7.12. GRADE 12</th>
</tr>
</thead>
</table>

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...

D. Use basic computer software.
- Apply operating system skills to perform basic computer tasks.
- Apply basic word processing skills.
- Identify and use simple graphic and presentation graphic materials generated by the computer.
- Apply specific instructional software.

D. Apply computer software to solve specific problems.
- Identify software designed to meet specific needs (e.g., Computer Aided Drafting, design software, tutorial, financial, presentation software).
- Identify and solve basic software problems relevant to specific software applications.
- Identify basic multimedia applications.
- Apply basic graphic manipulation techniques.

D. Utilize computer software to solve specific problems.
- Identify legal restrictions in the use of software and the output of data.
- Apply advanced graphic manipulation and desktop publishing techniques.
- Apply basic multimedia applications.
- Apply advanced word processing, database and spreadsheet skills.
- Describe and demonstrate how two or more software applications can be used to produce an output.
- Select and apply software designed to meet specific needs.

D. Evaluate the effectiveness of computer software to solve specific problems.
- Evaluate the effectiveness of software to produce an output and demonstrate the process.
- Design and apply advanced multimedia techniques.
- Analyze, select and apply the appropriate software to solve complex problems.
- Evaluate the effectiveness of the computer as a presentation tool.
- Analyze the legal responsibilities of computer users.
## 3.7. Technological Devices

<table>
<thead>
<tr>
<th>3.7.4. GRADE 4</th>
<th>3.7.7. GRADE 7</th>
<th>3.7.10. GRADE 10</th>
<th>3.7.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>E. Identify basic computer communications systems.</strong>&lt;br&gt;• Apply a web browser.&lt;br&gt;• Apply basic electronic mail functions.&lt;br&gt;• Use on-line searches to answer age appropriate questions.</td>
<td><strong>E. Explain basic computer communications systems.</strong>&lt;br&gt;• Describe the organization and functions of the basic parts that make up the World Wide Web.&lt;br&gt;• Apply advanced electronic mail functions.&lt;br&gt;• Apply basic on-line research techniques to solve a specific problem.</td>
<td><strong>E. Apply basic computer communications systems.</strong>&lt;br&gt;• Identify and explain various types of on-line services.&lt;br&gt;• Identify and explain the function of the parts of a basic network.&lt;br&gt;• Describe and apply the components of a web page and their function.&lt;br&gt;• Explain and demonstrate file transfer within and outside of a computer network.&lt;br&gt;• Identify, describe and complete advanced on-line research.</td>
<td><strong>E. Assess the effectiveness of computer communications systems.</strong>&lt;br&gt;• Assess the effectiveness of a computer based communications system.&lt;br&gt;• Transfer files among different computer platforms.&lt;br&gt;• Analyze the effectiveness of on-line information resources to meet the needs for collaboration, research, publications, communications and productivity.&lt;br&gt;• Apply knowledge of protocol standards to solve connectivity problems.</td>
</tr>
</tbody>
</table>

*Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...*
### 3.8. Science, Technology and Human Endeavors

<table>
<thead>
<tr>
<th>3.8.4. GRADE 4</th>
<th>3.8.7. GRADE 7</th>
<th>3.8.10. GRADE 10</th>
<th>3.8.12. GRADE 12</th>
</tr>
</thead>
</table>
| **A.** Know that people select, create and use science and technology and that they are limited by social and physical restraints.  
• Identify and describe positive and negative impacts that influence or result from new tools and techniques.  
• Identify how physical technology (e.g., construction, manufacturing, transportation), informational technology and biotechnology are used to meet human needs.  
• Describe how scientific discoveries and technological advancements are related.  
• Identify interrelationships among technology, people and their world.  
• Apply the technological design process to solve a simple problem. | **A.** Explain how sciences and technologies are limited in their effects and influences on society.  
• Identify and describe the unavoidable constraints of technological design.  
• Identify changes in society as a result of a technological development.  
• Identify and explain improvements in transportation, health, sanitation and communications as a result of advancements in science and technology and how they effect our lives. | **A.** Analyze the relationship between societal demands and scientific and technological enterprises.  
• Identify past and current tradeoffs between increased production, environmental harm and social values (e.g., increased energy needs, power plants, automobiles).  
• Compare technologies that are applied and accepted differently in various cultures (e.g., factory farming, nuclear power).  
• Describe and evaluate social change as a result of technological developments.  
• Assess the social impacts of a specific international environmental problem by designing a solution that applies the appropriate technologies and resources. | **A.** Synthesize and evaluate the interactions and constraints of science and technology on society.  
• Compare and contrast how scientific and technological knowledge is both shared and protected.  
• Evaluate technological developments that have changed the way humans do work and discuss their impacts (e.g., genetically engineered crops).  
• Evaluate socially proposed limitations of scientific research and technological application. |

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...
### 3.8. Science, Technology and Human Endeavors

<table>
<thead>
<tr>
<th>3.8.4. GRADE 4</th>
<th>3.8.7. GRADE 7</th>
<th>3.8.10. GRADE 10</th>
<th>3.8.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### B. Know how human ingenuity and technological resources satisfy specific human needs and improve the quality of life.
- Identify and distinguish between human needs and improving the quality of life.
- Identify and distinguish between natural and human-made resources.
- Describe a technological invention and the resources that were used to develop it.

#### B. Explain how human ingenuity and technological resources satisfy specific human needs and improve the quality of life.
- Identify interrelationships between systems and resources.
- Identify and describe the resources necessary to solve a selected problem in a community and improve the quality of life.
- Identify and explain specific examples of how agricultural science has met human needs and has improved the quality of life.

#### B. Analyze how human ingenuity and technological resources satisfy specific human needs and improve the quality of life.
- Identify several problems and opportunities that exist in your community, apply various problem-solving methods to design and evaluate possible solutions.
- Analyze a recently invented item, describing the human need that prompted its invention and the current and potential social impacts of the specific invention.
- Apply knowledge of oceanography, meteorology, geology and human anatomy to explain important considerations that need to be made for construction of homes, buildings and businesses in the United States.

#### B. Apply the use of ingenuity and technological resources to solve specific societal needs and improve the quality of life.
- Apply appropriate tools, materials and processes to solve complex problems.
- Use knowledge of human abilities to design or modify technologies that extend and enhance human abilities.
- Apply appropriate tools, materials and processes to physical, informational or biotechnological systems to identify and recommend solutions to international problems.
- Apply knowledge of agricultural science to develop a solution that will improve on a human need or want.
Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...  

<table>
<thead>
<tr>
<th>3.8.4. GRADE 4</th>
<th>3.8.7. GRADE 7</th>
<th>3.8.10. GRADE 10</th>
<th>3.8.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assess the impacts that agricultural science has had on meeting human needs and improving the quality of life.</td>
<td></td>
</tr>
</tbody>
</table>
### 3.8. Science, Technology and Human Endeavors

<table>
<thead>
<tr>
<th></th>
<th>3.8.4. GRADE 4</th>
<th>3.8.7. GRADE 7</th>
<th>3.8.10. GRADE 10</th>
<th>3.8.12. GRADE 12</th>
</tr>
</thead>
</table>
| **Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...** | **C. Know the pros and cons of possible solutions to scientific and technological problems in society.**  
- Compare the positive and negative expected and unexpected impacts of technological change.  
- Identify and discuss examples of technological change in the community that have both positive and negative impacts. | **C. Identify the pros and cons of applying technological and scientific solutions to address problems and the effect upon society.**  
- Describe the positive and negative expected and unexpected effects of specific technological developments.  
- Describe ways technology extends and enhances human abilities. | **C. Evaluate possibilities, consequences and impacts of scientific and technological solutions.**  
- Relate scientific and technological advancements in terms of cause and effect.  
- Describe and evaluate the impacts that financial considerations have had on specific scientific and technological applications.  
- Compare and contrast potential solutions to technological, social, economic and environmental problems.  
- Analyze the impacts on society of accepting or rejecting scientific and technological advances. | **C. Evaluate the consequences and impacts of scientific and technological solutions.**  
- Propose solutions to specific scientific and technological applications, identifying possible financial considerations.  
- Analyze scientific and technological solutions through the use of risk/benefit analysis.  
- Analyze and communicate the positive or negative impacts that a recent technological invention had on society.  
- Evaluate and describe potential impacts from emerging technologies and the consequences of not keeping abreast of technological advancements (e.g., assessment alternatives, risks, benefits, costs, economic impacts, constraints). |
IX. GLOSSARY

Allele: Any of a set of possible forms of a gene.

Biochemical conversion: The changing of organic matter into other chemical forms.

Biomass conversion: The changing of organic matter that has been produced by photosynthesis into useful liquid, gas or fuel.

Biomedical technology: The application of medical principles to develop methods, products and tools to maintain or improve the health of the living animal and plant species.

Biomes: A community of living organisms of a single major ecological region.

Biotechnology: The ways that humans apply biological concepts to produce products and provide services.

Carbon chemistry: The science of the composition, structure, properties and reactions of carbon based matter, especially of atomic and molecular scale.

Construction technology: The ways that humans build structures on sites.

Desalinization: To remove salts and other chemicals from sea or saline water.

Dichotomous: Divided or divided into two parts or branches.

Electronic communication: System for the transmission of information using electronic devices.

Embryology: The branch of biology dealing with the development of a fertilized egg into a mature organism.

Embryogenesis: The process of embryonic development.

Enzyme: A protein that increases the rate of a chemical reaction without being changed by the reaction; an organic catalyst.

Embryogenesis: The process of embryonic development.

Electronic communication: System for the transmission of information using electronic devices.

Embryology: The branch of biology dealing with the development of a fertilized egg into a mature organism.

Embryogenesis: The process of embryonic development.

Encyclopedia: A comprehensive reference work.

Embryology: The branch of biology dealing with the development of a fertilized egg into a mature organism.

Embryogenesis: The process of embryonic development.

Electronic communication: System for the transmission of information using electronic devices.

Embryology: The branch of biology dealing with the development of a fertilized egg into a mature organism.

Embryogenesis: The process of embryonic development.

Electronic communication: System for the transmission of information using electronic devices.

Embryology: The branch of biology dealing with the development of a fertilized egg into a mature organism.

Embryogenesis: The process of embryonic development.

Electronic communication: System for the transmission of information using electronic devices.

Embryology: The branch of biology dealing with the development of a fertilized egg into a mature organism.

Embryogenesis: The process of embryonic development.

Electronic communication: System for the transmission of information using electronic devices.

Embryology: The branch of biology dealing with the development of a fertilized egg into a mature organism.

Embryogenesis: The process of embryonic development.

Electronic communication: System for the transmission of information using electronic devices.

Embryology: The branch of biology dealing with the development of a fertilized egg into a mature organism.

Embryogenesis: The process of embryonic development.

Electronic communication: System for the transmission of information using electronic devices.

Embryology: The branch of biology dealing with the development of a fertilized egg into a mature organism.

Embryogenesis: The process of embryonic development.

Electronic communication: System for the transmission of information using electronic devices.

Embryology: The branch of biology dealing with the development of a fertilized egg into a mature organism.

Embryogenesis: The process of embryonic development.

Electronic communication: System for the transmission of information using electronic devices.

Embryology: The branch of biology dealing with the development of a fertilized egg into a mature organism.

Embryogenesis: The process of embryonic development.

Electronic communication: System for the transmission of information using electronic devices.

Embryology: The branch of biology dealing with the development of a fertilized egg into a mature organism.

Embryogenesis: The process of embryonic development.
Ergonomical:
Of or relating to the design of equipment or devices to fit the human body's control, position, movement and environment.

Evolution:
A process of change that explains why what we see today is different from what existed in the past; it includes changes in the galaxies, stars, solar system, earth and life on earth. Biological evolution is a change in hereditary characteristics of groups of organisms over the course of generations.

Fact:
Information that has been objectively verified.

Geologic hazard:
A naturally occurring or man-made condition or phenomenon that presents a risk to life and property (e.g., landslides, floods, earthquakes, ground subsidence, coastal and beach erosion, faulting, dam leakage and failure, mining disasters, pollution and waste disposal, sinkholes).

Geologic map:
A representation of a region on which is recorded earth information (e.g., the distribution, nature and age of rock units and the occurrences of mineral deposits and fossil localities).

Hydrology:
The scientific study of the properties, distribution and effects of water on the earth's surface, in the soil and underlying rocks and in the atmosphere.

Hypothesis:
An assertion subject to verification or proof as a premise from which a conclusion is drawn.

Instructional technology:
Any mechanical aid (including computer technology) used to assist in or enhance the process of teaching and learning.

Inquiry:
A systematic process for using knowledge and skills to acquire and apply new knowledge.

Law:
A summarizing statement of observed experimental facts that has been tested many times and is generally accepted as true.
Manufacturing
technology: The ways that humans produce goods and products.

Mitosis: The sequential differentiation and segregation of replicated chromosomes in a cell's nucleus that precedes complete cell division.

Model: A description, analogy or a representation of something that helps us understand it better (e.g., a physical model, a conceptual model, a mathematical model).

Nova: A variable star that suddenly increases in brightness to several times its normal magnitude and returns to its original appearance in a few weeks to several months or years.

Patterns: Repeated processes that are exhibited in a wide variety of ways; identifiable recurrences of the element and/or the form.

Physical technology: The ways that humans construct, manufacture and transport products.

Radioactive isotope: An atom that gives off nuclear radiation and has the same number of protons (atomic number) as another atom but a different number of neutrons.

Science and technology: Science builds principles or theories while technology is the practical application of those principles or theories.

Scale: Relates concepts and ideas to one another by some measurement (e.g., quantitative, numeral, abstract, ideological); provides a measure of size and/or incremental change.

System: A group of related objects that work together to achieve a desired result and explanation.

System: A description, analogy or a representation of something that helps us understand it better (e.g., a physical model, a conceptual model, a mathematical model).

Relationship between science and technology: Science builds principles or theories while technology is the practical application of those principles or theories.

The ways that humans construct, manufacture and transport products.

The ways that humans construct, manufacture and transport products.

The ways that humans construct, manufacture and transport products.

Physical technology: The ways that humans construct, manufacture and transport products.

Physical technology: The ways that humans construct, manufacture and transport products.

Physical technology: The ways that humans construct, manufacture and transport products.

Physical technology: The ways that humans construct, manufacture and transport products.

Physical technology: The ways that humans construct, manufacture and transport products.

Physical technology: The ways that humans construct, manufacture and transport products.

Physical technology: The ways that humans construct, manufacture and transport products.

Physical technology: The ways that humans construct, manufacture and transport products.

Physical technology: The ways that humans construct, manufacture and transport products.

Physical technology: The ways that humans construct, manufacture and transport products.
Subsystem:
A group of related objects that make up a larger system (e.g., automobiles have electrical systems, fuel systems).

Technology education:
The application of tools, materials, processes and systems to solve problems and extend human capabilities.

Technological design process:
Recognizing the problem, proposing a solution, implementing the solution, evaluating the solution and communicating the problem, design and solution.

Theory:
Systematically organized knowledge applicable in a relatively wide variety of circumstances; especially, a system of assumptions, accepted principles and rules of procedure devised to analyze, predict or otherwise explain the nature or behavior of a specified set of phenomena.

Theory of evolution:
A theory that the various types of animals and plants have their origin in other preexisting types and that the distinguishable differences are due to modification in successive generations.

Topographic map:
A representation of a region on a sufficient scale to show detail, selected man-made and natural features of a portion of the land surface, including the relief and shape and development of the terrain.

Transportation systems:
A group of related parts that function together in any form of transportation.

Transportation technology:
The physical ways humans move materials, goods and people.

Tool:
Any device used to extend human capabilities including computer-based tools.

Subsystem:
A group of related objects that make up a larger system.
<table>
<thead>
<tr>
<th>Academic Standards for Environment and Ecology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>X. TABLE OF CONTENTS</strong></td>
</tr>
<tr>
<td><strong>Introduction</strong></td>
</tr>
<tr>
<td><strong>11. Ecosystems and their Interactions</strong></td>
</tr>
<tr>
<td>C. Change over Time</td>
</tr>
<tr>
<td>B. Cycles</td>
</tr>
<tr>
<td>A. Living and Nonliving Components</td>
</tr>
<tr>
<td><strong>4.6. Renewable and Nonrenewable Resources</strong></td>
</tr>
<tr>
<td>E. Impacts of Watersheds and Wetlands</td>
</tr>
<tr>
<td>D. Characteristics and Functions of</td>
</tr>
<tr>
<td>C. Physical Processes</td>
</tr>
<tr>
<td>B. Role of Watersheds</td>
</tr>
<tr>
<td>A. Cycles</td>
</tr>
</tbody>
</table>

| **4.5. Integrated Pest Management**          |
| D. Technology                               |
| C. Agricultural Systems                     |
| B. Agricultural Science                     |
| A. Society’s Needs                          |

| **4.4. Agriculture and Society**             |
| C. Biophysical Diversity                    |
| B. Human Actions                            |
| A. Environmental Health Issues              |

| **4.3. Environmental Health**                |
| D. Influential Factors                      |
| C. Management                               |
| B. Avaliability                             |
| A. Uses                                    |

| **4.2. Renewable and Nonrenewable Resources**|
| E. Impacts of Watersheds and Wetlands        |
| D. Characteristics and Functions of          |
| C. Physical Processes                       |
| B. Role of Watersheds                        |
| A. Cycles                                   |

| **4.1. Wetlands and Wetlands**               |

| **THE ACADEMIC STANDARDS**                   |
| **X. TABLE OF CONTENTS**                     |

<table>
<thead>
<tr>
<th>Academic Standards for Environment and Ecology</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. 4. Academic Standards and Assessments</td>
</tr>
<tr>
<td>22</td>
</tr>
</tbody>
</table>
This document includes Environment and Ecology standards that describe what students should know and be able to do in these areas:

- 4.1. Watersheds and Wetlands
- 4.2. Renewable and Nonrenewable Resources
- 4.3. Environmental Health
- 4.4. Agriculture and Society
- 4.5. Integrated Pest Management
- 4.6. Ecosystems and their Interactions
- 4.7. Threatened, Endangered, and Exotic Species
- 4.8. Humans and the Environment
- 4.9. Environmental Laws and Regulations
The study of Environment and Ecology will allow students to be active participants in making decisions that impact their lives. Students will become aware of the role they play in the community in reaching decisions related to environmental issues and concerns. As they achieve these standards, students will become aware of the sequential nature of this area of study will serve as a basis for understanding the role of the natural and built environment in their surroundings. Students will become aware of the need to be informed and make decisions that impact the community and the world in which they live. These standards establish the essential elements of what students should know and be able to do at the end of grades four, seven, ten, and twelve. The sequential development of decision-making processes, the art of compromise and problem solving skills, will help students understand the need for rigorous academic content. The document emphasizes all areas across the grade levels with increasing degrees of difficulty on the students' understanding. The document refocuses all areas across the grade levels with increasing degrees of difficulty and helps students understand the need for rigorous academic content. The standards establish the essential elements of what students should know and be able to do at the end of grades four, seven, ten, and twelve. The sequential development of decision-making processes, the art of compromise and problem solving skills, will help students understand the need for rigorous academic content.
## 4.1. Watersheds and Wetlands

### Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

<table>
<thead>
<tr>
<th>A. Identify various types of water environments.</th>
<th>B. Explain the role of the water cycle within a watershed.</th>
<th>C. Describe changes that occur from a stream’s origin to its final outflow.</th>
<th>D. Categorize stream order in a watershed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Identify the lotic system (e.g., creeks, rivers, streams).</td>
<td>• Explain the water cycle.</td>
<td>• Identify Pennsylvania’s major watersheds and their related river systems.</td>
<td>• Explain the concept of stream order.</td>
</tr>
<tr>
<td>• Identify the lentic system (e.g., ponds, lakes, swamps).</td>
<td>• Explain the water cycle as it relates to a watershed.</td>
<td>• Describe changes by tracing a specific river’s origin back to its headwaters including its major tributaries.</td>
<td>• Identify the order of watercourses within a major river’s watershed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Compare and contrast the physical differences found in the stream continuum from headwater to mouth.</td>
</tr>
<tr>
<td>4.1. Watersheds and Wetlands</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4.1.4. GRADE 4</strong></td>
<td><strong>4.1.7. GRADE 7</strong></td>
<td><strong>4.1.10. GRADE 10</strong></td>
<td><strong>4.1.12. GRADE 12</strong></td>
</tr>
<tr>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B. Explain the differences between moving and still water.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Explain why water moves or does not move.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identify types of precipitation.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B. Understand the role of the watershed.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identify and explain what determines the boundaries of a watershed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Explain how water enters a watershed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Explain factors that affect water quality and flow through a watershed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B. Explain the relationship among landforms, vegetation and the amount and speed of water.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Analyze a stream’s physical characteristics.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Describe how topography influences streams.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Explain the influence of mountains on precipitation.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Explain how vegetation affects storm water runoff.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Delineate the boundaries of a watershed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Describe factors that affect the quality of groundwater.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Explain how the speed of water and vegetation cover relates to erosion.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B. Explain the relationships that exist within watersheds in the United States.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Understand that various ecosystems may be contained in a watershed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Examine and describe the ecosystems contained within a specific watershed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identify and describe the major watersheds in the United States.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 4.1. Watersheds and Wetlands

<table>
<thead>
<tr>
<th>4.1.4. GRADE 4</th>
<th>4.1.7. GRADE 7</th>
<th>4.1.10. GRADE 10</th>
<th>4.1.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C.</strong> Identify living things found in water environments.</td>
<td><strong>C.</strong> Explain the effects of water on the life of organisms in a watershed.</td>
<td><strong>C.</strong> Describe the physical characteristics of a stream and determine the types of organisms found in aquatic environments.</td>
<td><strong>C.</strong> Analyze the parameters of a watershed.</td>
</tr>
<tr>
<td>- Identify fish, insects and amphibians that are found in fresh water.</td>
<td>- Explain how water is necessary for all life.</td>
<td>- Interpret physical, chemical and biological data as a means of assessing the environmental quality of a watershed.</td>
<td>- Interpret physical, chemical and biological data as a means of assessing the environmental quality of a watershed.</td>
</tr>
<tr>
<td>- Identify plants found in fresh water.</td>
<td>- Explain how the physical components of aquatic systems influence the organisms that live there in terms of size, shape and physical adaptations.</td>
<td>- Describe the physical factors that affect a stream and the organisms living there.</td>
<td>- Describe the physical factors that affect a stream and the organisms living there.</td>
</tr>
<tr>
<td></td>
<td>- Describe the life cycle of organisms that depend on water.</td>
<td>- Identify terrestrial and aquatic organisms that live in a watershed.</td>
<td>- Identify terrestrial and aquatic organisms that live in a watershed.</td>
</tr>
<tr>
<td></td>
<td>- Identify organisms that have aquatic stages of life and describe those stages.</td>
<td>- Categorize aquatic organisms found in a watershed continuum from headwater to mouth (e.g., shredder, predator, decomposer).</td>
<td>- Categorize aquatic organisms found in a watershed continuum from headwater to mouth (e.g., shredder, predator, decomposer).</td>
</tr>
<tr>
<td></td>
<td><strong>C.</strong> Describe the physical characteristics of a stream and determine the types of organisms found in aquatic environments.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>C.</strong> Analyze the parameters of a watershed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>C.</strong> Describe the physical factors that affect a stream and the organisms living there.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>C.</strong> Identify terrestrial and aquatic organisms that live in a watershed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>C.</strong> Categorize aquatic organisms found in a watershed continuum from headwater to mouth (e.g., shredder, predator, decomposer).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>C.</strong> Identify the types of organisms that would live in a stream based on the stream’s physical characteristics.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>C.</strong> Explain the habitat needs of specific aquatic organisms.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.1. Watersheds and Wetlands

<table>
<thead>
<tr>
<th>4.1.4. GRADE 4</th>
<th>4.1.7. GRADE 7</th>
<th>4.1.10. GRADE 10</th>
<th>4.1.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D. Identify a wetland and the plants and animals found there.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Identify different kinds of wetlands.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Identify plants and animals found in wetlands.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Explain wetlands as habitats for plants and animals.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D. Explain and describe characteristics of a wetland.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Identify specific characteristics of wetland plants and soils.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Recognize the common types of plants and animals.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Describe different types of wetlands.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Describe the different functions of a wetland.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D. Describe the multiple functions of wetlands.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Describe wetlands in terms of their effects (e.g., habitat, flood, buffer zones, prevention areas, nurseries, food production areas).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Explain how a wetland influences water quality, wildlife and water retention.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Analyze wetlands through their indicators (e.g., soils, plants, hydrology).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D. Analyze the complex and diverse ecosystems of wetlands.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Explain the functions of habitat, nutrient production, migration stopover and groundwater recharge as it relates to wetlands.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Explain the dynamics of a wetland ecosystem.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Describe and analyze different types of wetlands.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>E. Recognize the impact of watersheds and wetlands on animals and plants.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Explain the role of watersheds in everyday life.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Identify the role of watersheds and wetlands for plants and animals.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>E. Describe the impact of watersheds and wetlands on people.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Explain the impact of watersheds and wetlands in flood control, wildlife habitats and pollution abatement.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Explain the influence of flooding on wetlands.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>E. Identify and describe natural and human events on watersheds and wetlands.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Describe how natural events affect a watershed (e.g., drought, floods).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Identify the effects of humans and human events on watersheds.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>E. Evaluate the trade-offs, costs and benefits of conserving watersheds and wetlands.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Evaluate the effects of natural events on watersheds and wetlands.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Evaluate the effects of human activities on watersheds and wetlands.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2. Renewable and Nonrenewable Resources</td>
<td>4.2.4. GRADE 4</td>
<td>4.2.7. GRADE 7</td>
<td>4.2.10. GRADE 10</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>----------------</td>
<td>----------------</td>
<td>----------------</td>
</tr>
</tbody>
</table>
| Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to: | A. Identify needs of people.  
• Identify plants, animals, water, air, minerals and fossil fuels as natural resources.  
• Explain air, water and nutrient cycles.  
• Identify how the environment provides for the needs of people. | A. Know that raw materials come from natural resources.  
• Identify resources used to provide humans with energy, food, housing and water.  
• Explain how plants and animals may be classified as natural resources.  
• Compare means of growing or acquiring food.  
• Identify fiber and other raw materials used in clothing and shelter production.  
• Identify types of minerals and fossil fuels used by humans. | A. Explain that renewable and nonrenewable resources supply energy and materials.  
• Identify alternative sources of energy.  
• Identify and compare fuels used in industrial and agricultural societies.  
• Compare and contrast the cycles of various natural resources.  
• Explain food and fiber as renewable resources. | A. Analyze the use of renewable and nonrenewable resources.  
• Explain the effects on the environment and sustainability through the use of nonrenewable resources.  
• Evaluate the advantages and disadvantages of reusing our natural resources. |
4.2. Renewable and Nonrenewable Resources

<table>
<thead>
<tr>
<th>4.2.4. GRADE 4</th>
<th>4.2.7. GRADE 7</th>
<th>4.2.10. GRADE 10</th>
<th>4.2.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Identify products derived from natural resources.</td>
<td>B. Examine the renewability of the resources.</td>
<td>B. Evaluate factors affecting availability of natural resources.</td>
<td>B. Analyze factors affecting the availability of renewable and nonrenewable resources.</td>
</tr>
<tr>
<td>• Identify products made from trees.</td>
<td>• Identify renewable resources and describe their uses.</td>
<td>• Describe natural occurrences that may affect the natural resources.</td>
<td>• Evaluate the use of natural resources and offer approaches for using them while diminishing waste.</td>
</tr>
<tr>
<td>• Identify by-products of plants and animals.</td>
<td>• Identify nonrenewable resources and describe their uses.</td>
<td>• Analyze technologies that affect the use of our natural resources.</td>
<td>• Compare the economics of different areas based on the availability and accessibility of the natural resources.</td>
</tr>
<tr>
<td>• Identify the sources of manmade products (e.g., plastics, metal, aluminum, fabrics, paper, cardboard).</td>
<td>• Compare finished products to their original raw material.</td>
<td>• Evaluate the effect of consumer desires on various natural resources.</td>
<td></td>
</tr>
</tbody>
</table>

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:
# 4.2. Renewable and Nonrenewable Resources

<table>
<thead>
<tr>
<th>4.2.4. GRADE 4</th>
<th>4.2.7. GRADE 7</th>
<th>4.2.10. GRADE 10</th>
<th>4.2.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
</tr>
</tbody>
</table>

**C. Know that some natural resources have limited life spans.**
- Identify renewable and nonrenewable resources used in the local community.
- Identify various means of conserving natural resources.
- Know that natural resources have varying life spans.

**C. Explain natural resource distribution.**
- Distinguish between readily available and less accessible resources.
- Identify the locations of different concentrations of fossil fuels and mineral resources.
- Analyze the effects of management practices on air, land and water in forestry, agriculture, fisheries, wildlife, mining and food and fiber production that is unique to different climates.

**C. Analyze how man-made systems have impacted the management and distribution of natural resources.**
- Explain the complete cycle of a natural resource, from extraction to disposal, detailing its uses and effects on the environment.
- Analyze energy uses and energy conservation in different regions.
- Examine conservation practices in different countries.
- Analyze the costs and benefits of different man-made systems and how they use renewable and nonrenewable natural resources.
- Analyze the impact of information systems on management and distribution of natural resources.

**C. Analyze factors that influence the availability of natural resources.**
- Compare the use of natural resources in different countries.
- Determine how delivery systems influence the availability of resources at the local, regional and national level.
## 4.2. Renewable and Nonrenewable Resources

<table>
<thead>
<tr>
<th>4.2.4. GRADE 4</th>
<th>4.2.7. GRADE 7</th>
<th>4.2.10. GRADE 10</th>
<th>4.2.12. GRADE 12</th>
</tr>
</thead>
</table>

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

<table>
<thead>
<tr>
<th><strong>D.</strong> Identify by-products and their use of natural resources.</th>
<th><strong>D.</strong> Describe the role of recycling and waste management.</th>
<th><strong>D.</strong> Explain different management alternatives involved in recycling and solid waste management.</th>
<th><strong>D.</strong> Evaluate solid waste management practices.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Understand the waste stream.</td>
<td>• Identify materials that can be recycled in the community.</td>
<td>• Analyze the manufacturing process (before, during and after) with consideration for resource recovery.</td>
<td>• Examine and explain the path of a recyclable material from collection to waste, reuse or recycling identifying the market forces.</td>
</tr>
<tr>
<td>• Identify those items that can be recycled and those that can not.</td>
<td>• Explain the process of closing the loop in recycling.</td>
<td>• Compare various methods dealing with solid waste (e.g., incineration, compost, land application).</td>
<td>• Understand current regulations concerning recycling and solid waste.</td>
</tr>
<tr>
<td>• Identify use of reusable products.</td>
<td>• Compare the decomposition rates of different organic materials.</td>
<td>• Differentiate between pre/post-consumer and raw materials.</td>
<td>• Research new technologies in the use, reuse or recycling of materials.</td>
</tr>
<tr>
<td>• Identify the use of compost, landfills and incinerators.</td>
<td>• Describe methods that could be used to reuse materials for new products.</td>
<td>• Illustrate how one natural resource can be managed through reduction, recycling, reuse or use.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Evaluate the costs and benefits of disposable products.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 4.3. Environmental Health

<table>
<thead>
<tr>
<th><strong>A. Know that plants, animals and humans are dependent on air and water.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>•</strong> Know that all living things need air and water to survive.</td>
</tr>
<tr>
<td><strong>•</strong> Describe potentially dangerous pest controls used in the home.</td>
</tr>
<tr>
<td><strong>•</strong> Identify things that cause sickness when put into the air, water or soil.</td>
</tr>
<tr>
<td><strong>•</strong> Identify different areas where health can be affected by air, water or land pollution.</td>
</tr>
<tr>
<td><strong>•</strong> Identify actions that can prevent or reduce waste pollution.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>A. Identify environmental health issues.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>•</strong> Identify various examples of long-term pollution and explain their effects on environmental health.</td>
</tr>
<tr>
<td><strong>•</strong> Identify diseases that have been associated with poor environmental quality.</td>
</tr>
<tr>
<td><strong>•</strong> Describe different types of pest controls and their effects on the environment.</td>
</tr>
<tr>
<td><strong>•</strong> Identify alternative products that can be used in life to reduce pollution.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>A. Describe environmental health issues.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>•</strong> Identify the effects on human health of air, water and soil pollution and the possible economic costs to society.</td>
</tr>
<tr>
<td><strong>•</strong> Describe how indoor pollution may affect human health (e.g., dust mites, fumes, cat dandruff).</td>
</tr>
<tr>
<td><strong>•</strong> Explain the costs and benefits of cleaning up contaminants.</td>
</tr>
<tr>
<td><strong>•</strong> Explain how common household cleaning products are manufactured and how to dispose of their by-products after use.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>A. Analyze the complexity of environmental health issues.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>•</strong> Identify environmental health issues and explain how they have been addressed on a worldwide level.</td>
</tr>
<tr>
<td><strong>•</strong> Analyze efforts to prevent, control and/or reduce pollution through cost and benefit analysis and risk management.</td>
</tr>
<tr>
<td><strong>•</strong> Describe the impact of occupational exposures as they relate to environmental health issues.</td>
</tr>
<tr>
<td><strong>•</strong> Identify invisible pollutants and explain their effects on human health.</td>
</tr>
<tr>
<td><strong>•</strong> Explain the relationship between wind direction and velocity as it relates to dispersal and occurrence of pollutants.</td>
</tr>
<tr>
<td><strong>•</strong> Explain the different disposal methods used for toxic and hazardous waste.</td>
</tr>
</tbody>
</table>
### 4.3. Environmental Health

<table>
<thead>
<tr>
<th>4.3.4. GRADE 4</th>
<th>4.3.7. GRADE 7</th>
<th>4.3.10. GRADE 10</th>
<th>4.3.12. GRADE 12</th>
</tr>
</thead>
</table>
| **B.** Identify how human actions affect environmental health.  
- Identify pollutants.  
- Identify sources of pollution.  
- Identify litter and its effect on the environment.  
- Describe how people can reduce pollution. | **B.** Describe how human actions affect the health of the environment.  
- Identify land use practices and their relation to environmental health.  
- Explain how natural disasters affect environmental health.  
- Identify residential and industrial sources of pollution and their effects on environmental health.  
- Explain the difference between point and nonpoint source pollution.  
- Explain how nonpoint source pollution can affect the water supply and air quality.  
- Explain how acid deposition can affect water, soil and air quality.  
- Explain the relationship between resource use, reuse, recycling and environmental health. | **B.** Explain how multiple variables determine the effects of pollution on environmental health, natural processes and human practices.  
- Explain how human practices affect the quality of the water and soil.  
- Identify evidence of natural events around the world and their effects on environmental health (e.g., Yellowstone National Park fires).  
- Identify local and state environmental regulations and their impact on environmental health.  
- Analyze data and explain how point source pollution can be detected and eliminated.  
- Identify and explain ways of detecting pollution by using state-of-the-art technologies. | **B.** Analyze the local, regional and national impacts of environmental health.  
- Analyze the cost of natural disasters in both dollars and loss of natural habitat.  
- Research and analyze the local, state and national laws that deal with point and nonpoint source pollution; evaluate the costs and benefits of these laws.  
- Explain mitigation and its role in environmental health.  
- Explain industry’s initiatives to meet state and federal mandates on clean air and water.  
- Describe the impacts of point and nonpoint source pollution on the Chesapeake Bay.  
- Identify and evaluate the costs and benefits of laws regulating air and water quality and waste disposal. |

*Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:*
4.3. Environmental Health

<table>
<thead>
<tr>
<th>4.3.4. GRADE 4</th>
<th>4.3.7. GRADE 7</th>
<th>4.3.10. GRADE 10</th>
<th>4.3.12. GRADE 12</th>
</tr>
</thead>
</table>

**Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:**

**C. Understand that the elements of natural systems are interdependent.**
- Identify some of the organisms that live together in an ecosystem.
- Understand that the components of a system all play a part in a healthy natural system.
- Identify the effects of a healthy environment on the ecosystem.

**C. Explain biological diversity.**
- Explain the complex, interactive relationships among members of an ecosystem.
- Explain how diversity affects ecological integrity of the natural resources.

**C. Explain biological diversity as an indicator of a healthy environment.**
- Explain species diversity.
- Analyze the effects of species extinction on the health of an ecosystem.

**C. Analyze the need for a healthy environment.**
- Research the relationship of some chronic diseases to an environmental pollutant.
- Explain how man-made systems may affect the environment.
### 4.4. Agriculture and Society

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Standards</th>
</tr>
</thead>
</table>
| 4.4.4 Grade 4 | A. Know the importance of agriculture to humans.  
  • Identify people’s basic needs.  
  • Explain the influence of agriculture on food, clothing, shelter and culture from one area to another.  
  • Know how people depend on agriculture.|
| 4.4.7 Grade 7 | A. Explain society’s standard of living in relation to agriculture.  
  • Compare and contrast agricultural changes that have been made to meet society’s needs.  
  • Compare and contrast how animals and plants affect agricultural systems.  
  • Compare several technological advancements and their effect(s) on the historical growth of agriculture.  
  • Compare different environmental conditions related to agricultural production, cost and quality of the product.|
| 4.4.10 Grade 10 | A. Describe the importance of agriculture to society.  
  • Identify the major cash crops of Pennsylvania.  
  • Identify what percentage of the United States’ population is involved in the food and fiber industry.  
  • Compare and contrast the influence of agriculture on a nation’s culture, standard of living and foreign trade.  
  • Identify laws that affect conservation and management of food and fiber production in the local area and analyze their impact.  
  • Compare a contemporary economic issue in agriculture to its historical origin.|
| 4.4.12 Grade 12 | A. Analyze the management practices in the agriculture business.  
  • Define the components of an agriculture system that would result in a minimal waste of resources.  
  • Identify the diversity in crop production and analyze the advantages and disadvantages of such diversity.  
  • Research and analyze environmental practices related to agricultural systems.  
  • Analyze the effects of agricultural practices on the economy.  
  • Analyze the impact of nutrient management laws on Pennsylvania agriculture.  
  • Assess the role of agriculture cooperatives.|

---

A. Describe the importance of agriculture to society.

- Identify the major cash crops of Pennsylvania.
- Identify what percentage of the United States’ population is involved in the food and fiber industry.
- Compare and contrast the influence of agriculture on a nation’s culture, standard of living and foreign trade.
- Identify laws that affect conservation and management of food and fiber production in the local area and analyze their impact.
- Compare a contemporary economic issue in agriculture to its historical origin.

A. Analyze the management practices in the agriculture business.

- Define the components of an agriculture system that would result in a minimal waste of resources.
- Identify the diversity in crop production and analyze the advantages and disadvantages of such diversity.
- Research and analyze environmental practices related to agricultural systems.
- Analyze the effects of agricultural practices on the economy.
- Analyze the impact of nutrient management laws on Pennsylvania agriculture.
- Assess the role of agriculture cooperatives.
### 4.4. Agriculture and Society

<table>
<thead>
<tr>
<th>4.4.4. GRADE 4</th>
<th>4.4.7. GRADE 7</th>
<th>4.4.10. GRADE 10</th>
<th>4.4.12. GRADE 12</th>
</tr>
</thead>
</table>
| **B.** Identify the role of the sciences in Pennsylvania agriculture.  
  - Identify common animals found on Pennsylvania farms.  
  - Identify common plants found on Pennsylvania farms.  
  - Identify the parts of important agricultural related plants (i.e., corn, soybeans, barley).  
  - Identify a fiber product from Pennsylvania farms. | **B.** Investigate how agricultural science has recognized the various soil types found in Pennsylvania.  
  - Explain the importance of particle sizes in different soil types.  
  - Determine how water has influenced the development of Pennsylvania soil types.  
  - Investigate how soil types have influenced the plant types used on Pennsylvania farms.  
  - Analyze how soil types and geographic regions have impacted the profitability of Pennsylvania farms. | **B.** Assess the influence of agricultural science on farming practices.  
  - Compare the practices of no-till farming to traditional soil preparation (e.g., plow, disc).  
  - Analyze and explain the various practices of nutrient management on the farm.  
  - Analyze and explain how farm efficiencies have changed human nutrition. | **B.** Describe how agricultural science has influenced biotechnology.  
  - Investigate how bioengineered crops may influence the food supply.  
  - Analyze the use of specific bacteria for the control of agricultural pests.  
  - Evaluate the use of feed additives in shifting metabolism to increase muscle mass and reduce fat in farm animals. |

*Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:*
### 4.4. Agriculture and Society

<table>
<thead>
<tr>
<th>Grade</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4.4. GRADE 4</strong></td>
<td><strong>4.4.7. GRADE 7</strong></td>
</tr>
<tr>
<td><strong>C. Know that food and fiber originate from plants and animals.</strong></td>
<td><strong>C. Explain agricultural systems’ use of natural and human resources.</strong></td>
</tr>
<tr>
<td>- Define and identify food and fiber.</td>
<td>- Analyze the needs of plants and animals as they relate to climate and soil conditions.</td>
</tr>
<tr>
<td>- Identify what plants and animals need to grow.</td>
<td>- Identify the plants and animals that can be raised in the area and explain why.</td>
</tr>
<tr>
<td>- Identify agricultural products that are local and regional.</td>
<td>- Identify natural resources necessary for agricultural systems.</td>
</tr>
<tr>
<td>- Identify an agricultural product based on its origin.</td>
<td>- Compare the need for crop production to the need for animal production.</td>
</tr>
<tr>
<td>- Describe several products and tell their origins.</td>
<td>- Define issues associated with food and fiber production.</td>
</tr>
<tr>
<td>- Describe the journey of a local agricultural product from production to the consumer.</td>
<td></td>
</tr>
</tbody>
</table>
**4.4. Agriculture and Society**

<table>
<thead>
<tr>
<th>4.4.4. GRADE 4</th>
<th>4.4.7. GRADE 7</th>
<th>4.4.10. GRADE 10</th>
<th>4.4.12. GRADE 12</th>
</tr>
</thead>
</table>

*Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:*

**D. Identify technology and energy use associated with agriculture.**
- Identify the various tools and machinery necessary for farming.
- Identify the types of energy used in producing food and fiber.
- Identify tools and machinery used in the production of agricultural products.

**D. Explain the improvement of agricultural production through technology.**
- Compare the technologies that have advanced agricultural production.
- Explain how energy sources have changed to meet agricultural technology.

**D. Analyze the efforts of increased efficiency in agriculture through technology.**
- Compare various technological advancements and analyze each for its contribution toward labor and cost efficiency.
- Compare the current market value of both natural and alternative energy sources involved in the production of food and fiber.

**D. Analyze research and development activities as they relate to agriculture.**
- Analyze the role of research, development and technology as it relates to the food and fiber system.
- Research and analyze energy sources used and/or generated by producing, processing and marketing agricultural products.
### 4.5. Integrated Pest Management

<table>
<thead>
<tr>
<th>4.5.4. GRADE 4</th>
<th>4.5.7. GRADE 7</th>
<th>4.5.10. GRADE 10</th>
<th>4.5.12. GRADE 12</th>
</tr>
</thead>
</table>
| **A. Know types of pests.**  
  - Identify classifications of pests.  
  - Identify and categorize pests.  
  - Know how pests fit into a food chain.  | **A. Explain benefits and harmful effects of pests.**  
  - Identify different examples of pests and explain the beneficial or harmful effects of each.  
  - Identify several locations where pests can be found and compare the effects the pests have on each location. | **A. Identify similar classifications of pests that may or may not have similar effects on different regions.**  
  - Identify environmental effect(s) of pests on different regions of the world.  
  - Identify introduced species that are classified as pests in their new environments. | **A. Research integrated pest management systems.**  
  - Analyze the threshold limits of pests and the need for intervention in a managed environment.  
  - Research the types of germicides and analyze their effects on homes, industry, hospitals and institutions.  
  - Design and explain an integrated pest management plan that uses a range of pest controls. |

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:
### 4.5. Integrated Pest Management

<table>
<thead>
<tr>
<th>4.5.4. GRADE 4</th>
<th>4.5.7. GRADE 7</th>
<th>4.5.10. GRADE 10</th>
<th>4.5.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B. Explain pest control.</strong></td>
<td><strong>B. Explain how pest management affects the environment.</strong></td>
<td><strong>B. Analyze health benefits and risks associated with integrated pest management.</strong></td>
<td><strong>B. Research and analyze integrated pest management practices globally.</strong></td>
</tr>
<tr>
<td>- Know reasons why people control pests.</td>
<td>- Explain issues related to integrated pest management including biological technology, resistant varieties, chemical practices, medical technology and monitoring techniques.</td>
<td>- Identify the health risks associated with chemicals used in common pesticides.</td>
<td>- Research worldwide integrated pest management systems and evaluate the level of impact.</td>
</tr>
<tr>
<td>- Identify different methods for controlling specific pests in the home, school and community.</td>
<td>- Describe how integrated pest management and related technology impact human activities.</td>
<td>- Assess various levels of control within different integrated pest management practices including increased immunity to pesticides, food safety, sterilization, nutrient management and weed control.</td>
<td>- Research and analyze the international regulations that exist related to integrated pest management.</td>
</tr>
<tr>
<td>- Identify chemical labels (e.g., caution, poison, warning).</td>
<td>- Identify issues related to integrated pest management that affect the environment.</td>
<td></td>
<td>- Explain the complexities associated with moving from one level of control to the next with different integrated pest management practices and compare the related costs of each system.</td>
</tr>
</tbody>
</table>

**Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:**

- Know reasons why people control pests.
- Identify chemical labels (e.g., caution, poison, warning).
- Identify different methods for controlling specific pests in the home, school and community.
### 4.5. Integrated Pest Management

<table>
<thead>
<tr>
<th>4.5.4. GRADE 4</th>
<th>4.5.7. GRADE 7</th>
<th>4.5.10. GRADE 10</th>
<th>4.5.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C. Understand society’s need for integrated pest management.</strong></td>
<td><strong>C. Explain various integrated pest management practices used in society.</strong></td>
<td><strong>C. Determine the effects of integrated pest management practices on society over time.</strong></td>
<td><strong>C. Analyze the historical significance of integrated pest management on society.</strong></td>
</tr>
<tr>
<td>- Identify integrated pest management practices in the home.</td>
<td>- Compare and contrast integrated pest management monitoring methods utilized in different community settings.</td>
<td>- Analyze the risks to the environment and society associated with alternative practices used in integrated pest management.</td>
<td>- Explain the dynamics of integrated pest management practices and their relative effects upon society.</td>
</tr>
<tr>
<td>- Identify integrated pest management practices outside the home.</td>
<td>- Compare integrated pest management to past practices.</td>
<td>- Analyze the benefits to the environment and society associated with alternative practices used in integrated pest management.</td>
<td>- Identify historic events affecting integrated pest management and cite the practices used (e.g., avian flu, bubonic plague, potato blight).</td>
</tr>
<tr>
<td></td>
<td>- Compare and analyze the long-term effects of using integrated pest management products.</td>
<td></td>
<td>- Research and analyze the long-term effects of pest management practices on the environment.</td>
</tr>
</tbody>
</table>
### 4.6. Ecosystems and their Interactions

<table>
<thead>
<tr>
<th>Grade 4</th>
<th>Grade 7</th>
<th>Grade 10</th>
<th>Grade 12</th>
</tr>
</thead>
</table>
| A. Understand that living things are dependent on nonliving things in the environment for survival.  
- Identify and categorize living and nonliving things.  
- Describe the basic needs of an organism.  
- Identify basic needs of a plant and an animal and explain how their needs are met.  
- Identify plants and animals with their habitat and food sources.  
- Identify environmental variables that affect plant growth.  
- Describe how animals interact with plants to meet their needs for shelter.  
- Describe how certain insects interact with soil for their needs.  
- Understand the components of a food chain. | A. Explain the flows of energy and matter from organism to organism within an ecosystem.  
- Identify and explain the characteristics of biotic and abiotic.  
- Describe and explain the adaptations of plants and animals to their environment.  
- Demonstrate the dependency of living components in the ecosystem on the nonliving components.  
- Explain energy flow through a food web.  
- Explain the importance of the predator/prey relationship and how it maintains the balances within ecosystems.  
- Understand limiting factors and predict their effects on an organism. | A. Explain the biotic and abiotic components of an ecosystem and their interaction.  
- Identify the major biomes and explain their similarities and differences.  
- Compare and contrast the interactions of biotic and abiotic components in an ecosystem.  
- Analyze the effects of abiotic factors on specific ecosystems.  
- Describe how the availability of resources affects organisms in an ecosystem.  
- Explain energy flow in a food chain through an energy pyramid.  
- Evaluate the efficiency of energy flow in a food chain.  
- Understand the concept of carrying capacity in an ecosystem.  
- Explain trophic levels. | A. Analyze the interdependence of an ecosystem.  
- Analyze the relationships among components of an ecosystem.  
- Evaluate the efficiency of energy flow within an ecosystem.  
- Explain limiting factors and their impact on carrying capacity.  
- Understand how biological diversity impacts the stability of an ecosystem.  
- Analyze the positive or negative impacts of outside influences on an ecosystem.  
- Analyze how different land use practices can affect the quality of soils. |

*Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:*
### 4.6. Ecosystems and their Interactions

<table>
<thead>
<tr>
<th></th>
<th>4.6.4. GRADE 4</th>
<th>4.6.7. GRADE 7</th>
<th>4.6.10. GRADE 10</th>
<th>4.6.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Identify a local ecosystem and its living and nonliving components.</td>
<td>Identify niches for producers, consumers and decomposers within an ecosystem.</td>
<td>Identify a specific environmental impact and predict what change may take place to affect homeostasis.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Identify a simple ecosystem and its living and nonliving components.</td>
<td>Compare and contrast the major ecosystems of Pennsylvania.</td>
<td>Examine and explain how organisms modify their environments to sustain their needs.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Identify common soil textures.</td>
<td>Identify the major characteristics of a biome.</td>
<td>Assess the effects of latitude and altitude on biomes.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Identify animals that live underground.</td>
<td>Compare and contrast different biomes and their characteristics.</td>
<td>Interpret possible causes of population fluctuations.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identify the relationship of abiotic and biotic components and explain their interaction in an ecosystem.</td>
<td>Explain how erosion and sedimentation have changed the quality of soil related habitats.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explain how different soil types determine the characteristics of ecosystems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.6. Ecosystems and their Interactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B. Understand the concept of cycles.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Explain the water cycle.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Explain the carbon dioxide/oxygen cycle (photosynthesis).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>C. Identify how ecosystems change over time.</strong></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>B. Explain the concepts of cycles.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Identify and explain cycles within an ecosystem.</td>
</tr>
<tr>
<td>• Analyze the role of different cycles within an ecosystem.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>C. Explain how ecosystems change over time.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Explain how ecosystems change.</td>
</tr>
<tr>
<td>• Identify the succession stages of a given ecosystem.</td>
</tr>
<tr>
<td>• Explain how specific organisms may change an ecosystem.</td>
</tr>
<tr>
<td>• Explain a change in an ecosystem that relates to humans.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>B. Explain how cycles affect the balance in an ecosystem.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Describe an element cycle and its role in an ecosystem.</td>
</tr>
<tr>
<td>• Explain the consequences of interrupting natural cycles.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>C. Analyze how ecosystems change over time.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Identify and explain the succession stages in an ecosystem.</td>
</tr>
<tr>
<td>• Identify causes of succession.</td>
</tr>
<tr>
<td>• Analyze consequences of interrupting natural cycles.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>B. Analyze the impact of cycles on the ecosystem.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Evaluate the materials necessary for natural cycles.</td>
</tr>
<tr>
<td>• Explain the processes involved in the natural cycles.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>C. Analyze how human action and natural changes affect the balance within an ecosystem.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Analyze the effects of substances that move through natural cycles.</td>
</tr>
<tr>
<td>• Analyze the effects of natural occurrences and their effects on ecosystems.</td>
</tr>
<tr>
<td>• Analyze effects of human action on an ecosystem.</td>
</tr>
<tr>
<td>• Compare the stages of succession and how they influence the cycles existing in an ecosystem.</td>
</tr>
</tbody>
</table>
Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

<table>
<thead>
<tr>
<th>4.7. Threatened, Endangered and Extinct Species</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4.7.4. GRADE 4</strong></td>
</tr>
</tbody>
</table>
| A. Identify differences in living things.  
  • Explain why plants and animals are different colors, shapes and sizes and how these differences relate to their survival.  
  • Identify characteristics that living things inherit from their parents.  
  • Explain why each of the four elements in a habitat is essential for survival.  
  • Identify local plants or animals and describe their habitat. | A. Describe diversity of plants and animals in ecosystems.  
  • Select an ecosystem and describe different plants and animals that live there.  
  • Identify adaptations in plants and animals.  
  • Recognize that adaptations are developed over long periods of time and are passed on from one generation to the next.  
  • Understand levels of ecosystem organization (e.g., individuals, populations, species). | A. Explain the significance of diversity in ecosystems.  
  • Explain the role that specific organisms have in their ecosystem.  
  • Identify a species and explain what effects its increase or decline might have on the ecosystem.  
  • Identify a species and explain how its adaptations are related to its niche in the environment. | A. Analyze biological diversity as it relates to the stability of an ecosystem.  
  • Examine and explain what happens to an ecosystem as biological diversity changes.  
  • Explain the relationship between species’ loss and bio-diversity.  
  • Examine and explain how a specialized interaction between two species may affect the survival of both species. |
### 4.7. Threatened, Endangered and Extinct Species

<table>
<thead>
<tr>
<th>4.7.4. GRADE 4</th>
<th>4.7.7. GRADE 7</th>
<th>4.7.10. GRADE 10</th>
<th>4.7.12. GRADE 12</th>
</tr>
</thead>
</table>
| **B.** Know that adaptations are important for survival.  
  • Explain how specific adaptations can help a living organism to survive.  
  • Explain what happens to a living thing when its food, water, shelter or space is changed. | **B.** Know that adaptations are important for survival.  
  • Explain how specific adaptations can help a living organism to survive.  
  • Explain what happens to a living thing when its food, water, shelter or space is changed. | **B.** Know that adaptations are important for survival.  
  • Explain how specific adaptations can help a living organism to survive.  
  • Explain what happens to a living thing when its food, water, shelter or space is changed. | **B.** Know that adaptations are important for survival.  
  • Explain how specific adaptations can help a living organism to survive.  
  • Explain what happens to a living thing when its food, water, shelter or space is changed. |

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

- **B.** Know that adaptations are important for survival.  
  - Explain how specific adaptations can help a living organism to survive.  
  - Explain what happens to a living thing when its food, water, shelter or space is changed.
- **B.** Explain how species of living organisms adapt to their environment.  
  - Explain the role of individual variations in natural selection.  
  - Explain how an adaptation is an inherited structure or behavior that helps an organism survive and reproduce.  
  - Describe how a particular trait may be selected over time and account for a species’ adaptation.  
  - Compare and contrast animals and plants that have very specific survival requirements with those that have more general requirements for survival.  
  - Explain how living things respond to changes in their environment.  
  - Explain how one species may survive an environmental change while another might not.
- **B.** Explain how structure, function and behavior of plants and animals affect their ability to survive.  
  - Describe an organism’s adaptations for survival in its habitat.  
  - Compare adaptations among species.
- **B.** Examine the effects of extinction, both natural and human caused, on the environment.  
  - Predict how human or natural action can produce change to which organisms cannot adapt.  
  - Identify species that became extinct through natural causes and explain how that occurred.  
  - Identify a species that became extinct due to human actions and explain what occurred.
### 4.7. Threatened, Endangered and Extinct Species

<table>
<thead>
<tr>
<th>4.7.4. GRADE 4</th>
<th>4.7.7. GRADE 7</th>
<th>4.7.10. GRADE 10</th>
<th>4.7.12. GRADE 12</th>
</tr>
</thead>
</table>
| **C. Define and understand extinction.**  
- Identify plants and animals that are extinct.  
- Explain why some plants and animals are extinct.  
- Know that there are local and state laws regarding plants and animals. | **C. Explain natural or human actions in relation to the loss of species.**  
- Identify natural or human impacts that cause habitat loss.  
- Explain how habitat loss can affect the interaction among species and the population of a species.  
- Analyze and explain the changes in an animal population over time.  
- Explain how a habitat management practice affects a population.  
- Explain the differences among threatened, endangered and extinct species.  
- Identify Pennsylvania plants and animals that are on the threatened or endangered list. | **C. Identify and explain why adaptations can lead to specialization.**  
- Explain factors that could lead to a species' increase or decrease.  
- Explain how management practices may influence the success of specific species.  
- Identify and explain criteria used by scientists for categorizing organisms as threatened, endangered or extinct. | **C. Analyze the effects of threatened, endangered or extinct species on human and natural systems.**  
- Identify and explain how a species' increase, decline or elimination affects the ecosystem and/or human social, cultural and economic structures.  
- Explain why natural populations do not remain constant.  
- Analyze management strategies regarding threatened or endangered species.  
- Identify laws, agreements or treaties at national or international levels regarding threatened or endangered species.  
- Analyze the role of zoos and wildlife preserves on species that have been identified as threatened or endangered. |

*Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:*
<table>
<thead>
<tr>
<th>4.7.4. GRADE 4</th>
<th>4.7.7. GRADE 7</th>
<th>4.7.10. GRADE 10</th>
<th>4.7.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</td>
<td>• Describe state laws passed regarding threatened and endangered species in Pennsylvania.</td>
<td>• Examine the influence of wildlife management in preserving different species in Pennsylvania (e.g., bobcat, elk, bald eagle).</td>
<td></td>
</tr>
</tbody>
</table>
### 4.8. Humans and the Environment

<table>
<thead>
<tr>
<th>4.8.4. GRADE 4</th>
<th>4.8.7. GRADE 7</th>
<th>4.8.10. GRADE 10</th>
<th>4.8.12. GRADE 12</th>
</tr>
</thead>
</table>
| A. Identify the biological requirements of humans.  
  • Explain how a dynamically changing environment provides for sustainability of living systems.  
  • Identify several ways that people use natural resources. | A. Describe how the development of civilization relates to the environment.  
  • Explain how people use natural resources in their environment.  
  • Locate and identify natural resources in different parts of the world.  
  • Compare and contrast how people use natural resources throughout the world. | A. Analyze how society’s needs relate to the sustainability of natural resources.  
  • Explain why some societies have been unable to meet their natural resource needs.  
  • Compare and contrast the use of natural resources and the environmental conditions in several countries.  
  • Describe how uses of natural resources impact sustainability. | A. Explain how technology has influenced the sustainability of natural resources over time.  
  • Describe how technology has changed the use of natural resources by business and industry.  
  • Analyze the effect of natural resource conservation on a product over time (e.g., automobile manufacturing, aluminum can recycling, paper products). |

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:
### 4.8. Humans and the Environment

<table>
<thead>
<tr>
<th>4.8.4. GRADE 4</th>
<th>4.8.7. GRADE 7</th>
<th>4.8.10. GRADE 10</th>
<th>4.8.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B.</strong> Know that environmental conditions influence where and how people live.</td>
<td><strong>B.</strong> Explain how people use natural resources.</td>
<td><strong>B.</strong> Analyze the relationship between the use of natural resources and sustaining our society.</td>
<td><strong>B.</strong> Analyze technology’s role on natural resource sustainability.</td>
</tr>
<tr>
<td>- Identify how regional natural resources influence what people use.</td>
<td>- Describe how natural resources are used for survival.</td>
<td>- Explain the role of natural resources in sustaining society.</td>
<td>- Explain how technology has decreased the use of raw natural resources.</td>
</tr>
<tr>
<td>- Explain the influence of climate on how and where people live.</td>
<td>- Explain how natural resources and technological changes have affected the development of civilizations.</td>
<td>- Analyze the effects of a natural resource’s availability on a community or region.</td>
<td>- Explain how technology has impacted the efficiency of the use of natural resources.</td>
</tr>
<tr>
<td></td>
<td>- Explain how climate and extreme weather events (e.g., drought, flood) influence people’s lives.</td>
<td></td>
<td>- Analyze the role of technology in the reduction of pollution.</td>
</tr>
</tbody>
</table>

*Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:*

- Be able to demonstrate a personal commitment to the environment and the community.
- Be able to apply knowledge of natural resources to the improvement of the community.
- Be able to explain the relationship between the use of natural resources and sustaining our society.
- Be able to analyze technology’s role on natural resource sustainability.
### Pennsylvania's Academic Standards

**4.8. Humans and the Environment**

<table>
<thead>
<tr>
<th>Grade 4</th>
<th>Grade 7</th>
<th>Grade 10</th>
<th>Grade 12</th>
</tr>
</thead>
</table>
| C. Explain how human activities may change the environment.  
- Identify everyday human activities and how they affect the environment.  
- Identify examples of how human activities within a community affect the natural environment. | C. Explain how human activities may affect local, regional and national environments.  
- Describe what effect consumption and related generation of wastes have on the environment.  
- Explain how a particular human activity has changed the local area over the years. | C. Analyze how human activities may cause changes in an ecosystem.  
- Analyze and evaluate changes in the environment that are the result of human activities.  
- Compare and contrast the environmental effects of different industrial strategies (e.g., energy generation, transportation, logging, mining, agriculture). | C. Analyze how pollution has changed in quality, variety and toxicity as the United States developed its industrial base.  
- Analyze historical pollution trends and project them for the future.  
- Compare and contrast historical and current pollution levels at a given location. |

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:
### 4.8. Humans and the Environment

<table>
<thead>
<tr>
<th>4.8.4. GRADE 4</th>
<th>4.8.7. GRADE 7</th>
<th>4.8.10. GRADE 10</th>
<th>4.8.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>D. Know the importance of natural resources in daily life.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identify items used in daily life that come from natural resources.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identify ways to conserve our natural resources.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identify major land uses in the community.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D. Explain the importance of maintaining the natural resources at the local, state and national levels.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Explain how human activities and natural events have affected ecosystems.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Explain how conservation practices have influenced ecosystems.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Define the roles of Pennsylvania agencies that deal with natural resources.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D. Explain how the concept of supply and demand affects the environment.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identify natural resources for which societal demands have been increasing.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identify specific resources for which human consumption has resulted in scarcity of supply (e.g., buffalo, lobsters).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Describe the relationship between population density and resource use and management.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D. Analyze the international implications of environmental occurrences.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identify natural occurrences that have international impact (e.g., El Nino, volcano eruptions, earthquakes).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Analyze environmental issues and their international implications.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:*
### 4.9. Environmental Laws and Regulations

<table>
<thead>
<tr>
<th>4.9.4. GRADE 4</th>
<th>4.9.7. GRADE 7</th>
<th>4.9.10. GRADE 10</th>
<th>4.9.12. GRADE 12</th>
</tr>
</thead>
</table>
| A. Know that there are laws and regulations for the environment.  
- Identify local and state laws and regulations regarding the environment.  
- Explain how the recycling law impacts the school and home.  
- Identify and describe the role of a local or state agency that deals with environmental laws and regulations. | A. Explain the role of environmental laws and regulations.  
- Identify and explain environmental laws and regulations (e.g., Clean Air Act, Clean Water Act, Recycling and Waste Reduction Act, Act 26 on Agricultural Education).  
- Explain the role of local and state agencies in enforcing environmental laws and regulations (e.g., Department of Environmental Protection, Department of Agriculture, Game Commission). | A. Explain why environmental laws and regulations are developed and enacted.  
- Explain the positive and negative impacts associated with passing environmental laws and regulations.  
- Understand conflicting rights of property owners and environmental laws and regulations.  
- Analyze the roles that local, state and federal governments play in the development and enforcement of environmental laws.  
- Identify local and state environmental regulations and their impact on environmental health.  
- Explain the positive and negative impacts of the Endangered Species Act. | A. Analyze environmental laws and regulations as they relate to environmental issues.  
- Analyze and explain how issues lead to environmental law or regulation (e.g., underground storage tanks, regulation of water discharges, hazardous, solid and liquid industrial waste, endangered species).  
- Compare and contrast environmental laws and regulations that may have a positive or negative impact on the environment and the economy.  
- Research and describe the effects of an environmental law or regulation and how it has impacted the environment. |

*Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:*
Academic Standards for Environmental and Ecology

XII. GLOSSARY

Abiotic: A nonliving factor or element (e.g., light, water, heat, rock, energy, mineral).

Acid deposition: Precipitation with a pH less than 5.6 that forms in the atmosphere when certain pollutants mix with water.

Biological diversity: The variety and complexity of species present and interacting in an ecosystem and the relative abundance of each.

Biological indicator: A substance which certain pollutants mix with water.

Biotic: An environmental factor related to or produced by living organisms.

Biomes: An environment that is characterized by its climate and the relative abundance of each biotic community.

Closing the loop: A link in the circular chain of recycling events that promotes the use of products made with recycled materials.

Commodities: Economic goods or products before they are processed and/or given a brand name, such as a product of agriculture.

Composting: The process of mixing decaying leaves, manure, and other nutritive matter to improve and fertilize soil.

Consumer: 1) Those organisms that obtain energy by feeding on other organisms and their remains. 2) A person buying goods or services for personal needs or to use in the production of other goods for resale.

Delineate: To trace the outline; to sketch; to depict or portray.

Decomposer: An organism, often microscopic in size, that obtains nutrients by consuming dead organic matter, thereby making nutrients accessible to other organisms.

Decomposed: The process of mixing decaying leaves, manure and other nutritive matter, thereby making nutrients accessible to other organisms.

Endangered Species: A species that is in danger of extinction throughout its range.

Ecosystem: A community of living organisms and their interrelated physical and chemical environment.

Endemic: Local to or occurring only in a particular area.

Acid deposition: A nonliving factor or element (e.g., light, water, heat, rock, energy, mineral).

Acid deposition: Precipitation with a pH less than 5.6 that forms in the atmosphere when certain pollutants mix with water.

A nonliving factor or element (e.g., light, water, heat, rock, energy, mineral).

Acid deposition: Precipitation with a pH less than 5.6 that forms in the atmosphere when certain pollutants mix with water.

A nonliving factor or element (e.g., light, water, heat, rock, energy, mineral).
Environment:
The total of the surroundings (air, water, soil, vegetation, people, wildlife) influencing each living being’s existence, including physical, biological and all other factors; the surroundings of a plant or animal, including other plants or animals, climate and location.

Equilibrium:
The ability of an ecosystem to maintain stability among its biological resources (e.g., forest, fisheries, crops) so that there is a steady optimum yield.

Extinction:
The complete elimination of a species from the earth.

Groundwater:
Water that infiltrates the soil and is located in underground reservoirs called aquifers.

Hazardous waste:
Waste that influences the soil and is located in underground reservoirs called aquifers.

Habitat:
The complete environment of a species from the earth. Occupies so that there is a steady optimum yield and maintains its biological resources (e.g., forests, deserts, fields).

Homeostasis:
The tendency for a system to resist change to remain in a state of equilibrium.

Incinerating:
Burning to ashes; reducing to ashes.

Integrated pest management:
A variety of pest control methods that include repairs, traps, bait, poison, etc. to eliminate pests.

Lentic:
Relating to or living in still water.

Lotic:
Relating to or living in actively moving water.

Mitigation:
The policy of constructing or creating man-made habitats, such as wetlands, to replace those lost to development.

Niche (ecological):
The role played by an organism in an ecosystem. It develops, population density, location, interaction with other organisms, food preferences, requirements, etc.

Nonpoint source pollution:
Contamination that originates from many locations.

Pollution:
Anything that influences the soil and is located in underground reservoirs called aquifers.

Reeling or living inactively moving water.

Retaining or living in still water.

Relative to:
A vector of pest control methods that include repairs, trapping, baiting, etc. to eliminate pests.

Remain in a state of equilibrium.

Risk:
The tendency for a system to resist change to remain in a state of equilibrium.

Homeostasis:
A condition or state of being in balance.

Harmful to:
Any cause of pest, disease, or pollution that may cause or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed, which may cause or pose a substantial present or potential hazard to human health or the environment with respect to its physical, chemical, or infectious characteristics or its physiological, biochemical or pharmacological characteristics.

Nonpoint source pollution:
Contamination that originates from many locations.

Nonpoint source pollution:
Contamination that originates from many locations.

Point source pollution:
Contamination that originates from a single location.

Point source pollution:
Contamination that originates from a single location.

Point source pollution:
Contamination that originates from a single location.

Point source pollution:
Contamination that originates from a single location.
Nonrenewable: Substances (e.g., oil, gas, coal, copper, gold) that, once used, cannot be replaced in this geological age.

Point source pollution: Pollutants discharged from a single identifiable location (e.g., pipes, ditches, channels, sewers, tunnels, containers of various types).

Pest: An organism when it is in competition with humans for some resource.

Recycling: Collecting and reprocessing a resource or product to make into new products.

Regulation: A rule or order issued by an executive authority or regulatory agency of a government and having the force of law.

Renewable: A naturally occurring raw material or form of energy that will be replenished through natural ecological cycles or sound management practices (e.g., the sun, wind, water, trees).

Risk management: A strategy developed to reduce or control the chance of harm or loss to one's health or life; the process of identifying, evaluating, selecting, and implementing actions to reduce risk to human health and to ecosystems to reduce risk to human health and to ecosystems. "Exposure" refers to the amount of risk a person suffers, while "hazard" refers to the amount of risk a substance poses to the ecosystem. "A susceptible population is one that can be harmed by a substance." "A susceptible ecosystem is one that can be harmed by point source pollution." "A susceptible people is one that can be harmed by nonrenewable resources." "A susceptible resource is one that can be harmed by point source pollution."
Watershed: The land area from which surface runoff drains into a stream, channel, lake, reservoir or other body of water; also called a drainage basin.

Wetlands: Lands where water saturation is the dominant factor determining the nature of the soil development and the plant and animal communities (e.g., sloughs, estuaries, marshes).

APPENDIX C

Academic Standards for Civics and Government and Economics and Geography and History

Academic Standards for History

Authority


Cross References


XIII. TABLE OF CONTENTS

THE ACADEMIC STANDARDS

CONTENTS

XXIII. Introduction

THE ACADEMIC STANDARDS AND ASSESSMENTS

4-201

A. Chronological Thinking

B. Historical Comprehension

C. Historical Interpretation

D. Historical Research

Pennsylvania History

A. Contributions of Individuals and Groups

B. Documents, Artifacts and Historical Places

C. Influences of Continuity and Change

D. Conflict and Cooperation Among Groups

United States History

A. Contributions of Individuals and Groups

B. Documents, Artifacts and Historical Places

C. Influences of Continuity and Change

D. Conflict and Cooperation Among Groups

Watershed:

The land area from which surface runoff drains into a stream, channel, lake, reservoir or other body of water; also called a drainage basin.

Welshed:

The land area from which surface runoff drains into a stream, channel, lake, reservoir or other body of water.
tion of independence and freedom of the Constitution of the United States and
as expressed and explained by the acts and policies of the framers of the De-
claration and the Constitution. The Pennsylvania Constitution is the
underpinning of the Commonwealth. These schools were created to educate children
across the state in the understanding of today's system of schools operating
under the existing laws. The academic standards describe the knowledge and
skills of students who are able to do at least grade levels (third, sixth, ninth and twelfth).

The Pennsylvania Constitution of 1790 was the basis for the Free Public School
Act of 1834 that is the underpinning of today's system of schools operating
under the existing laws. The academic standards describe the knowledge and
skills of students who are able to do at least grade levels (third, sixth, ninth and twelfth).

The Academic Standards for Civics and Government are based on the Public
School Code of 1834 which directs, '...the public schools shall be
free, public schools, and no person shall be deprived of the benefit of
the same on account of race, color, or religious belief. The Free Public School Act of 1834
states that the schools are to be 'free, public schools, and no person shall be deprived of the benefit of
the same on account of race, color, or religious belief.' These schools were created to educate children
across the state in the understanding of today's system of schools operating
under the existing laws. The academic standards describe the knowledge and
skills of students who are able to do at least grade levels (third, sixth, ninth and twelfth).

The Pennsylvania Constitution of 1790 was the basis for the Free Public School
Act of 1834 that is the underpinning of today's system of schools operating
under the existing laws. These schools were created to educate children
across the state in the understanding of today's system of schools operating
under the existing laws. The academic standards describe the knowledge and
skills of students who are able to do at least grade levels (third, sixth, ninth and twelfth).

The Pennsylvania Constitution of 1790 was the basis for the Free Public School
Act of 1834 that is the underpinning of today's system of schools operating
under the existing laws. These schools were created to educate children
across the state in the understanding of today's system of schools operating
under the existing laws. The academic standards describe the knowledge and
skills of students who are able to do at least grade levels (third, sixth, ninth and twelfth).

The Pennsylvania Constitution of 1790 was the basis for the Free Public School
Act of 1834 that is the underpinning of today's system of schools operating
under the existing laws. These schools were created to educate children
across the state in the understanding of today's system of schools operating
under the existing laws. The academic standards describe the knowledge and
skills of students who are able to do at least grade levels (third, sixth, ninth and twelfth).

The Pennsylvania Constitution of 1790 was the basis for the Free Public School
Act of 1834 that is the underpinning of today's system of schools operating
under the existing laws. These schools were created to educate children
across the state in the understanding of today's system of schools operating
under the existing laws. The academic standards describe the knowledge and
skills of students who are able to do at least grade levels (third, sixth, ninth and twelfth).

The Pennsylvania Constitution of 1790 was the basis for the Free Public School
Act of 1834 that is the underpinning of today's system of schools operating
under the existing laws. These schools were created to educate children
across the state in the understanding of today's system of schools operating
under the existing laws. The academic standards describe the knowledge and
skills of students who are able to do at least grade levels (third, sixth, ninth and twelfth).

The Pennsylvania Constitution of 1790 was the basis for the Free Public School
Act of 1834 that is the underpinning of today's system of schools operating
under the existing laws. These schools were created to educate children
across the state in the understanding of today's system of schools operating
under the existing laws. The academic standards describe the knowledge and
skills of students who are able to do at least grade levels (third, sixth, ninth and twelfth).
The intent of the Code is that such instruction "shall have for its purpose also instilling into every boy and girl who comes out of public, private and parochial schools their solemn duty and obligation to exercise intelligently their voting privilege and to understand the advantages of the American republican form of government as compared with various other forms of government."

The Academic Standards for Civics and Government consist of four standard categories (designated as 5.1., 5.2., 5.3., and 5.4.). Each category has a number of standards statements designated by a capital letter. Some standard statements have bulleted items known as standard descriptors. The standard descriptors are followed by an "e.g." The "e.g."s are examples to clarify the type of information. The descriptors may be categories, statements, and descriptions. The descriptors may be followed by an "e.g." The "e.g."s are examples to clarify the type of information. The descriptors may be categories, statements, and descriptions. The descriptors may be categories, statements, and descriptions. The descriptors may be categories, statements, and descriptions.

A glossary is included to assist the reader in clarifying terminology contained in the standards. A glossary is included to assist the reader in clarifying terminology contained in the standards. A glossary is included to assist the reader in clarifying terminology contained in the standards. A glossary is included to assist the reader in clarifying terminology contained in the standards.
### 5.1. Principles and Documents of Government

<table>
<thead>
<tr>
<th>5.1.3. GRADE 3</th>
<th>5.1.6. GRADE 6</th>
<th>5.1.9. GRADE 9</th>
<th>5.1.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</td>
<td>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</td>
<td>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</td>
<td>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</td>
</tr>
</tbody>
</table>

**A.** Describe what government is.

**B.** Explain the purposes of rules and laws and why they are important in the classroom, school, community, state and nation.

**C.** Define the principles and ideals shaping government.

- Justice
- Truth
- Diversity of people and ideas
- Patriotism
- Common good
- Liberty
- Rule of law
- Leadership
- Citizenship

**A.** Explain the purpose of government.

**B.** Explain the importance of the rule of law for the protection of individual rights and the common good in the community, state, nation and world.

**C.** Describe the principles and ideals shaping government.

- Equality
- Majority rule/Minority rights
- Popular sovereignty
- Privacy
- Checks and balances
- Separation of powers

**A.** Identify and explain the major arguments advanced for the necessity of government.

**B.** Describe historical examples of the importance of the rule of law.

- Sources
- Purposes
- Functions

**C.** Analyze the principles and ideals that shape government.

- Constitutional government
- Liberal democracy
- Classical republicanism
- Federalism

**A.** Evaluate the major arguments advanced for the necessity of government.

**B.** Analyze the sources, purposes and functions of law.

**C.** Evaluate the importance of the principles and ideals of civic life.
### 5.1. Principles and Documents of Government

<table>
<thead>
<tr>
<th>GRADE 3</th>
<th>GRADE 6</th>
<th>GRADE 9</th>
<th>GRADE 12</th>
</tr>
</thead>
</table>

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to . . .

<table>
<thead>
<tr>
<th>D. Identify the document which created Pennsylvania.</th>
<th>D. Explain the basic principles and ideals within documents of Pennsylvania government.</th>
<th>D. Interpret significant changes in the basic documents shaping the government of Pennsylvania.</th>
<th>D. Analyze the principles and ideals that shape the government of Pennsylvania and apply them to the government.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Charter of 1681</td>
<td>• Charter of Privileges</td>
<td>• The Great Law of 1682</td>
<td>• The Charter of 1681</td>
</tr>
<tr>
<td>• Charter of Privileges</td>
<td>• Pennsylvania Constitution</td>
<td>• Constitution of 1776</td>
<td>• Charter of Privileges</td>
</tr>
<tr>
<td>• Pennsylvania Declaration of Rights</td>
<td>• Pennsylvania Declaration of Rights</td>
<td>• Constitution of 1790</td>
<td>• Pennsylvania Declaration of Rights</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Constitution of 1838</td>
<td>• PA Constitution, its revisions and Amendments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Constitution of 1874</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Constitution of 1968</td>
<td></td>
</tr>
</tbody>
</table>
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to . . .

<table>
<thead>
<tr>
<th>5.1.3. GRADE 3</th>
<th>5.1.6. GRADE 6</th>
<th>5.1.9. GRADE 9</th>
<th>5.1.12. GRADE 12</th>
</tr>
</thead>
</table>
| E. Identify documents of United States government.  
- Declaration of Independence  
- Constitution of the United States  
- Bill of Rights | E. Explain the basic principles and ideals within documents of United States government. | E. Analyze the basic documents shaping the government of the United States.  
- Magna Carta  
- English Bill of Rights  
- Mayflower Compact  
- Articles of Confederation  
- Declaration of Independence  
- Federalist papers  
- Anti-federalist writings  
- United States Constitution | E. Evaluate the principles and ideals that shape the United States and compare them to documents of government. |

- Declaration of Independence  
- Constitution of the United States  
- Bill of Rights  
- Magna Carta  
- English Bill of Rights  
- Mayflower Compact  
- Articles of Confederation  
- Declaration of Independence  
- Federalist papers  
- Anti-federalist writings  
- United States Constitution
<table>
<thead>
<tr>
<th>5.1. Principles and Documents of Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1.3. GRADE 3</td>
</tr>
<tr>
<td>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to . . .</td>
</tr>
<tr>
<td>F. Explain the meaning of a preamble.</td>
</tr>
<tr>
<td>• Constitution of the United States</td>
</tr>
<tr>
<td>• Pennsylvania Constitution</td>
</tr>
<tr>
<td>G. Describe the purpose of the United States Flag, The Pledge of Allegiance and The National Anthem.</td>
</tr>
<tr>
<td>F. Explain the meaning of the Preamble to the Constitution of the Commonwealth of Pennsylvania and compare it to the Preamble of the Constitution of the United States.</td>
</tr>
<tr>
<td>G. Describe the proper use, display and respect for the United States Flag and explain the significance of patriotic activities.</td>
</tr>
<tr>
<td>• Reciting The Pledge of Allegiance</td>
</tr>
<tr>
<td>• Standing for The National Anthem</td>
</tr>
<tr>
<td>F. Contrast the individual rights created by the Pennsylvania Constitution and those created by the Constitution of the United States.</td>
</tr>
<tr>
<td>G. Describe the procedures for proper uses, display and respect for the United States Flag as per the National Flag Code.</td>
</tr>
<tr>
<td>F. Analyze and assess the rights of the people as listed in the Pennsylvania Constitution and the Constitution of the United States.</td>
</tr>
<tr>
<td>G. Analyze and interpret the role of the United States Flag in civil disobedience and in patriotic activities.</td>
</tr>
</tbody>
</table>
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to . . .

<table>
<thead>
<tr>
<th>5.1.3. GRADE 3</th>
<th>5.1.6. GRADE 6</th>
<th>5.1.9. GRADE 9</th>
<th>5.1.12. GRADE 12</th>
</tr>
</thead>
</table>
| H. Identify framers of documents of governments.  
  • Pennsylvania  
  • United States | H. Describe the roles played by the framers of the basic documents of governments of Pennsylvania and the United States. | H. Explain and interpret the roles of framers of basic documents of government from a national and Pennsylvania perspective. | H. Analyze the competing positions held by the framers of the basic documents of government of Pennsylvania and United States. |
| I. Explain why government is necessary in the classroom, school, community, state and nation and the basic purposes of government in Pennsylvania and the United States. | I. Describe and compare the making of rules by direct democracy and by republican form of government. | I. Explain the essential characteristics of limited and unlimited governments and explain the advantages and disadvantages of systems of government.  
  • Confederal  
  • Federal  
  • Unitary | I. Analyze historical examples of the importance of the rule of law explaining the sources, purposes and functions of law. |
| J. Explain the importance of respect for the property and the opinions of others. | J. Describe how the government protects individual and property rights and promotes the common good. | J. Explain how law protects individual rights and the common good. | J. Analyze how the law promotes the common good and protects individual rights. |
## 5.1. Principles and Documents of Government

<table>
<thead>
<tr>
<th>5.1.3. GRADE 3</th>
<th>5.1.6. GRADE 6</th>
<th>5.1.9. GRADE 9</th>
<th>5.1.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to . . .</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| K. Identify symbols and political holidays.  
  - Pennsylvania (e.g., Charter Day, Liberty Bell, Keystone State)  
  - United States (e.g., Presidents’ Day, Statue of Liberty, White House) | K. Describe the purpose of symbols and holidays. | K. Explain why symbols and holidays were created and the ideals they commemorate. | K. Analyze the roles of symbols and holidays in society. |
| L. Identify ways courts resolve conflicts involving principles and ideals of government. | L. Explain the role of courts in resolving conflicts involving the principles and ideals of government.  
  - Local  
  - State  
  - Federal | L. Interpret Pennsylvania and United States court decisions that have impacted the principles and ideals of government. | L. Analyze Pennsylvania and United States court decisions that have affected principles and ideals of government in civic life.  
  - Civil rights  
  - Commerce  
  - Judicial review  
  - Federal supremacy |
## 5.1. Principles and Documents of Government

<table>
<thead>
<tr>
<th>5.1.3. GRADE 3</th>
<th>5.1.6. GRADE 6</th>
<th>5.1.9. GRADE 9</th>
<th>5.1.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to . . .</td>
<td>M. Identify portions of famous speeches and writings that reflect the basic principles and ideals of government (e.g., “I have a dream,” Reverend Martin Luther King; “One small step for man,” Neil Armstrong).</td>
<td>M. Explain the basic principles and ideals found in famous speeches and writings (e.g., “Governments, like clocks, go from the motion people give them,” William Penn; “A date that will live in infamy,” Franklin D. Roosevelt).</td>
<td>M. Interpret the impact of famous speeches and writings on civic life (e.g., <em>The Gospel of Wealth</em>, <em>Declaration of Sentiments</em>).</td>
</tr>
<tr>
<td>M. Explain the basic principles and ideals found in famous speeches and writings (e.g., “Governments, like clocks, go from the motion people give them,” William Penn; “A date that will live in infamy,” Franklin D. Roosevelt).</td>
<td>M. Interpret the impact of famous speeches and writings on civic life (e.g., <em>The Gospel of Wealth</em>, <em>Declaration of Sentiments</em>).</td>
<td>M. Evaluate and analyze the importance of significant political speeches and writings in civic life (e.g., <em>Diary of Anne Frank</em>, <em>Silent Spring</em>).</td>
<td></td>
</tr>
</tbody>
</table>

Basic concepts found in lower grades for standard statements and their descriptors must be developed more fully throughout higher grade levels.
### 5.2. Rights and Responsibilities of Citizenship

<table>
<thead>
<tr>
<th>5.2.3. GRADE 3</th>
<th>5.2.6. GRADE 6</th>
<th>5.2.9. GRADE 9</th>
<th>5.2.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| A. Identify examples of the rights and responsibilities of citizenship.  
  - Personal rights  
  - Political rights  
  - Economic rights  
  - Personal responsibilities  
  - Civic responsibilities | A. Compare rights and responsibilities of citizenship.  
  - Political rights  
  - Economic rights  
  - Personal responsibilities of the individual and to society  
  - Civic responsibilities of the individual and to society  
  - Traits of character of individuals and to a republican form of government | A. Contrast the essential rights and responsibilities of citizens in systems of government.  
  - Autocracy  
  - Democracy  
  - Oligarchy  
  - Republic | A. Evaluate an individual’s civic rights, responsibilities and duties in various governments. |
| B. Identify personal rights and responsibilities. | B. Explain the relationship between rights and responsibilities. | B. Analyze citizens’ rights and responsibilities in local, state and national government. | B. Evaluate citizen’s participation in government and civic life. |
5.2. Rights and Responsibilities of Citizenship

<table>
<thead>
<tr>
<th>5.2.3. GRADE 3</th>
<th>5.2.6. GRADE 6</th>
<th>5.2.9. GRADE 9</th>
<th>5.2.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Identify sources of conflict and disagreement and different ways conflicts can be resolved.</td>
<td>C. Explain ways citizens resolve conflicts in society and government.</td>
<td>C. Analyze skills used to resolve conflicts in society and government.</td>
<td>C. Interpret the causes of conflict in society and analyze techniques to resolve those conflicts.</td>
</tr>
<tr>
<td>D. Identify the importance of political leadership and public service in the school, community, state and nation.</td>
<td>D. Describe the importance of political leadership and public service in a republican form of government.</td>
<td>D. Analyze political leadership and public service in a republican form of government.</td>
<td>D. Evaluate political leadership and public service in a republican form of government.</td>
</tr>
<tr>
<td>E. Describe ways citizens can influence the decisions and actions of government.</td>
<td>E. Identify examples of the rights and responsibilities of citizenship.</td>
<td>E. Explain the importance of the political process to competent and responsible participation in civic life.</td>
<td>E. Analyze how participation in civic and political life leads to the attainment of individual and public goals.</td>
</tr>
<tr>
<td>F. Explain the benefits of following rules and laws and the consequences of violating them.</td>
<td>F. Describe the impact of the consequences of violating rules and laws in a civil society.</td>
<td>F. Analyze the consequences of violating laws of Pennsylvania compared to those of the United States.</td>
<td>F. Evaluate how individual rights may conflict with or support the common good.</td>
</tr>
<tr>
<td>G. Identify ways to participate in government and civic life.</td>
<td>G. Explain the importance of participating in government and civic life.</td>
<td>G. Analyze political and civic participation in government and society.</td>
<td>G. Evaluate what makes a competent and responsible citizen.</td>
</tr>
</tbody>
</table>
### 5.2. Rights and Responsibilities of Citizenship

<table>
<thead>
<tr>
<th>5.2.3. GRADE 3</th>
<th>5.2.6. GRADE 6</th>
<th>5.2.9. GRADE 9</th>
<th>5.2.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic concepts found in lower grades for standard statements and their descriptors must be developed more fully throughout higher grade levels.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.3. How Government Works</td>
<td>5.3.3. GRADE 3</td>
<td>5.3.6. GRADE 6</td>
<td>5.3.9. GRADE 9</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to. . .</strong></td>
<td>A. Identify the elected representative bodies responsible for making local, Pennsylvania and United States laws.</td>
<td>A. Compare the structure, organization and operation of local, state and national governments.</td>
<td>A. Explain the structure, organization and operation of the local, state and national governments including domestic and national policy-making.</td>
</tr>
<tr>
<td></td>
<td>B. Identify the role of the three branches of government. • Executive • Legislative • Judicial</td>
<td>B. Describe the responsibilities and powers of the three branches of government.</td>
<td>B. Compare the responsibilities and powers of the three branches within the national government.</td>
</tr>
<tr>
<td></td>
<td>C. Identify reasons for rules and laws in the school and community.</td>
<td>C. Explain how government actions affect citizens’ daily lives.</td>
<td>C. Explain how a bill becomes a law on a federal, state, and local level.</td>
</tr>
</tbody>
</table>
5.3. How Government Works

<table>
<thead>
<tr>
<th>5.3.3. GRADE 3</th>
<th>5.3.6. GRADE 6</th>
<th>5.3.9. GRADE 9</th>
<th>5.3.12. GRADE 12</th>
</tr>
</thead>
</table>
| D. Identify services performed by the local, state and national governments. | D. Describe how local, state and national governments implement their services. | D. Explain how independent government agencies create, amend and enforce regulatory policies.  
- Local (e.g., Zoning Board)  
- State (e.g., Pennsylvania Public Utility Commission)  
- National (e.g., Federal Communications Commission) | D. Evaluate how independent government agencies create, amend and enforce regulations. |
| E. Identify positions of authority at school and in local, state and national governments. | E. Identify major leaders of local, state and national governments, their primary duties and their political party affiliation. | E. Explain how citizens participate in choosing their leaders through political parties, campaigns and elections. | E. Evaluate the roles of political parties in election campaigns. |
Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...

<table>
<thead>
<tr>
<th>5.3.3. GRADE 3</th>
<th>5.3.6. GRADE 6</th>
<th>5.3.9. GRADE 9</th>
<th>5.3.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>F. Explain what an election is.</td>
<td>F. Describe the voting process.</td>
<td>F. Explain the election process.</td>
<td>F. Evaluate the elements of the election process.</td>
</tr>
<tr>
<td></td>
<td>• Pennsylvania</td>
<td>• Voter registration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• United States</td>
<td>• Primary Elections</td>
<td></td>
</tr>
<tr>
<td>G. Explain why being treated fairly is important.</td>
<td>G. Describe how the government protects individual rights.</td>
<td>G. Explain how the government protects individual rights.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Presumption of Innocence</td>
<td>• Equal protection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Right to Counsel</td>
<td>• Habeas Corpus</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Trial by Jury</td>
<td>• Right Against Self Incrimination</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Bill of Rights</td>
<td>• Double Jeopardy</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Right of Appeal</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Due Process</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

<table>
<thead>
<tr>
<th>5.3. How Government Works</th>
<th>5.3.3. GRADE 3</th>
<th>5.3.6. GRADE 6</th>
<th>5.3.9. GRADE 9</th>
<th>5.3.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. Identify individual interests and explain ways to influence others.</td>
<td>H. Identify individual interests and how they impact government.</td>
<td>H. Analyze how interest groups provide opportunities for citizens to participate in the political process.</td>
<td>H. Evaluate the impact of interest groups on the political process.</td>
<td></td>
</tr>
<tr>
<td>I. Explain why taxes are necessary and identify who pays them.</td>
<td>I. Describe why and how government raises money to pay for its operations and services.</td>
<td>I. Analyze how and why government raises money to pay for its operation and services.</td>
<td>I. Evaluate how and why government raises money to pay for its operations and services.</td>
<td></td>
</tr>
<tr>
<td>J. Identify the role of the media in society.</td>
<td>J. Describe the influence of media in reporting issues.</td>
<td>J. Analyze the importance of freedom of the press.</td>
<td>J. Evaluate the role of media in political life in the United States and explain the role of the media in setting the public agenda.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Limited</td>
<td>• Autocracy</td>
<td>• Autocracy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Unlimited</td>
<td>• Democracy</td>
<td>• Democracy</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Oligarchy</td>
<td>• Oligarchy</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Republic</td>
<td>• Republic</td>
<td></td>
</tr>
</tbody>
</table>

Basic concepts found in lower grades for standard statements and their descriptors must be developed more fully throughout higher grade levels.
### 5.4. How International Relationships Function

<table>
<thead>
<tr>
<th>5.4.3. GRADE 3</th>
<th>5.4.6. GRADE 6</th>
<th>5.4.9. GRADE 9</th>
<th>5.4.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student</strong></td>
</tr>
<tr>
<td>to realize his or her maximum potential and to acquire the knowledge and skills**</td>
<td>to realize his or her maximum potential and to acquire the knowledge and skills**</td>
<td>to realize his or her maximum potential and to acquire the knowledge and skills**</td>
<td>to realize his or her maximum potential and to acquire the knowledge and skills**</td>
</tr>
<tr>
<td>needed to. . .</td>
<td>needed to. . .</td>
<td>needed to. . .</td>
<td>needed to. . .</td>
</tr>
<tr>
<td>A. Identify how customs and traditions influence governments.</td>
<td>A. Explain the concept of nation-states.</td>
<td>A. Explain how the United States is affected by policies of nation-states, governmental and non-governmental organizations.</td>
<td>A. Analyze the impact of international economic, technological and cultural developments on the government of the United States.</td>
</tr>
<tr>
<td>B. Recognize that the world is divided into various political units.</td>
<td>B. Describe how nation-states coexist in the world community.</td>
<td>B. Explain the role of the United States in world affairs.</td>
<td>B. Analyze the United States’ interaction with other nations and governmental groups in world events.</td>
</tr>
<tr>
<td>C. Identify ways in which countries interact with the United States.</td>
<td>C. Describe the governments of the countries bordering the United States and their relationships with the United States.</td>
<td>C. Explain the effects United States political ideas have had on other nations.</td>
<td>C. Compare how past and present United States’ policy interests have changed over time and analyze the impact on future international relationships.</td>
</tr>
</tbody>
</table>
### 5.4. How International Relationships Function

<table>
<thead>
<tr>
<th>5.4.3. GRADE 3</th>
<th>5.4.6. GRADE 6</th>
<th>5.4.9. GRADE 9</th>
<th>5.4.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>D. Identify treaties and other agreements between or among nations.</td>
<td>D. Describe the processes that resulted in a treaty or agreement between the United States and another nation-state.</td>
<td>D. Contrast how the three branches of federal government function in foreign policy.</td>
<td>D. Explain how foreign policy is developed and implemented.</td>
</tr>
<tr>
<td>E. Identify how nations work together to solve problems.</td>
<td>E. Explain how nations work together on common environmental problems, natural disasters and trade.</td>
<td>E. Explain the development and the role of the United Nations and other international organizations, both governmental and nongovernmental.</td>
<td>E. Compare the purposes and functions of international organizations.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Governmental (e.g., NATO, World Court, OAS)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Nongovernmental (e.g., International Red Cross, Amnesty International, World Council of Churches)</td>
</tr>
</tbody>
</table>
Amendment (Constitutional): Changes in, or additions to, a constitution. Proposed by a two-thirds vote of both houses of Congress or by a convention called by Congress at the request of two-thirds of the state legislatures. Ratified by approval of three-fourths of the state legislatures.

Civic life: A manner of existence of an individual concerned with the affairs of communities and the common good rather than solely in pursuit of private and personal interests.

Civic responsibilities: Obligation of citizens to take part in the governance of the school, community, tribe, state or nation.

Civil disobedience: Refusal to obey laws. This tactic is usually passive and nonviolent, aimed at bringing injustices to the attention of lawmakers and the public at large. An example of civil disobedience was the American Civil Rights Movement in the 1950s and 1960s.

Civil rights: Protections and privileges given to all United States citizens by the Constitution and Bill of Rights.

Civil society: The spheres of voluntary individual, social and economic interactions and relationships, although limited by law and not part of governmental institutions. Civil society includes citizens' rights, freedoms and privileges as well as political and social and economic freedoms and protections for all persons.

Civil disobedience: Refusal to obey laws. This tactic is usually passive and nonviolent, aimed at bringing injustices to the attention of lawmakers and the public at large. An example of civil disobedience was the American Civil Rights Movement in the 1950s and 1960s.

Civil rights: Protections and privileges given to all United States citizens by the Constitution and Bill of Rights. The civil rights movement in the 1950s and 1960s, led by the Congress of Racial Equality, the American Civil Liberties Union, and the NAACP, aimed to bring about the equality of races and the public at large. In the context of the struggle for justice, civil disobedience is an act to peacefully protest or resist against unjust laws or policies.
Direct democracy:
Form of government in which the people completely exercise political decisions.

Diversity:
State of being different; variety.

Documents of government:
Papers necessary for the organization and powers of government.

Double jeopardy:
A concept established by law that says a person cannot be tried twice for the same offense. It is part of the Fifth Amendment, which states that "no person shall...be subject for the same offense to be twice put in jeopardy of life or limb."

Due process of law:
Right of every citizen to be protected against arbitrary action by government. "No person shall...be deprived of life, liberty, or property without due process of law." It is a concept established by law that says a person cannot be deprived of life, liberty, or property without due process of law.

Enumerated powers:
Powers that are specifically granted to Congress by Article I, Section 8 of the Constitution.

Equal protection:
No individual or group may receive special privileges or be unjustly discriminated against by the political authority of the legal system.

Equality:
The condition of possessing substantially the same rights, privileges, and immunities, and being subject to the same duties as other members of society.

Equal representation:
House of Representatives, in the number of its members in the Senate and House of Representatives, each state has a number of representatives equal to the number of its citizens. The group of presidential electors that casts the official votes for president after the presidential election is the Electoral College.

Economic rights:
Financial choices and privileges that individuals may select without government prohibition. Examples include: the right to own property, change employment, operate a business and join a labor union. Economic rights would include: right to own property, choose employment, operate a business and join a labor union.

Elected office:
Power that is specifically granted to Congress by Article I, Section 8 of the Constitution.

Equal authority:
The condition of possessing substantially the same rights, privileges, and immunities, and being subject to the same duties as other members of society.

Fairness:

Elections:
Form of government in which the people completely exercise political decisions. Direct democracy:
Federal Supremacy Clause:

Article VI of the Constitution provides that the Constitution and all federal laws and treaties shall be the "Supreme Law of the Land." Therefore, all federal laws take precedence over state and local laws.

Federalism:

Form of political organization in which governmental power is divided between a central government and territorial subdivisions (e.g., in the United States—the national, state and local governments).

Foreign Policy:

Actions of the federal government directed to matters beyond United States' borders, especially relations with other countries.

Government:

Institutions and procedures through which a territory and its people are ruled.

Habeas Corpus:

Court order demanding that the individual in custody be brought into court and shown the cause for detention. Habeas corpus is guaranteed by the Constitution and can be suspended only in the case of rebellion or invasion.

Individual Responsibility:

Fulfilling the moral and legal obligations of membership in society.

Individual Rights:

Just claims due a person by law, morality or tradition as opposed to those due to groups.

Interest Group:

Organized body of individuals who share some goal, and who form a coalition to influence public policy to meet those goals.

International Organizations:

Groups formed by nations-states to achieve common political, social or economic goals.

Interest Group:

Organized body of individuals who share some goal, and who form a coalition to influence public policy to meet those goals.

Individual Rights:

Just claims due a person by law, morality or tradition as opposed to those due to groups.

International Organizations:

Groups formed by nations-states to achieve common political, social or economic goals.
Judicial Review:
Doctrine that permits the federal courts to declare unconstitutional, and thus null and void, acts of the Congress, the executive branch and the states. The precedent for judicial review was established in the 1803 case of *Marbury v. Madison*.

Justice:
That which may be obtained through the use of force.

Leadership:
State or condition of one who guides or governs.

Liberal Democracy:
Government that recognizes that the individual has rights that exist independently of government and which ought to be protected by and against government.

Limited government:
A legal structure where officials in authority do not have enormous power. The Constitution of the United States limits government through methods of checks and balances.

Liberty:
Freedom from restraint under conditions essential to the equal enjoyment of the same right by others.

Majority rule:
Decision by more than half of those participating in the decision-making process.

Minority rights:
Opportunities that a member is entitled to have or enjoy through his/her own sense of justice, even though he/she may not be part of the decision-making process.

Nation-state:
Divisions of the world in which each state claims sovereignty over defined territory and jurisdiction over everyone within it. These states interact using diplomacy, formal agreements and methods of resolving disputes peacefully or involving the use of force.

Participle theory:
Leadership in gathering information and making decisions.

President:
Head of a branch of government, usually the executive branch.

Republic:
Government which is elective and governed by and for the benefit of those who elect it.

Republicanism:
Government recognized as the fundamental, legal and political basis of a nation-state.

Rule of law:
A legal principle where officials in authority do not have enormous power. The Constitution of the United States limits government through methods of checks and balances.

State Board of Education:
4-224
NATO: North Atlantic Treaty Organization, an international transatlantic partnership consisting of various European states, the United States and Canada, which was designed through cooperation, consultation and collective defense to maintain peace and promote stability throughout Europe.

Non-governmental organization: A group in a free society that is not a part of any government institution and does not derive its power from government.

OAS: Organization of American States, an international governmental organization formed by the states of North and South America for security and the protection of mutual interests.

Oligarchy: A government in which a small group exercises control. These systems are usually based on wealth, military power or social position.

Patriotism: A feeling of pride in and respect for one's country.

Personal rights: Private legal privileges and decisions that individuals are free to participate in without government intervention. Personal rights include the right to vote, petition, assemble, and seek public office.

Political party: Any group, however loosely organized, that seeks to elect government officials under a given label.

Political rights: Legal claims by citizens to participate in government and be treated fairly. Political rights include the right to vote, petition, assemble, and seek public office.

Presumption of innocence: The legal concept that a criminal defendant is not guilty until the prosecution proves every element of the crime beyond a reasonable doubt.

Popular sovereignty: The concept that ultimate political authority rests with the people to create, alter or abolish governments.

Privacy: The right to be left alone; the right of an individual to withhold one's self and one's property from public scrutiny if one so chooses.

Presumption of innocence: The legal concept that a criminal defendant is not guilty until the prosecution proves every element of the crime beyond a reasonable doubt.

Presumption of innocence: The legal concept that a criminal defendant is not guilty until the prosecution proves every element of the crime beyond a reasonable doubt.

Privacy: The right to be left alone; the right of an individual to withhold one's self and one's property from public scrutiny if one so chooses.
Public service:
Action of benefit to local, state or national communities through appointed or elected office.

Representative Democracy:
Form of government in which power is held by the voters and is exercised indirectly through elected representatives who make decisions.

Republic:
Form of government in which power is held by elected representatives responsible for promoting the common welfare.

Republicanism:
Form of government in which power is held by elected representatives elected by the voters and is exercised indirectly through elected representatives who make decisions.

Commonwealth:
A nation: a civil power.

Rule of Law:
The right to counsel:
Individual right found in the Sixth Amendment to the Constitution that requires criminal defendants to have access to legal representation.

Right of appeal:
The right to seek review by a superior court of an injustice done or error committed by an inferior court, whose judgment or decision the court above is called upon to correct or reverse.

Right against self-incrimination:
Individual right found in the Fifth Amendment to the United States Constitution that prevents an individual from being forced to testify against himself or herself.

Separation of powers:
Distribution among the branches of government to ensure that the same person or group will not make the law, enforce the law and interpret the law.

State:
A commonwealth: a nation: a civil power.

Treaty:
A formal agreement between or among sovereign nations to create or restrict rights and obligations.

Shea:
Trial by jury:
- Individual right found in the Sixth and Seventh Amendment of the Constitution that guarantees a person an impartial jury.

Truth:
- Agreement of thought and reality that can eventually be verified.

Unitary government:
- An authoritative system in which all regulatory power is vested in a central government from which regional and local governments derive their powers (e.g., Great Britain and France as well as the American states within their spheres of authority).

World Court:
- Court in the Hague, the Netherlands, set up by the United Nations Treaty to which nations may voluntarily submit disputes.

Unlimited government:
- A legal structure where officials in authority have unrestricted power. Examples of unlimited governments would be authoritarian or totalitarian systems without restraints on their power.

United Nations:
- International organization comprising most of the nation-states of the world. It was formed in 1945 to promote peace, security and economic development.

United Kingdom:
- A nation-state of the world. It was formed in 1945 and is the United Kingdom of Great Britain and Northern Ireland. Its capital is London and its official language is English.

Unitary government:
- An authoritative system in which all regulatory power is vested in a central government from which regional and local governments derive their powers (e.g., Great Britain and France as well as the American states within their spheres of authority).
This document includes Academic Standards for Economics that describe what students should know and be able to do at each grade level (third, sixth, ninth and twelfth). They reflect the increasing complexity and sophistication that students are expected to achieve as they progress through school.

The Economic Standards describe what students should know and be able to do in the following areas:

- Economic Systems
- Markets and the Functions of Governments
- Scarcity and Choice
- Economic Interdependence
- Work and Earnings

These standards are designed to help students develop a strong understanding of economics, and to prepare them for future economic challenges.

XVII. INTRODUCTION

GLOSSARY

E. Incentives
F. Opportunity Cost
G. Scarcity and Choice
H. Economic Roles for Governments
I. Public Goods
J. Costs and Benefits of Taxation
K. Impact of Media on the Cost and Benefits of Decisions
L. Exchange Rates
M. Economic Functions of Governments
N. Scarcity and Limited Resources
O. Economic Reasoning of Choices
P. Allocation of Resources
Q. Marginal Analysis and Decision-Making
R. Opportunity Cost
S. Incentives
T. Marginal Analysis and Decision-Making
U. Economic Functions of Governments
V. Scarcity and Limited Resources
W. Economic Reasoning of Choices
X. Allocation of Resources
Y. Marginal Analysis and Decision-Making
Z. Opportunity Cost

WORK AND EARNINGS

A. Factors Influencing Wages
B. Labor Productivity
C. Type of Businesses
D. Profits and Losses
E. Distribution of Wealth
F. Employment and Unemployment
G. Entrepreneurship
H. Incentives
I. Scarcity and Choice
J. Economic Roles for Governments
K. Impact of Media on the Cost and Benefits of Decisions
L. Exchange Rates
M. Economic Functions of Governments
N. Scarcity and Limited Resources
O. Economic Reasoning of Choices
P. Allocation of Resources
Q. Marginal Analysis and Decision-Making
R. Opportunity Cost
S. Incentives
T. Marginal Analysis and Decision-Making
U. Economic Functions of Governments
V. Scarcity and Limited Resources
W. Economic Reasoning of Choices
X. Allocation of Resources
Y. Marginal Analysis and Decision-Making
Z. Opportunity Cost

ECONOMIC INTERDEPENDENCE

A. Specialization
B. Trade
C. Implied on the Cost and Benefits of Decisions
D. Public Goods
E. Economic Roles for Governments
F. Sources of Tax Revenue
G. Scarcity and Limited Resources
H. Economic Reasoning of Choices
I. Allocation of Resources
J. Marginal Analysis and Decision-Making
K. Opportunity Cost
L. Incentives
M. Scarcity and Choice
N. Economic Roles for Governments
O. Impact of Media on the Cost and Benefits of Decisions
P. Exchange Rates
Q. Economic Functions of Governments
R. Scarcity and Limited Resources
S. Economic Reasoning of Choices
T. Allocation of Resources
U. Marginal Analysis and Decision-Making
V. Opportunity Cost
W. Incentives
X. Scarcity and Choice
Y. Economic Roles for Governments
Z. Impact of Media on the Cost and Benefits of Decisions

SCARCITY AND CHOICE

A. Exchange Rates
B. Impact of Media on the Cost and Benefits of Decisions
C. Costs and Benefits of Taxation
D. Public Goods
E. Economic Roles for Governments
F. Sources of Tax Revenue
G. Scarcity and Limited Resources
H. Economic Reasoning of Choices
I. Allocation of Resources
J. Marginal Analysis and Decision-Making
K. Opportunity Cost
L. Incentives
M. Scarcity and Choice
N. Economic Roles for Governments
O. Impact of Media on the Cost and Benefits of Decisions
P. Exchange Rates
Q. Economic Functions of Governments
R. Scarcity and Limited Resources
S. Economic Reasoning of Choices
T. Allocation of Resources
U. Marginal Analysis and Decision-Making
V. Opportunity Cost
W. Incentives
X. Scarcity and Choice
Y. Economic Roles for Governments
Z. Impact of Media on the Cost and Benefits of Decisions

SCARCITY AND CHOICE

A. Exchange Rates
B. Impact of Media on the Cost and Benefits of Decisions
C. Costs and Benefits of Taxation
D. Public Goods
E. Economic Roles for Governments
F. Sources of Tax Revenue
G. Scarcity and Limited Resources
H. Economic Reasoning of Choices
I. Allocation of Resources
J. Marginal Analysis and Decision-Making
K. Opportunity Cost
L. Incentives
M. Scarcity and Choice
N. Economic Roles for Governments
O. Impact of Media on the Cost and Benefits of Decisions
P. Exchange Rates
Q. Economic Functions of Governments
R. Scarcity and Limited Resources
S. Economic Reasoning of Choices
T. Allocation of Resources
U. Marginal Analysis and Decision-Making
V. Opportunity Cost
W. Incentives
X. Scarcity and Choice
Y. Economic Roles for Governments
Z. Impact of Media on the Cost and Benefits of Decisions
progress through school. This document attempts to avoid repetition and makes obvious progression across grade levels. Topics and concepts in Economics directly relate to Environment and Ecology Standard 4.2 and Geography Standard 7.3. As a social science, Economics Standards should be Cross-Walked and related to the Civics and Government, Geography and History Standards to create an interdisciplinary view of the world.

Economics is concerned with the behavior of individuals and institutions engaged in the production, exchange and consumption of goods and services. As technology helps to reshape the economy, knowledge of how the world works is critical. People entering the workforce cannot function effectively without a basic knowledge of the characteristics of economic systems, how markets establish prices, how scarcity and choice affect the allocation of resources, the global nature of economic interdependence and how work and earnings impact productivity.

A Pennsylvania governor remarked, "Among the freedom we enjoy in America in our pursuit of happiness is the freedom to be independent, creative, visionary and entrepreneurial. We are free to pursue dreams. To succeed, however, every student must know how to manage resources, prepare for the workforce, make wise investments and be informed about public policy. These standards are intended to provide direction in learning how economic activity impacts the forces of everyday life."

The academic standards for Economics consist of five standard categories (designated as 6.1., 6.2., 6.3., 6.4. and 6.5.). Each category has a number of standard statements designated by a capital letter. Some standard statements have bulleted items known as standard descriptors. The categories, statements and descriptors are regulations. The descriptors may be followed by "e.g." These are examples to clarify what type of information could be taught. These are suggestions and the choice of specific content is a local decision. A glossary is included to assist the reader in clarifying terminology contained in the standards.

Economics along with Civics and Government, Geography and History are identified as Social Studies in Chapter 4. This identification is consistent with citizenship education in Chapter 49 and Chapter 354. Based on these regulations, social studies/citizenship programs should include four sets of standards as an entity in developing a scope and sequence for curriculum and planned instruction.
### 6.1. Economic Systems

<table>
<thead>
<tr>
<th>6.1.3. GRADE 3</th>
<th>6.1.6. GRADE 6</th>
<th>6.1.9. GRADE 9</th>
<th>6.1.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</td>
<td>A. Describe how individuals, families and communities with limited resources make choices.</td>
<td>A. Describe and identify the characteristics of traditional, command and market systems.</td>
<td>A. Analyze the similarities and differences in economic systems.</td>
</tr>
<tr>
<td></td>
<td>B. Describe alternative methods of allocating goods and services and advantages and disadvantages of each.</td>
<td>B. Explain the three basic questions that all economic systems attempt to answer.</td>
<td>B. Explain how traditional, command and market economies answer the basic economic questions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• What goods and services should be produced?</td>
<td>A.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• How will goods and services be produced?</td>
<td>B.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Who will consume goods and services?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. Identify local economic activities.</td>
<td>C. Define measures of economic activity and relate them to the health of the economy.</td>
<td>C. Explain how economic indicators reflect changes in the economy.</td>
</tr>
<tr>
<td></td>
<td>• Employment</td>
<td>• Prices</td>
<td>• Consumer Price Index (CPI)</td>
</tr>
<tr>
<td></td>
<td>• Output</td>
<td>• Employment</td>
<td>• Gross Domestic Product (GDP)</td>
</tr>
<tr>
<td></td>
<td>D. Identify examples of local businesses opening, closing, expanding or contracting.</td>
<td>D. Explain the importance of expansion and contraction on individual businesses (e.g., gourmet food shops, auto repair shops, ski resorts).</td>
<td>D. Describe historical examples of expansion, recession and depression in the United States.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C. Assess the strength of the regional, national and/or international economy and compare it to another time period based upon economic indicators.</td>
</tr>
</tbody>
</table>

- **CPI** means **Consumer Price Index**.
6.2. Markets and the Functions of Governments

<table>
<thead>
<tr>
<th>6.2.3. GRADE 3</th>
<th>6.2.6. GRADE 6</th>
<th>6.2.9. GRADE 9</th>
<th>6.2.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Define and identify goods, services, consumers and producers.</td>
<td>A. Describe market transactions in terms of goods, services, consumers and producers.</td>
<td>A. Explain the flow of goods, services and resources in a mixed economy.</td>
<td>A. Analyze the flows of products, resources and money in a mixed economy.</td>
</tr>
<tr>
<td>B. Identify ways local businesses compete to get customers.</td>
<td>B. Describe the costs and benefits of competition to consumers in markets.</td>
<td>B. Analyze how the number of consumers and producers affects the level of competition within a market.</td>
<td>B. Evaluate the operation of noncompetitive markets.</td>
</tr>
<tr>
<td>C. Identify and compare means of payment.</td>
<td>C. Explain the function of money and its use in society.</td>
<td>C. Explain the structure and purpose of the Federal Reserve System.</td>
<td>C. Analyze policies designed to raise or lower interest rates and how the Federal Reserve Board influences interest rates.</td>
</tr>
<tr>
<td>• Barter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Money</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Identify groups of competing producers in the local area.</td>
<td>D. Define economic institutions (e.g., banks, labor unions).</td>
<td>D. Analyze the functions of economic institutions (e.g., corporations, not-for-profit institutions).</td>
<td>D. Evaluate changes in economic institutions over time (e.g., stock markets, nongovernment organizations).</td>
</tr>
</tbody>
</table>
### 6.2. Markets and the Functions of Governments

<table>
<thead>
<tr>
<th>6.2.3. GRADE 3</th>
<th>6.2.6. GRADE 6</th>
<th>6.2.9. GRADE 9</th>
<th>6.2.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
</tr>
</tbody>
</table>

- **E.** Identify who supplies a product and who demands a product.
- **F.** Define price and identify the prices of different items.
- **G.** Define what a tax is and identify a tax paid by most families.
- **E.** Explain how the interaction of buyers and sellers determines prices and quantities exchanged.
- **F.** Describe how prices influence both buyers and sellers and explain why prices may vary for similar products.
- **G.** Explain how taxes affect the price of goods and services.
- **E.** Explain the laws of supply and demand and how these affect the prices of goods and services.
- **F.** Analyze how competition among producers and consumers affects price, costs, product quality, service, product design and variety and advertising.
- **G.** Contrast the largest sources of tax revenue with where most tax revenue is spent in Pennsylvania.
- **E.** Predict how changes in supply and demand affect equilibrium price and quantity sold.
- **F.** Identify and analyze forces that can change price:
  - Government actions
  - Weather conditions
  - International events
- **G.** Evaluate types of tax systems:
  - Progressive
  - Proportional
  - Regressive
6.2. Markets and the Functions of Governments

<table>
<thead>
<tr>
<th>6.2.3. GRADE 3</th>
<th>6.2.6. GRADE 6</th>
<th>6.2.9. GRADE 9</th>
<th>6.2.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. Identify government involvement in local economic activities.</td>
<td>H. Describe the Pennsylvania and United States governments' roles in monitoring economic activities.</td>
<td>H. Analyze the economic roles of governments in market economies.</td>
<td>H. Evaluate the economic roles of governments.</td>
</tr>
<tr>
<td>I. Identify goods and services produced by the government (e.g., postal service, food inspection).</td>
<td>I. Identify and describe public goods.</td>
<td>I. Explain how government provides public goods.</td>
<td>I. Evaluate government decisions to provide public goods.</td>
</tr>
<tr>
<td>J. Explain the relationship between taxation and government services.</td>
<td>J. Explain the cost and benefits of taxation.</td>
<td>J. Contrast the taxation policies of the local, state and national governments in the economy.</td>
<td>J. Evaluate the social, political and economic changes in tax policy using cost/benefit analysis.</td>
</tr>
<tr>
<td>K. Identify forms of advertising designed to influence personal choice.</td>
<td>K. Explain how advertisements influence perceptions of the costs and benefits of economic decisions.</td>
<td>K. Interpret how media reports can influence perceptions of the costs and benefits of decisions.</td>
<td>K. Analyze the impact of media on decision-making of consumers, producers and policymakers.</td>
</tr>
</tbody>
</table>

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...
6.2. Markets and the Functions of Governments

6.2.3. GRADE 3 Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...

6.2.6. GRADE 6

L. Explain why most countries create their own form of money.
L. Explain what an exchange rate is.
L. Explain how the price of one currency is related to the price of another currency (e.g., Japanese yen in American dollar, Canadian dollar in Mexican nuevo peso).
L. Analyze how policies and international events may change exchange rates.

6.2.9. GRADE 9

6.2.12. GRADE 12
### 6.3. Scarcity and Choice

| A. Define scarcity and identify limited resources scarcity. |
|---|---|---|---|
| B. Define and identify wants of different people. |
| C. Identify and define natural, human and capital resources. |
| D. Identify costs and benefits associated with an economic decision. |
| E. Explain what is given up when making a choice. |

| A. Explain how scarcity influences choices and behaviors. |
|---|---|---|---|
| B. Explain how limited resources and unlimited wants cause scarcity. |
| C. Describe the natural, human and capital resources used to produce a specific good or service. |
| D. Explain the costs and benefits of an economic decision. |
| E. Define opportunity cost and describe the opportunity cost of a personal choice. |

| A. Describe ways to deal with scarcity. |
|---|---|---|---|
| B. Analyze how unlimited wants and limited resources affect decision-making. |
| C. Explain how resources can be used in different ways to produce different goods and services. |
| D. Explain marginal analysis and decision-making. |
| E. Explain the opportunity cost of a public choice from different perspectives. |

| A. Analyze actions taken as a result of scarcity issues in the regional, national and international economies. |
|---|---|---|---|
| B. Evaluate the economic reasoning behind a choice. |
| C. Evaluate the allocation of resources used to produce goods and services. |
| D. Evaluate regional, national or international economic decisions using marginal analysis. |
| E. Analyze the opportunity cost of decisions by individuals, businesses, communities and nations. |

---

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...
### 6.3. Scarcity and Choice

<table>
<thead>
<tr>
<th>6.3.3. GRADE 3</th>
<th>6.3.6. GRADE 6</th>
<th>6.3.9. GRADE 9</th>
<th>6.3.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to . . .</td>
<td>F. Explain how self interest influences choice.</td>
<td>F. Explain how negative and positive incentives affect choices.</td>
<td>F. Explain how incentives affect the behaviors of workers, savers, consumers and producers.</td>
</tr>
<tr>
<td>A. Define specialization and the concept of division of labor.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Explain why people trade.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Explain why goods, services and resources come from all over the nation and the world.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Identify local resources.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Natural (renewable, nonrenewable and flow resources)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Human</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Capital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Explain the advantages and disadvantages of specialization and division of labor.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Explain how specialization leads to more trade between people and nations.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Identify and define imports, exports, inter-regional trade and international trade.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Explain how the locations of resources, transportation and communication networks and technology have affected Pennsylvania economic patterns.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Agriculture (e.g., farms)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Forestry (e.g., logging)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Mining and mineral extraction (e.g., coal fields)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Manufacturing (e.g., steel mills)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Wholesale and retail (e.g., super stores, internet)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Explain why specialization may lead to increased production and consumption.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Explain how trade may improve a society’s standard of living.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Explain why governments sometimes restrict or subsidize trade.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Explain how the locations of resources, transportation and communication networks and technology have affected United States economic patterns.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Labor markets (e.g., migrant workers)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Interstate highway system and sea and inland ports (e.g., movement of goods)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Communication technologies (e.g., facsimile transmission, satellite-based communications)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Analyze how specialization may increase the standard of living.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Analyze the relationships between trade, competition and productivity.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Evaluate how a nation might benefit by lowering or removing trade barriers.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Explain how the locations of resources, transportation and communication networks and technology have affected international economic patterns.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...

| E. Define specialization and identify examples of interdependence. |
|---|---|---|---|---|
| F. Explain why some products are produced locally while others are not. |
| G. Identify local geographic patterns of economic activities. |
| * Agriculture * Travel and tourism * Mining and mineral extraction * Manufacturing * Wholesale and retail * Health services |

| E. Explain how specialization and trade lead to interdependence. |
| F. Explain how opportunity costs influence where goods and services are produced locally and regionally. |
| G. Describe geographic patterns of economic activities in Pennsylvania. |
| * Agriculture * Travel and tourism * Mining and mineral extraction * Manufacturing * Wholesale and retail * Health services |

| E. Analyze how Pennsylvania consumers and producers participate in the global production and consumption of goods or services. |
| F. Explain how opportunity cost can be used to determine the product for which a nation has a comparative advantage. |
| G. Describe geographic patterns of economic activities in the United States. |
| * Primary—extractive industries (i.e., farming, fishing, forestry, mining) * Secondary—materials processing industries (i.e., manufacturing) * Tertiary—service industries (e.g., retailing, wholesaling, finance, real estate, travel and tourism, transportation) |

| E. Analyze how United States consumers and producers participate in the global production and consumption of goods or services. |
| F. Evaluate how trade is influenced by comparative advantage and opportunity costs. |
| G. Evaluate characteristics and distribution of international economic activities. |
| * Primary—extractive industries (i.e., farming, fishing, forestry, mining) * Secondary—materials processing industries (i.e., manufacturing) * Tertiary—service industries (e.g., retailing, wholesaling, finance, real estate, travel and tourism, transportation) |
### 6.5. Work and Earnings

<table>
<thead>
<tr>
<th>6.5.3. GRADE 3</th>
<th>6.5.6. GRADE 6</th>
<th>6.5.9. GRADE 9</th>
<th>6.5.12. GRADE 12</th>
</tr>
</thead>
</table>
| A. Explain why people work to get goods and services. | A. Recognize that the availability of goods and services is the result of work by members of the society. | A. Define wages and explain how wages are determined by the supply of and demand of workers. | A. Analyze the factors influencing wages.  
- Demand for goods and services produced  
- Labor unions  
- Productivity  
- Education/skills |
| B. Identify different occupations. | B. Explain the concept of labor productivity. | B. Describe how productivity is measured and identify ways in which a person can improve his or her productivity. | B. Evaluate how changes in education, incentives, technology and capital investment alter productivity. |
| C. Describe businesses that provide goods and services. | C. Compare the number of employees at different businesses. | C. Identify and explain the characteristics of the three types of businesses.  
- Sole Proprietorship  
- Partnership  
- Corporation | C. Analyze the costs and benefits of organizing a business as a sole proprietorship, partnership or corporation. |
| D. Define profit and loss. | D. Explain how profits and losses serve as incentives. | D. Analyze how risks influence business decision-making | D. Analyze the role of profits and losses in the allocation of resources in a market economy. |
6.5. Work and Earnings

<table>
<thead>
<tr>
<th>6.5.3. GRADE 3</th>
<th>6.5.6. GRADE 6</th>
<th>6.5.9. GRADE 9</th>
<th>6.5.12. GRADE 12</th>
</tr>
</thead>
</table>

*Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to.*

| E. Identify examples of assets.  
  - Tangible (e.g., houses, cars, jewelry)  
  - Financial assets (e.g., stocks, bonds, savings accounts) | E. Describe how people accumulate tangible and financial assets through income, saving, and financial investment. | E. Define wealth and describe its distribution within and among the political divisions of the United States. | E. Compare distribution of wealth across nations. |
|--------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------|
| F. Define entrepreneurship and identify entrepreneurs in the local community. | F. Identify entrepreneurs in Pennsylvania.  
  - Historical  
  - Contemporary | F. Identify leading entrepreneurs in Pennsylvania and the United States and describe the risks they took and the rewards they received. | F. Assess the impact of entrepreneurs on the economy. |
### 6.5. Work and Earnings

<table>
<thead>
<tr>
<th>6.5.3. GRADE 3</th>
<th>6.5.6. GRADE 6</th>
<th>6.5.9. GRADE 9</th>
<th>6.5.12. GRADE 12</th>
</tr>
</thead>
</table>
| **G. Define saving and explain why people save.** | **G. Identify the costs and benefits of saving.**  
- Piggy banks  
- Savings accounts  
- U.S. Savings Bonds | **G. Explain the differences among stocks, bonds and mutual funds.** | **G. Analyze the risks and returns of various investments.**  
- Stocks  
- Bonds  
- Mutual funds  
- Savings bonds  
- Retirement savings (e.g., Individual Retirement Account (IRA), Keogh, 401K)  
- Savings accounts (e.g., passbook, certificate of deposit) |
| **H. Explain how banks bring savers and borrowers together.** | **H. Describe why there is a difference between interest rates for saving and borrowing.** | **H. Explain the impact of higher or lower interest rates for savers, borrowers, consumers and producers.** | **H. Evaluate benefits and costs of changes in interest rates to individuals and society.** |

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...
Barter: The direct exchange of goods or services between people.

Bond: A financial promise for an investment issued by a corporation or government with regular interest payments and repayment at a later date.

Capital resources: The physical equipment used in the production of goods and services.

Cartels: A group of sellers acting together in the market.

Circular flow: The movement of resources, goods, and services through an economy.

Command economy: A system in which decisions are made by a political body, such as a central planning agency.

Comparative advantage: Economic theory that a country/individual should sell goods and services which it can produce at relatively lower costs and buy goods and services which it can produce at relatively higher costs.

Competition: The rivalry among people and/or business firms for resources and/or consumers.

Consumer: One who buys or rents goods or services and uses them.

Consumer Price Index: The price index most commonly used to measure the impact of changes in prices on households; this index is based on a standard market basket of goods and services purchased by a typical urban family.

Corporation: A business firm that is owned by stockholders and is a legal entity with rights to buy, sell, and make a business firm that is owned by stockholders and

Cost: What is given up when a choice is made; monetary and non-monetary.

Currency: Goods and services purchased by a typical urban family.

Economic theory: The science of how households and businesses allocate their resources to produce goods and services and how they choose to consume those goods and services.

Economics: The study of how households and businesses allocate their resources to produce goods and services and how they choose to consume those goods and services.

Euthenics: The science of how households and businesses allocate their resources to produce goods and services and how they choose to consume those goods and services.

EXHIBIT GLOSSARY
Cost/benefit analysis: The process of weighing all predicted costs against the predicted benefits of an economic choice.

Deflation: A general decline in the price level.

Demand: The different quantities of a resource, good or service that potential buyers are willing and able to purchase at various prices during a specific time period.

Depression: A severe recession in terms of magnitude or length, or both.

Division of labor: A method of organizing production whereby each worker specializes in a part of the productive process.

Economics: The study of the behavior of individuals and institutions engaged in the production, distribution, and consumption of goods and services.

Economic growth: An increase in a society's output.

Entrepreneur: An individual who begins, manages, and bears the risks of a business.

Equilibrium price: The price at which quantity demanded equals quantity supplied; market clearing price.

Equilibrium price: The price of a country's currency measured in terms of another country's currency (e.g., American dollar in German mark, Japanese yen in Canadian dollar).

Federal Reserve System: The "Central Bank" of the United States (consisting of the Board of Governors and 12 district banks) which controls monetary policy.
Fiscal policy:
Government decisions on taxation and spending to achieve economic goals.

Flow resources:
Temporal energy forces that are neither renewable nor nonrenewable, but must be used as, when and where they occur or they are lost (e.g., wind, sunlight).

Gross Domestic Product:
The market value of the total output of final goods and services produced by an economy in a given time period, usually 1 year.

Goods:
Objects that can satisfy people's wants.

Household:
The group of people living together under one roof; a group of individuals whose economic decision making is interrelated.

Human resources:
People's intellectual and physical abilities.

Income:
Payments earned by people in exchange for providing goods and services produced by people in exchange for other goods and services.

Inflation:
A general rise in the price level.

Interdependence:
Ideas, goods and services in one area affect decisions and events in other areas reducing self-sufficiency.

Incentives:
Factors that motivate or influence human behavior.

Interest:
Payment made for the use of borrowed money.

Labor force:
The part of the population which is employed or actively seeking employment.

Labor productivity:
The total output divided by the quantity of labor employed to produce it.

Labor union:
An organization of workers who seek to improve their common interests.

Labor supply:
The number of workers divided by the quantity of labor.

Law of demand:
The lower the price of a good or service, the greater the quantity that people will buy, all else equal.

Labor unions:
An organization of workers who seek to improve their common interests.

Law of supply:
The higher the price of a good or service, the greater the quantity that is supplied, all else equal.

Law of the market:
A group of individuals whose economic decisions affect and are affected by the economic decisions of other people.

Market:
The market value of the total output of final goods and services produced by an economy in a given time period.

Microeconomics:
Economics that addresses economic goods.

Macroeconomics:
Government decisions on taxation and spending.

Microeconomics:
Economics that addresses economic goods.

Macroeconomics:
Government decisions on taxation and spending.
Law of supply:
The higher the price of a good or service, the greater the quantity that business will sell, all else held constant (e.g., resource costs, technology).

Loss:
The difference that arises when a firm's total revenues are less than its total costs.

Macroeconomics:
Study of aggregate economic activity including how the economy works as a whole. Seeks to identify levels of National income, output, employment and prices.

Marginal analysis:
A decision making tool that weighs additional costs and benefits.

Market:
A place or process through which goods and services are exchanged.

Monetary policy:
Government decisions on money supply andinterest rates to achieve economic goals.

Money:
A medium of exchange.

Money supply:
The amount of liquid assets which exists in the economy at a given time (e.g., currency, checkable deposits, traveler's checks).

Natural resources:
Anything found in nature that can be used to produce a product (e.g., land, water, coal).

Opportunity cost:
The highest valued alternative given up when a decision is made.

Output:
The total amount of a commodity produced.

Nonrenewable resources:
Finite elements that cannot be replaced once they are used (e.g., petroleum, minerals).

Partial equilibrium:
A decision making tool that weighs additional costs and benefits.

Market economy:
An economic system in which decisions are made largely by the interactions of buyers and sellers.

Microeconomics:
Study of the behaviors of consumers, firms and determination of the market prices.

Mixed economy:
An economic system in which decisions are made by markets, government and tradition.

Monetary supply:
The amount of liquid assets which exists in the economy at a given time (e.g., currency, checkable deposits, traveler's checks).

Opportunity cost:
The highest valued alternative given up when a decision is made.

Product demand:
The amount of a good or service that firms will sell at the higher the price of a good or service, the higher the demand for it.

Law of supply:
The higher the price of a good or service, the greater the quantity that business will sell, all else held constant (e.g., resource costs, technology).
Partnership:
A business in which ownership is shared by two or more people who receive all the profits and rewards and bear all the losses and risks.

Price:
The amount people pay in exchange for a unit of a particular good or service.

Price control:
Government restraint of prices to keep the cost of living down. It most usually happens in times of war, but there are also instances in times of peace.

Price index:
A measure of the average level of costs at one time compared to the average level of costs at another time. It is used to measure the change over a period of time. It is used to measure the difference between the average level of costs at one time and the average level of costs at another time.

Producer:
One who makes goods or services.

Productivity:
Amount of output per unit of input over a period of time. It is used to measure the efficiency with which inputs can be used.

Profit:
Total revenue minus total costs.

Progressive tax:
A levy for which the percentage of income used to pay the levy increases as the taxpayer's income increases.

Proportional tax:
A levy for which the percentage of income used to pay the levy remains the same as the taxpayer's income increases.

Public goods:
Goods and services provided by the government rather than by the private sector. Goods and services that more than one person can use without necessarily preventing others from using them.

Public policy:
A government's course of action that guides present and future decisions.

Quantity demanded:
The amount of a good or service people are willing and able to purchase at a given price during a specific time period.

Quantity supplied:
The amount of a good or service people are willing and able to supply at a given price during a specific time period.

State Board of Education (294958) No. 340 Mar. 03

Copyright /H23040 2003 Commonwealth of Pennsylvania
Quota: A form of import protectionism where the total quantity of imports of a particular commodity is limited.

Recession: A contraction in national production that lasts 6 months or longer. A recession might be marked by job layoffs and high unemployment, slowing of wages, reductions in retail sales and slowing of home construction and new housing starts. The difference between total output and the total quantity produced is called the recession gap.

Regressive tax: A levy for which the percentage of income used to pay the tax decreases as the taxpayer’s income increases.

Renewable resources: Substances that can be regenerated if used carefully (e.g., fish, timber).

Resources: Inputs used to produce goods and services; categories include natural, human and capital.

Scarcity: An economic condition that exists when demand is greater than supply. A key for which the percentage of income used to buy new houses and cars is more than the percentage of income used to buy food and clothing is more than the percentage of income used to buy shoes and books.

Sole proprietorship: A business owned by an individual who receives all the profits and bears all the losses.

Specialization: A form of division of labor in which each individual or firm concentrates its productive efforts on a single or limited number of activities.

Standard of living: A measurement of an individual’s quality of life.

Services: Actions that are valued by others.

Stock: A certificate representing a share of ownership in a company.

Supply: The different quantities of a resource, good or service that potential sellers are willing and able to sell at various possible prices during a specific time period.

Sunk cost: An amount spent that cannot be recovered.

Sweatshop: A factory or workplace where workers are forced to work long hours for low wages and poor working conditions.

Tax: A compulsory financial charge or other levy imposed by the government on individuals or businesses.

Tax evasion: The illegal avoidance of paying taxes owed by not reporting income or underreporting income.

Taxpayers: Individuals or businesses who are required to pay taxes.

Taxes: Levies imposed by the government to finance public goods and services.

Threat of tariffs: A government action that imposes a tax or other charge on imports to reduce the amount of imports entering a country.

Time period: An interval of time.

Trade: The buying and selling of goods and services between countries.

Trade deficit: A situation in which a country imports more goods and services than it exports.

Trade surplus: A situation in which a country exports more goods and services than it imports.

Unemployment: The condition of being without work.

Utility: The measure of satisfaction or happiness that a person derives from consuming a good or service.

Value added: The increase in value of a good or service that occurs during the production process.

Wage rate: The amount of money paid to an employee for each unit of time worked.

Wealth: The total value of all assets owned by an individual or household.

Workforce: The total number of people employed in a particular industry or sector.
### Tariff
A surcharge placed on imported goods and services. The purpose of a tariff is to protect domestic products from foreign competition.

### Tertiary
The third level of economic activity. It includes service and service-related industries.

### Trade
Voluntary exchange between two parties in which service and service-related industries, domestic products from foreign competition, and a surplus are exchanged.

<table>
<thead>
<tr>
<th>Region</th>
<th>Characteristics of Places and Regions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Physical Systems and Properties</td>
<td></td>
</tr>
<tr>
<td>B. Physical Processes</td>
<td></td>
</tr>
<tr>
<td>C. Geographic Tools</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>Characteristics of Places and Regions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Economic Activity</td>
<td></td>
</tr>
<tr>
<td>B. Culture</td>
<td></td>
</tr>
<tr>
<td>C. Settlement</td>
<td></td>
</tr>
</tbody>
</table>

### Trade Balance
The payments of a nation that deal with trade.

<table>
<thead>
<tr>
<th>Region</th>
<th>Characteristics of Places and Regions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Physical Systems and Properties</td>
<td></td>
</tr>
<tr>
<td>B. Physical Processes</td>
<td></td>
</tr>
<tr>
<td>C. Geographic Tools</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>Characteristics of Places and Regions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Economic Activity</td>
<td></td>
</tr>
<tr>
<td>B. Culture</td>
<td></td>
</tr>
<tr>
<td>C. Settlement</td>
<td></td>
</tr>
</tbody>
</table>

### Unemployment Rate
The percentage of the labor force that is actively seeking employment.

### Wants
Desires that can be satisfied by consuming goods, services, or leisure activities.

<table>
<thead>
<tr>
<th>Region</th>
<th>Characteristics of Places and Regions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Economic Activity</td>
<td></td>
</tr>
<tr>
<td>B. Culture</td>
<td></td>
</tr>
<tr>
<td>C. Settlement</td>
<td></td>
</tr>
</tbody>
</table>

### Trade
Voluntary exchange between two parties in which service and service-related industries, domestic products from foreign competition, and a surplus are exchanged.

<table>
<thead>
<tr>
<th>Region</th>
<th>Characteristics of Places and Regions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Economic Activity</td>
<td></td>
</tr>
<tr>
<td>B. Culture</td>
<td></td>
</tr>
<tr>
<td>C. Settlement</td>
<td></td>
</tr>
</tbody>
</table>

### WANTS
Desires that can be satisfied by consuming goods, services, or leisure activities.
The Interactions Between People and Places ................................................... 7.4.

A. Impact of Physical Systems on People
B. Impact of People on Physical Systems

XX. INTRODUCTION

This document includes Academic Standards for Geography that describe what
students should know and be able to do at four grade levels. These standards build on
using geographic tools as a means for asking and answering geographic questions;
set information into a range of spatial contexts; recognize places and regions as
human concepts; understand the physical processes that have shaped Earth's surface
and the patterns resulting from those processes, and the relationships between
places and processes. These standards help in using geographic tools as a means for
reasoning and drawing conclusions about the world's environment. In the primary
grade levels (1-3), the development of geographic understandings in the primary
grade levels (1-3), the development of geographic understandings focuses on the
exploration of economic interactions, and exploring the networks of economic
derivation. In the intermediate grade levels (4-6), the emphasis should be on
describing spatial patterns of phenomena (answering the where and when questions).
In the middle grade levels (7-9), the emphasis should be on explaining the
relationships between places and processes (answering the how question). In the
high school grade levels (10-12), the emphasis should be on analyzing spatial patterns
of phenomena (answering the why question). Although the emphasis may focus
on specific questions, these questions may be encountered at any grade level.

The Geography Standards describe what students should know and be able to do at
eight grade levels, and the importance of these levels.

Levels

Upper grade levels must address the local-to-global progression (scales). Basic con-
cepts found in lower grade levels must be developed more fully at higher grade
levels in local-to-global progression (scales). Basic concepts found in lower grade
levels must be developed more fully at higher grade levels.
Geography is an integrative discipline that enables students to apply geography skills and knowledge to life situations at home, at work and in the community. Therefore, these standards should be crosswalked with those in Civics and Government, Economics and History to create an interdisciplinary view of the world. The Five Fundamental Themes of Geography are:

- **Location**: The absolute and relative position of a place on Earth's surface
- **Place**: How physical and human characteristics define and distinguish a place
- **Human-Environment Interactions**: How humans modify and adapt to natural settings
- **Movement**: How people, ideas and materials move between and among locations
- **Regions**: How an area displays unity in terms of physical and human characteristics

The academic standards for Geography consist of four standard categories (designated as 7.1., 7.2., 7.3., and 7.4.). Each category has two to five standard statements (designated by a capital letter). Each standard statement has bulleted items known as standard descriptors. The descriptors may be followed by "e.g.". The "e.g.'s" are examples to clarify what type of information could be taught. These are suggestions and the choice of specific content is a local decision as is the method of instruction.
citizenship education in Chapter 49 and Chapter 354. Based on these regulations, Social Studies/Citizenship programs should include the four sets of standards as an entity in developing a scope and sequence for curriculum and planned instruction. A glossary is included to assist the reader in clarifying terminology contained in the standards. An entity in developing a scope and sequence for curriculum and planned instruction. Social Studies/Citizenship programs should include the four sets of standards as citizenship education in Chapter 49 and Chapter 354. Based on these regulations.
### 7.1. Basic Geographic Literacy

<table>
<thead>
<tr>
<th>7.1.3. GRADE 3</th>
<th>7.1.6. GRADE 6</th>
<th>7.1.9. GRADE 9</th>
<th>7.1.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Identify geographic tools and their uses.</strong>&lt;br&gt;• Characteristics and purposes of different geographic representations&lt;br&gt;• Maps and basic map elements&lt;br&gt;• Globes&lt;br&gt;• Graphs&lt;br&gt;• Diagrams&lt;br&gt;• Photographs&lt;br&gt;• Geographic representations to display spatial information&lt;br&gt;• Sketch maps&lt;br&gt;• Thematic maps&lt;br&gt;• Mental maps to describe the human and physical features of the local area</td>
<td><strong>A. Describe geographic tools and their uses.</strong>&lt;br&gt;• Basis on which maps, graphs and diagrams are created&lt;br&gt;• Aerial and other photographs&lt;br&gt;• Reference works&lt;br&gt;• Field observations&lt;br&gt;• Surveys&lt;br&gt;• Geographic representations to display spatial information&lt;br&gt;• Absolute location&lt;br&gt;• Relative location&lt;br&gt;• Flows (e.g., goods, people, traffic)&lt;br&gt;• Topography&lt;br&gt;• Historic events&lt;br&gt;• Mental maps to organize an understanding of the human and physical features of Pennsylvania and the home county&lt;br&gt;• Basic spatial elements for depicting the patterns of physical and human features</td>
<td><strong>A. Explain geographic tools and their uses.</strong>&lt;br&gt;• Development and use of geographic tools&lt;br&gt;• Geographic information systems [GIS]&lt;br&gt;• Population pyramids&lt;br&gt;• Cartograms&lt;br&gt;• Satellite-produced images&lt;br&gt;• Climate graphs&lt;br&gt;• Access to computer-based geographic data (e.g., Internet, CD-ROMs)&lt;br&gt;• Construction of maps&lt;br&gt;• Projections&lt;br&gt;• Scale&lt;br&gt;• Symbol systems&lt;br&gt;• Level of generalization&lt;br&gt;• Types and sources of data&lt;br&gt;• Geographic representations to track spatial patterns&lt;br&gt;• Weather&lt;br&gt;• Migration&lt;br&gt;• Environmental change (e.g., tropical forest reduction, sea-level changes)</td>
<td><strong>A. Analyze data and issues from a spatial perspective using the appropriate geographic tools.</strong>&lt;br&gt;• Spatial patterns of human features that change over time (e.g., intervening opportunity, distance decay, central place theory, locational preference)&lt;br&gt;• Physical patterns of physical features that change over time (e.g., climate change, erosion, ecological invasion and succession)&lt;br&gt;• Human and physical features of the world through mental maps</td>
</tr>
</tbody>
</table>

*Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...*
### 7.1. Basic Geographic Literacy

<table>
<thead>
<tr>
<th>7.1.3. GRADE 3</th>
<th>7.1.6.  GRADE 6</th>
<th>7.1.9.  GRADE 9</th>
<th>7.1.12.  GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</td>
<td>• Point, line, area, location, distance, scale</td>
<td>• Mental maps to organize and understand the human and physical features of the United States</td>
<td></td>
</tr>
</tbody>
</table>
7.1. Basic Geographic Literacy

<table>
<thead>
<tr>
<th>7.1.3. GRADE 3</th>
<th>7.1.6. GRADE 6</th>
<th>7.1.9. GRADE 9</th>
<th>7.1.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Identify and locate places and regions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Physical features</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Continents and oceans</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Major landforms, rivers and lakes in North America</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Local community</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Human features</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Countries (i.e., United States, Mexico, Canada)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• States (i.e., Pennsylvania, Delaware, Maryland, New Jersey, New York, Ohio, West Virginia)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Cities (i.e., Philadelphia, Erie, Altoona, Pittsburgh, Scranton, Harrisburg, Johnstown, Allentown, Washington D.C., Baltimore, New York, Toronto, Cleveland)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Local community</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Regions as areas with unifying geographic characteristics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Physical regions (e.g., landform regions, climate regions, river basins)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Describe and locate places and regions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Coordinate systems (e.g., latitude and longitude, time zones)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Physical features</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• In the United States (e.g., Great Lakes, Rocky Mountains, Great Plains)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• In Pennsylvania (e.g., Coastal Plain, Piedmont, Appalachians)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Human features</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Countries (e.g., United Kingdom, Argentina, Egypt)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Provinces (e.g., Ontario, Quebec, Nova Scotia)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Major human regions (e.g., Mid Atlantic, New England, Southwest)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• States (e.g., California, Massachusetts, Florida)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Major cities (e.g., London, Los Angeles, Tokyo)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Counties (e.g., Lancaster, Lackawanna, Jefferson)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Explain and locate places and regions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• How regions are created to interpret Earth’s complexity (i.e., the differences among formal regions, functional regions, perceptual regions)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• How characteristics contribute to regional changes (e.g., economic development, accessibility, demographic change)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• How culture and experience influence perceptions of places and regions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• How structures and alliances impact regions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Development (e.g., First vs. Third World, North vs. South)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Trade (e.g., NAFTA, the European Union)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• International treaties (e.g., NATO, OAS)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Analyze the location of places and regions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Changing regional characteristics (e.g., short- and long-term climate shifts; population growth or decline; political instability)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Criteria to define a region (e.g., the reshaping of south Florida resulting from changing migration patterns; the US-Mexico border changes as a function of NAFTA; metropolitan growth in the Philadelphia region)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Cultural change (e.g., influence on people’s perceptions of places and regions)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 7.1. Basic Geographic Literacy

<table>
<thead>
<tr>
<th>7.1.3. GRADE 3</th>
<th>7.1.6. GRADE 6</th>
<th>7.1.9. GRADE 9</th>
<th>7.1.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
</tr>
<tr>
<td>- Human regions (e.g., neighborhoods, cities, states, countries)</td>
<td>- Townships (e.g., Dickinson, Lower Mifflin, Southampton)</td>
<td>- How regions are connected (e.g., watersheds and river systems, patterns of world trade, cultural ties, migration)</td>
<td></td>
</tr>
<tr>
<td>- Ways in which different people view places and regions (e.g., places to visit or to avoid)</td>
<td>- Community connections to other places</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Community connections to other places</td>
<td>- Dependence and interdependence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Access and movement</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Basic Geography Literacy must include local-to-global progression (scales) for all students at all grade levels for the standard statements and their descriptors. Basic concepts introduced in lower grade levels must be developed more fully throughout higher grade levels. Portions of Basic Geography Literacy relate directly to the Mathematics Standards.
7.2 The Physical Characteristics of Places and Regions

<table>
<thead>
<tr>
<th>7.2.3. GRADE 3</th>
<th>7.2.6. GRADE 6</th>
<th>7.2.9. GRADE 9</th>
<th>7.2.12. GRADE 12</th>
</tr>
</thead>
</table>

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to.

A. Identify the physical characteristics of places and regions.
   - Physical properties
     - Landforms (e.g., plains, hills, plateaus and mountains)
     - Bodies of water (e.g., rivers, lakes, seas and oceans)
     - Weather and climate
     - Vegetation and animals
   - Earth’s basic physical systems
     - Lithosphere
     - Hydrosphere
     - Atmosphere
   - Biosphere

A. Describe the physical characteristics of places and regions.
   - Components of Earth’s physical systems (e.g., clouds, storms, relief and elevation [topography], tides, biomes, tectonic plates)
   - Comparison of the physical characteristics of different places and regions (e.g., soil, vegetation, climate, topography)
   - Climate types (e.g., marine west coast, humid continental, tropical wet and dry)

A. Explain the physical characteristics of places and regions including spatial patterns of Earth’s physical systems.
   - Climate regions
   - Landform regions

A. Analyze the physical characteristics of places and regions including the interrelationships among the components of Earth’s physical systems.
   - Biomes and ecosystem regions
   - Watersheds and river basins
   - World patterns of biodiversity
Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to.

<table>
<thead>
<tr>
<th>7.2.3. GRADE 3</th>
<th>7.2.6. GRADE 6</th>
<th>7.2.9. GRADE 9</th>
<th>7.2.12. GRADE 12</th>
</tr>
</thead>
</table>
| **B. Identify the basic physical processes that affect the physical characteristics of places and regions.**  
- Earth-sun relationships (i.e., seasons and length of daylight, weather and climate)  
- Extreme physical events (e.g., earthquakes, floods, hurricanes, tornadoes) | **B. Describe the physical processes that shape patterns on Earth’s surface.**  
- Earth-sun relationships (i.e., differences between equinoxes and solstices, reasons they occur and their relationship to latitude)  
- Climate influences (e.g., elevation, latitude, nearby ocean currents)  
- Climate change, (e.g., global warming/cooling, decertification, glaciations)  
- Plate tectonics  
- Hydrologic cycle | **B. Explain the dynamics of the fundamental processes that underlie the operation of Earth’s physical systems.**  
- Wind systems  
- Water cycle  
- Erosion/deposition cycle  
- Plate tectonics  
- Ocean currents  
- Natural hazards | **B. Analyze the significance of physical processes in shaping the character of places and regions.**  
- Circulation of the oceans  
- Ecosystem processes  
- Atmospheric systems  
- Extreme natural events |

The Physical Characteristics of Places and Regions must include local-to-global progression (scales) for all students at all grade levels for the standard statements and their descriptors. Basic concepts must be developed more fully throughout higher grade levels. Portions of Physical Characteristics of Places and Regions relate directly to Science and Technology and Environment and Ecology standards.
# 7.3 The Human Characteristics of Places and Regions

<table>
<thead>
<tr>
<th>A. Identify the human characteristics of places and regions by their population characteristics.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The number and distribution of people in the local community</td>
</tr>
<tr>
<td>• Human movement in the local community (e.g., mobility in daily life, migration)</td>
</tr>
<tr>
<td>A. Describe the human characteristics of places and regions by their population characteristics.</td>
</tr>
<tr>
<td>• Spatial distribution, size, density and demographic characteristics of population at the county and state level.</td>
</tr>
<tr>
<td>• Causes of human movement</td>
</tr>
<tr>
<td>• Mobility (e.g., shopping, commuting, recreation)</td>
</tr>
<tr>
<td>• Migration models (e.g., push/pull factors, barriers to migration)</td>
</tr>
<tr>
<td>A. Explain the human characteristics of places and regions by their population characteristics.</td>
</tr>
<tr>
<td>• Spatial distribution, size, density and demographic characteristics of population at the state and National level</td>
</tr>
<tr>
<td>• Demographic structure of a population (e.g., life expectancy, fertility rate, mortality rate, infant mortality rate, population growth rate, the demographic transition model)</td>
</tr>
<tr>
<td>• Effects of different types and patterns of human movement</td>
</tr>
<tr>
<td>• Mobility (e.g., travel for business)</td>
</tr>
<tr>
<td>• Migration (e.g., rural to urban, short term vs. long term, critical distance)</td>
</tr>
<tr>
<td>A. Analyze the significance of human activity in shaping places and regions by their population characteristics:</td>
</tr>
<tr>
<td>• Spatial distribution, size, density and demographic characteristics of population at the international level</td>
</tr>
<tr>
<td>• Demographic trends and their impacts on patterns of population distribution (e.g., carrying capacity, changes in fertility, changes in immigration policy, the mobility transition model)</td>
</tr>
<tr>
<td>• Impact of movement on human systems (e.g., refugees, guest workers, illegal aliens)</td>
</tr>
</tbody>
</table>

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to . .
7.3 The Human Characteristics of Places and Regions

<table>
<thead>
<tr>
<th>7.3.3. GRADE 3</th>
<th>7.3.6. GRADE 6</th>
<th>7.3.9. GRADE 9</th>
<th>7.3.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Identify the human characteristics of places and regions by their cultural characteristics.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Components of culture (e.g., language, belief systems and customs, social organizations, foods, ethnicity)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ethnicity of people in the local community (e.g., customs, celebrations, languages, religions)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Describe the human characteristics of places and regions by their cultural characteristics.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ethnicity of people at the county and state levels (e.g., customs, celebrations, languages, religions)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Spatial arrangement of cultures creates distinctive landscapes (e.g., cultural regions based on languages, customs, religion, building styles as in the Pennsylvania German region)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Explain the human characteristics of places and regions by their cultural characteristics.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ethnicity of people at national levels (e.g., customs, celebrations, languages, religions)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Culture distribution (e.g., ethnic enclaves and neighborhoods)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Cultural diffusion (e.g., acculturation and assimilation, cultural revivals of language)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Analyze the significance of human activity in shaping places and regions by their cultural characteristics.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Cultural conflicts (e.g., over language (Canada), over political power (Spain), over economic opportunities (Mexico))</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Forces for cultural convergence (e.g., the diffusion of foods, fashions, religions, language)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...
<table>
<thead>
<tr>
<th>7.3 The Human Characteristics of Places and Regions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>7.3.3. GRADE 3</strong></td>
</tr>
<tr>
<td><strong>C. Identify the human characteristics of places and regions by their settlement characteristics.</strong></td>
</tr>
<tr>
<td>- Types of settlements (e.g., villages, towns, suburbs, cities, metropolitan areas)</td>
</tr>
<tr>
<td>- Factors that affect where people settle (e.g., water, resources, transportation)</td>
</tr>
<tr>
<td><strong>C. Describe the human characteristics of places and regions by their settlement characteristics.</strong></td>
</tr>
<tr>
<td>- Current and past settlement patterns in the local area</td>
</tr>
<tr>
<td>- Factors that affect the growth and decline of settlements (e.g., immigration, transportation development, depletion of natural resources, site and situation)</td>
</tr>
<tr>
<td><strong>C. Explain the human characteristics of places and regions by their settlement characteristics.</strong></td>
</tr>
<tr>
<td>- Current and past settlement patterns in Pennsylvania and the United States</td>
</tr>
<tr>
<td>- Forces that have re-shaped modern settlement patterns (e.g., central city decline, suburbanization, the development of transport systems)</td>
</tr>
<tr>
<td>- Internal structure of cities (e.g., manufacturing zones, inner and outer suburbs, the location of infrastructure)</td>
</tr>
<tr>
<td><strong>C. Analyze the significance of human activity in shaping places and regions by their settlement characteristics.</strong></td>
</tr>
<tr>
<td>- Description of current and past settlement patterns at the international scale (e.g., global cities)</td>
</tr>
<tr>
<td>- Use of models of the internal structure of cities (e.g., concentric zone, sector, multiple nuclei)</td>
</tr>
<tr>
<td>- Forces that have reshaped settlement patterns (e.g., commuter railroads, urban freeways, the development of megalopolis and edge cities)</td>
</tr>
</tbody>
</table>
### 7.3 The Human Characteristics of Places and Regions

<table>
<thead>
<tr>
<th>7.3.3. GRADE 3</th>
<th>7.3.6. GRADE 6</th>
<th>7.3.9. GRADE 9</th>
<th>7.3.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to.</strong></td>
<td><strong>D. Identify the human characteristics of places and regions by their economic activities.</strong></td>
<td><strong>D. Describe the human characteristics of places and regions by their economic activities.</strong></td>
<td><strong>D. Explain the human characteristics of places and regions by their economic activities.</strong></td>
</tr>
<tr>
<td><strong>• Location factors in the spatial distribution of economic activities (e.g., market, transportation, workers, materials)</strong></td>
<td><strong>• Spatial distribution of economic activities in the local area (e.g., patterns of agriculture, forestry, mining, retailing, manufacturing, services)</strong></td>
<td><strong>• Spatial distribution of economic activities in Pennsylvania and the United States (e.g., patterns of agriculture, forestry, mining, retailing, manufacturing, services)</strong></td>
<td><strong>• Changes in spatial distribution of economic activities at the global scale (e.g., patterns of agriculture, forestry, mining, retailing, manufacturing, services)</strong></td>
</tr>
<tr>
<td><strong>• Producers of consumer products and services (e.g., bread, pizza, television, shopping malls)</strong></td>
<td><strong>• Factors that influence the location and spatial distribution of economic activities (e.g., market size for different types of business, accessibility, modes of transportation used to move people, goods and materials)</strong></td>
<td><strong>• Factors that shape spatial patterns of economic activity both Nationally and internationally (e.g., comparative advantage in location of economic activities; changes in resource trade; disruption of trade flows)</strong></td>
<td><strong>• Forces that are reshaping business (e.g., the information economy, business globalization, the development of off-shore activities)</strong></td>
</tr>
<tr>
<td><strong>• Products of farms and factories at the local and regional level (e.g., mushrooms, milk, snack foods, furniture)</strong></td>
<td><strong>• Spatial distribution of resources and their relationship to population distribution</strong></td>
<td><strong>• Technological changes that affect the definitions of, access to, and use of natural resources (e.g., the role of exploration, extraction, use and depletion of resources)</strong></td>
<td><strong>• Effects of changes and movements in factors of production (e.g., resources, labor, capital)</strong></td>
</tr>
<tr>
<td><strong>• Spatial distribution of resources</strong></td>
<td><strong>• Historical settlement patterns and natural resource use (e.g.,</strong></td>
<td><strong>•</strong></td>
<td><strong>•</strong></td>
</tr>
<tr>
<td><strong>• Non-renewable resources</strong></td>
<td><strong>•</strong></td>
<td><strong>•</strong></td>
<td><strong>•</strong></td>
</tr>
<tr>
<td><strong>• Renewable resources</strong></td>
<td><strong>•</strong></td>
<td><strong>•</strong></td>
<td><strong>•</strong></td>
</tr>
<tr>
<td><strong>• Flow resources (e.g., water power, wind power)</strong></td>
<td><strong>•</strong></td>
<td><strong>•</strong></td>
<td><strong>•</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 7.3 The Human Characteristics of Places and Regions

<table>
<thead>
<tr>
<th>7.3.3. GRADE 3</th>
<th>7.3.6. GRADE 6</th>
<th>7.3.9. GRADE 9</th>
<th>7.3.12. GRADE 12</th>
</tr>
</thead>
</table>

**Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to.**

- **Waterpower sites along the FallLine**
- **Natural resource-based industries (e.g., agriculture, mining, fishing, forestry)**

<table>
<thead>
<tr>
<th>E. Identify the human characteristics of places and regions by their political activities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Type of political units (e.g., townships, boroughs, towns, cities, counties, states, countries (nation-state))</td>
</tr>
<tr>
<td>• Political units in the local area</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E. Describe the human characteristics of places and regions by their political activities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Spatial pattern of political units in Pennsylvania</td>
</tr>
<tr>
<td>• Functions of political units (e.g., counties, municipalities, townships, school districts, PA General Assembly districts (House and Senate), U.S. Congressional districts, states)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E. Explain the human characteristics of places and regions by their political activities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Spatial pattern of political units in the United States</td>
</tr>
<tr>
<td>• Geographic factors that affect decisions made in the United States (e.g., territorial expansion, boundary delineation, allocation of natural resources)</td>
</tr>
<tr>
<td>• Political and public policies that affect geography (e.g., open space, urban development)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E. Analyze the significance of human activity in shaping places and regions by their political characteristics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Spatial pattern of political units in the global system</td>
</tr>
<tr>
<td>• Role of new political alliances on the international level (e.g., multinational organizations, worker’s unions, United Nations’ organizations)</td>
</tr>
<tr>
<td>• Impact of political conflicts (e.g., secession, fragmentation, insurgencies, invasions)</td>
</tr>
</tbody>
</table>

The Human Characteristics of Places and Regions must include local-to-global progression (scales) for all students at all grade levels for the standard statements and their descriptors. Basic concepts found in lower grade levels must be developed more fully throughout higher grade levels. Portions of Human Characteristics of Places and Regions relate directly to the Civics and Government and Economics Standards.
7.4 The Interactions Between People and Places

<table>
<thead>
<tr>
<th>7.4.3. GRADE 3</th>
<th>7.4.6. GRADE 6</th>
<th>7.4.9. GRADE 9</th>
<th>7.4.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Identify the impacts of physical systems on people.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• How people depend on, adjust to and modify physical systems on a local scale (e.g., soil quality and agriculture, snowfall and daily activities, drought and water use)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ways in which natural hazards affect human activities (e.g., storms, lightning, flooding)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Describe the impacts of physical systems on people.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• How people depend on, adjust to and modify physical systems on regional scale (e.g., coastal industries, development of coastal communities, flood control)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ways in which people adjust to life in hazard-prone areas (e.g., California and earthquakes, Florida and hurricanes, Oklahoma and tornadoes)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Explain the impacts of physical systems on people.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• How people depend on, adjust to and modify physical systems on National scale (e.g., soil conservation programs, projects of The Corps of Engineers)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ways in which people in hazard-prone areas adjust their ways of life (e.g., building design in earthquake areas, dry-farming techniques in drought-prone areas)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Analyze the impacts of physical systems on people.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• How people depend on, adjust to and modify physical systems on international scales (e.g., resource development of oil, coal, timber)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ways in which people modify ways of life to accommodate different environmental contexts (e.g., building in permafrost areas; the role of air-conditioning in the United States South and Southwest; the development of enclosed spaces for movement in cold climates)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 7.4 The Interactions Between People and Places

<table>
<thead>
<tr>
<th>7.4.3. GRADE 3</th>
<th>7.4.6. GRADE 6</th>
<th>7.4.9. GRADE 9</th>
<th>7.4.12. GRADE 12</th>
</tr>
</thead>
</table>

**Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...**

<table>
<thead>
<tr>
<th>B. Identify the impacts of people on physical systems.</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Effects of energy use (e.g., water quality, air quality, change in natural vegetation)</td>
</tr>
<tr>
<td>- Ways humans change local ecosystems (e.g., land use, dams and canals on waterways, reduction and extinction of species)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Describe the impacts of people on physical systems.</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Changing spatial patterns on Earth’s surface that result from human activities (e.g., lake desiccation as in the Aral Sea, construction of dikes, dams and storm surge barriers in the Netherlands, designation of State parks and forests throughout Pennsylvania)</td>
</tr>
<tr>
<td>- Ways humans adjust their impact on the habitat (e.g., Endangered Species Act, replacement of wetlands, logging and replanting trees)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Explain the impacts of people on physical systems.</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Forces by which people modify the physical environment (e.g., increasing population; new agricultural techniques; industrial processes and pollution)</td>
</tr>
<tr>
<td>- Spatial effects of activities in one region on another region (e.g., scrubbers on power plants to clean air, transportation systems such as Trans-Siberian Railroad, potential effects of fallout from nuclear power plant accidents)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Analyze the impacts of people on physical systems.</th>
</tr>
</thead>
<tbody>
<tr>
<td>- How people develop international agreements to manage environmental issues (e.g., Rio de Janeiro Agreement, the Law of the Sea, the Antarctica Treaty)</td>
</tr>
<tr>
<td>- How local and regional processes can have global effects (e.g., wind and hydroelectric power transmitted across regions, water use and irrigation for crop production)</td>
</tr>
<tr>
<td>- Sustainability of resources (e.g., reforestation, conservation)</td>
</tr>
<tr>
<td>- World patterns of resource distribution and utilization (e.g., oil trade, regional electrical grids)</td>
</tr>
</tbody>
</table>

The Interactions Between People and Places must include local to global scales for all students at all grade levels for the standard statements and their descriptors. Basic concepts found in lower grade levels must be developed more fully throughout higher grade levels.
XXI. GLOSSARY

Absolute location: The position of a point on Earth's surface that can usually be described by latitude and longitude. Another example of absolute location would be the use of a nine digit zip code and street address. Absolute location is used to describe the exact position of a point on Earth's surface, such as a specific property or landmark..

Acculturation: The process of adopting the traits of a cultural group by another cultural group. Acculturation can occur through a variety of means, including mass media, education, and social interactions.

Assimilation: The process of adopting the traits of a cultural group by another cultural group. Assimilation is often used to refer to the process of becoming part of a new culture, usually by adopting the language, customs, and beliefs of the new culture.

Atmosphere: The body of gases, aerosols, and other materials that surrounds Earth and is held close by gravity. The atmosphere is composed of various layers that differ in temperature and pressure.

Barriers to migration: Factors that prevent people from moving. Barriers to migration can include economic factors, social factors, and physical barriers.

Basic map elements: Materials included on geographic representations. These include title, directions, date of map, mapmaker's name, a legend and scale. Often a geographic grid, the source of information and sometimes an index of places on the map are also included.

Biomes: A community of living organisms of a single major ecological region. Biomes are large regions of the Earth that share similar climate and vegetation.

Biosphere: The domain of Earth that includes all plant and animal life forms. The biosphere includes the atmosphere, hydrosphere, and lithosphere.

Boundary: The limit or extent within which a system exists or functions. An example of a boundary is the boundary of a political region, such as a country or state.

Ch. 4 ACADEMIC STANDARDS AND ASSESSMENTS

Physical features: Characteristics of a social group, such as its culture, language, and traditions. Physical features are often used to describe the external characteristics of a social group.

Title: The name of a map or geographic representation. The title provides a brief description of the contents of the map.

Directions: The instructions for using a map. Directions include north, south, east, and west, as well as other reference points.

Date of map: The date the map was created or updated. The date of the map is important for understanding the accuracy and relevance of the information.

Mapmaker's name: The name of the person or organization that created the map. The mapmaker's name is usually included to provide credit and to indicate the level of expertise involved in creating the map.

Legend: The key or reference table that explains the symbols and colors used on a map. The legend is important for interpreting the map.

Scale: The ratio of distance on the map to distance on the Earth's surface. Scale is used to convert distances on the map to actual distances on the ground.

Geographic grid: A system of lines that divide the Earth into squares or grid cells. The geographic grid is used to locate specific points on a map.

Source of information: The information used to create the map. The source of information is important for understanding the accuracy and reliability of the map.

Index of places: A list of places included on a map, along with their corresponding symbols or labels. The index of places is used to quickly find specific locations on the map.

 клиенты: 

ассимиляция: 

биомы: 

биосфера: 

гранич: 

основные элементы карты: 

барьеры миграции: 

геофизические особенности: 

название: 

направления: 

дата карты: 

имя картографа: 

легенда: 

шкала: 

географическая сетка: 

источник информации: 

индекс мест: 

Geography
Capital: A factor of production of goods and services. Capital can be goods (e.g., factories and equipment, highways, information, communications systems) and/or funds (investment and working capital) used to increase production and wealth. Other factors are land, labor, and entrepreneurship.

Cardinal Directions: The four main points of the compass; north, east, south, and west.

Carrying Capacity: The maximum population that an area can support over time, depending on environmental conditions and resources available for consumption.

Central Place Theory: A conceptual framework that explains the size, spacing, and distribution of settlements and their economic relationships with their market areas.

Climate: Long-term patterns and trends in weather and atmospheric conditions.

Climate Graph (Climagraph): A diagram that combines average monthly temperature and precipitation data for a particular place.

Comparative Advantage: The specialization by a region in the production of one or a few commodities for which it has a particular edge (e.g., labor quality, resources availability, production costs).

Concentric Zone Model: A framework that proposes that urban functions and the associated land uses are arranged in rings that grow outward from a central area. The other models developed to explain how cities and their activities are arranged in terms of resources availability, production costs, or industry preferences include the Sector and Multiple Nuclei models.

Country: A political unit often referred to as a state, nation, or nation-state.
Culture:
Learned behavior of people, which includes their belief systems and languages, their social relationships, their institutions and organizations and their material goods—food, clothing, buildings, tools and machines.

Cultural diffusion:
The spread of cultural elements from one culture to another.

Cultural landscape:
The human imprint on the physical environment; the human influence on the physical environment.

Density:
The population or number of objects per unit area.

Demographic change:
The spread of cultural elements from one culture to another.

Decertification:
The spread of desert conditions in arid and semiarid regions resulting from a combination of climatic changes and increasing human pressures on ecosystems, resulting from a combination of desert conditions in arid and semiarid regions.

Distance decay:
The tendency for the acceptance of new ideas and products to decrease with distance from their source.

Demographic transition:
The spread of cultural elements from one culture to another.

CH. 4 ACADEMIC STANDARDS AND ASSESSMENTS

4-267
Ecosystem (ecological system): A network formed by the interaction of all living organisms (plants, animals, humans) with each other and with the physical and chemical factors of the environment in which they live.

Elevation: Height of a point or place above sea level (e.g., Mount Everest has an elevation of 29,028 feet above sea level).

Enclaves: A country, territorial or culturally distinct unit enclosed within a larger country or community.

Environment: Everything in and on Earth's surface and its atmosphere within which organisms, communities, ecosystems, or objects exist.

Equilibrium: The point in the operation of a system when driving forces and resisting forces are in balance.

Equinoxes: The two days during the calendar year (usually September 23 and March 21) when the hours of daylight and darkness are equal.

Erosional processes: The removal and transportation of weathered (loose) rock material by water, wind, waves and glaciers. Deposition is the end result of erosion.

Fall line: A linear connection joining the waterfalls on numerous rivers and streams that marks the point where each river and stream descends from the upland and the limit of the navigability of each stream where each river and stream transports from the point where numerous rivers and streams join into the point where the current connection joins the watershed on the coastal plain and the sediment in the coastal plain and the peninsula between the river and the narrow boundary zone between the river and the mouth. These processes and the sun directly overlap 24 hours a day, whereas the two days when the sun is directly overhead, the equinoxes occur on September 23 and March 21. When all latitudes have equal hours of both daylight and darkness, there are twelve hours of both daylight and darkness.

Fertility rate: A measure of the number of children a woman will have during her child-bearing years (15 to 49 years of age) in comparison to the adult female mean.
An area defined by the uniformity or homogeneity of characteristics (e.g., precipitation, landforms, subculture).

A region of Earth that correctly represents a part of Earth's surface, whose scale is expressed as a bar graph or a representative fraction. Referred to as large scale if they represent much of all of the Earth's surface, and small scale if they are of smaller (local) areas and small scale, such as a building or a neighborhood. Maps are referenced to a large scale, such as a scale model of Earth, and the size of that space on a map to the size of space on Earth or from that point to the Earth's surface.

The theory that Earth's atmosphere is gradually warming due to the increased levels of carbon dioxide and methane, which are emitted from the burning of fossil fuels. The increased levels of these gases trap heat in the Earth's atmosphere, leading to increased temperatures and changes in climate.
Human Features:
Tangible and intangible ideas associated with the culture, society and economy of places or areas. These include the spatial arrangement of land uses including transportation, the design of buildings and the nature and timing of activities that people conduct in these spaces.

Hydroelectric power:
Electrical energy generated by the force of falling water which rotates turbines housed in power plants in dams on rivers.

Hydrosphere:
The water realm of Earth which includes water contained in the oceans, lakes, rivers, ground, glaciers and water vapor in the atmosphere.

Infant mortality rate:
The annual number of deaths among infants under 1 year of age for every 1,000 live births. Usually provides an indication of health care levels. The United States, for example, has a rate of 6.8 infant deaths per 1,000 live births. In comparison, the infant mortality rate in Angola is 137 infant deaths per 1,000 births.

Interdependence:
Ideas, goods and services in one area affect decisions and events in other areas. Reducing self-sufficiency.

Intermediary opportunities:
An alternate area that is a source of a product or service or a destination in the case of migration. Intermediate directions: The points of the compass that fall between north and south, and east and west. North and East are cardinal, the other points fall between these two.

Inland Water Body:
The body of water located (by the government) on an island. The surface of a body of water is the ocean surface. An alternate area that is a source of a product or service.

Lake desiccation:
The reduction in water level (drying out) of an inland water body.

Landform:
The shape, form or nature of a specific physical feature of Earth's surface (e.g., plain, hill, plateau, mountain).

Land use:
The range of uses of Earth's surface made by humans. Uses are classified as urban, rural, agricultural, forested, etc. with more specific subheadings.

Interdependence:
Ideas, goods and services in one area affect decisions and events in other areas. Reducing self-sufficiency.

Intermediate directions:
The points of the compass that fall between north and south, and east and west. North and East are cardinal, the other points fall between these two.

Inland Water Body:
The body of water located (by the government) on an island. The surface of a body of water is the ocean surface. An alternate area that is a source of a product or service.

Lake desiccation:
The reduction in water level (drying out) of an inland water body.

Landform:
The shape, form or nature of a specific physical feature of Earth's surface (e.g., plain, hill, plateau, mountain).

Land use:
The range of uses of Earth's surface made by humans. Uses are classified as urban, rural, agricultural, forested, etc. with more specific subheadings.
Life expectancy: The average number of remaining years a person can expect to live under current mortality levels in a society. Life expectancy at birth is the most common use of this measure.

Lithosphere: The uppermost portion of the solid Earth including soil, land and geologic formations.

Location: The position of a point on Earth’s surface expressed by means of a grid or in relation to the position of other places.

Map: A graphic representation of a portion of Earth that is usually drawn to scale on a flat surface.

Materials: Raw or processed substances that are used in manufacturing (secondary economic activities). Most substances used in factories are already manufactured to some degree and come from other factories rather than from sources of raw materials.

Megalopolis: The intermingling of two or more large metropolitan areas into a continuous or almost continuous built-up urban complex; sometimes referred to as a conurbation.

Mental map: A geographic representation which conveys the cognitive image a person has of an area, including geographic relationships, knowledge of features and spatial relationships.

Metropolitan area: The Federal Office of Management and Budget’s designation for the functional area surrounding and including a central city; has a minimum population of 50,000; is contained in the same county as the central city; and includes adjacent counties having at least 15% of their residents working in the central city.

Migration: The act or process of people moving from one place to another with the intent of staying at the destination permanently or for a relatively long period of time.
Multinational organizations: An association of nations aligned around a common economic or political cause (e.g., the Organization of Petroleum Exporting Countries, the Organization of American States).

Multiple nuclei model: A representation of urban structure based on the idea that the functional areas (land use) of cities develop around various points rather than just one in the Central Business District.

Municipality: A political unit incorporated for local self-government (e.g., Pennsylvania’s boroughs, townships).

NAFTA: North American Free Trade Agreement. NAFTA is an accord to establish clear and mutually advantageous rules governing commerce among Canada, Mexico, and the United States.

NATO: North Atlantic Treaty Organization. An international transatlantic partnership consisting of various European states, the United States, and Canada, designed through cooperation, consultation, and collective defense to maintain peace and promote stability throughout Europe.

Nation: A cultural concept for a group of people bound together by a strong sense of shared values and common history. Cultural characteristics including language, religion, and history.

Natural hazard: An event in the physical environment, such as a hurricane or earthquake, that is destructive to human life and property.

Natural resource: An element of the physical environment that people value and use to meet their needs (e.g., food, water, minerals, fuels).

Nonrenewable resource: A finite element that cannot be replaced once it is used (e.g., petroleum, minerals).

Ocean currents: Waves in the oceans, usually in response to wind, that consist of horizontal flow of water in the oceans, usually in response to wind.

Polity: A political unit incorporated for local self-government (e.g., Pennsylvania’s boroughs, townships).

Polyarchy: The Organization of American States. An association of nations that aid each other in the functional areas (land use) of cities based on the common economic or political cause (e.g., the Organization of American States).
Population density: The number of individuals occupying a given area per unit area.

Pollution: The direct or indirect process resulting from human action by which any part of the environment is made potentially or actually unhealthy, unsafe or hazardous to the welfare of the organisms which live in it.

Place: An area with distinctive human and physical characteristics. Place refers to the geographical locale, the human activity and settlement patterns, and the natural features of the area.

Physical feature: A physical process is a course or method of operation that produces, maintains or alters Earth's physical system.

Physical process: A physical feature is the result of a physical process such as erosion or deposition.

Perceptual region: The perceptions which people have about the character of areas.

OAS: Organization of American States. An international governmental organization formed by the nation-states of North America and South America for security and the protection of mutual interests.

OPEC: The Organization of Petroleum Exporting Countries; an international cartel of thirteen nations designed to promote collective pricing of petroleum, unified marketing policies and regulation of petroleum extraction.

Perceptual region: Ideas that people have about the character of areas based on impressions from a variety of sources of information including other individuals and media.

Population density: The measure of population distribution per unit area.

Plate tectonics: The theory that Earth's surface is composed of rigid slabs or tectonic plates that move relative to one another due to forces of divergence, convergence and tension. These movements cause tectonic plates to collide, slide past each other or move apart, resulting in the formation of mountains, valleys and other topographic features.

Physical feature: An aspect of a place or area that derives from the physical environment.

Population: The number of individuals occupying a given area. The number of people per square mile represents population density.

Pollution: The direct or indirect process resulting from human action by which any part of the environment is made potentially or actually unhealthy, unsafe or hazardous to the welfare of the organisms which live in it.

Place: A place is an area with distinctive human and physical characteristics that give it meaning and character.

Population density: The number of people per square mile.

Plate tectonics: The theory that Earth's surface is composed of rigid tectonic plates that move relative to one another, causing changes in the physical environment.
Sector Model:
A theory of urban structure that recognizes the impact of transportation on land prices within the city and the resulting tendency for functional areas to be organized into sectors.

Secondary economic activity:
Processing of raw and manufactured materials into products with added value.

Settlement pattern:
The spatial distribution and arrangement of human habitation (e.g., rural, urban).

Site:
The specific location where something may be found including its physical setting (e.g., on a floodplain).

Situation:
The general location of something in relation to other places or features of a larger region (e.g., in the center of a group of cities).

Soil:
Unconsolidated material found at the surface of Earth, which is divided into layers (or horizons) characterized by the accumulation or loss of organic and inorganic compounds. Loam types and depths vary greatly over Earth's surface and are very much influenced by climate, organisms, rock type, and human activity.

Spatial:
Pertains to space on Earth's surface.

Spatial distribution:
The distribution of physical and human elements on Earth's surface.

Spatial organization:
The arrangement on Earth's surface of physical and human elements.

Spatial pattern:
The spatial distribution and arrangement of human activity to be analyzed into sectors.

Secondary economic activity:
The economic activity that is dependent on the primary economic activity within the city and the resulting hierarchy for functional areas.

Sector Model:
A theory of urban structure that recognizes the impact of transportation on land prices within the city and the resulting tendency for functional areas to be organized into sectors.
Tectonic plates: Sections of Earth's rigid crust that move as distinct units on a plastic-like ledge (mantle) on which they rest. As many as twenty different plates have been identified, but only seven are considered to be major (e.g., Eurasian Plate, South American Plate).

Thematic maps: A geographic representation of specific spatial distributions, themes, or topics (e.g., population density, cattle production, climates of the world).

Time zones: A division of Earth, usually 15 degrees longitude, within which the time at the central meridian represents the whole division. Synchronizes local times everywhere within the division. "Greenwich Mean Time" (GMT) is the time at the central meridian of the prime meridian, an imaginary line that runs through the middle of the Atlantic Ocean between the United States and Africa, and separates Eastern and Western time zones.

Pennsylvania History: A geographic representation of specific spatial distributions, themes, or topics (e.g., population density, cattle production, climates of the world). Synchronizes local times everywhere within the division. "Greenwich Mean Time" (GMT) is the time at the central meridian of the prime meridian, an imaginary line that runs through the middle of the Atlantic Ocean between the United States and Africa, and separates Eastern and Western time zones.

Academic Standards for History

XXI. TABLE OF CONTENTS

Introduction .................................................. XXIII.

Academic Standards for History

Pennsylvania History .......................................... 8.2

A. Contributions of Individuals and Groups
B. Documents, Artifacts, and Historical Places
C. Influence of continuity and change
D. Conflict and cooperation among groups
E. Historical research
F. Historical comprehension
G. Cross-cultural thinking
H. Historical analysis and skills development

PENNSYLVANIA STATE BOARD OF EDUCATION 2002 COMMONWEALTH OF PENNSYLVANIA

(29495) No. 410 PAs' 03

22
United States History.......................................... 8.3
A. Contributions of Individuals and Groups
B. Documents, Artifacts and Historical Places
C. Influences of Continuity and Change
D. Conflict and Cooperation Among Groups

World History................................................ 8.4
A. Contributions of Individuals and Groups
B. Documents, Artifacts and Historical Places
C. Influences of Continuity and Change
D. Conflict and Cooperation Among Groups

Glossary ..................................................... XXIV.

XXIII. INTRODUCTION

This document includes Academic Standards for History that describe what students should know and be able to do:

• 8.1. Historical Analysis and Skills Development
• 8.2. Pennsylvania History
• 8.3. United States History
• 8.4. World History

The Academic Standards for History are grounded in the Public School Code of 1949 which directs "... study in the history and government of that portion of America which has become the United States of America, and of the Commonwealth of Pennsylvania...". Chapter 4—Academic Standards and Assessment in § 4.21 (relating to elementary education; primary and intermediate levels) reinforces the School Code by indicating that the history of the United States and the Commonwealth must be taught once by the end of elementary school. In addition, § 4.22 (relating to middle level education) indicates that the study of the history of the United States and the Commonwealth must be taught once by the end of elementary school, and that the history of the United States, the Commonwealth, and the world be provided in the history curriculum. The Standards include four categories: A. Contributions of Individuals and Groups, B. Documents, Artifacts and Historical Places, C. Influences of Continuity and Change, and D. Conflict and Cooperation Among Groups. The academic standards provide an organizing content for schools.

To support the intent of the Public School Code and Chapter 4, this document creates four standard categories. The four standard categories were designed to meld historical thinking (8.1. Historical Analysis and Skills Development) with historical understanding (8.2. Pennsylvania History, 8.3. United States History, and 8.4. World History) to describe what students should know and be able to do.
Standard category 8.1. Historical Analysis and Skill Development provides the basis for learning the content within the other three standard categories. The intent of the history standards is to instill in each student an ability to comprehend chronology, develop historical comprehension, evaluate historical interpretation and to understand historical research. One should not view these standards as a list of facts to recall, rather as stated in the opening phrase to the Pennsylvania, United States and World standard categories, "Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to analyze the interaction of cultural, economic, geographic, political and social relations."

These standards provide a history framework to permit every school and teacher to create planned instruction. The content within this document is general and does not represent a course or even a portion thereof. Every school is encouraged to move beyond these standards. These standards are merely a starting point for the study of history. Planned instruction to meet these standards is required; however, the methodology, resources and time are not recommended nor implied.

History is a discipline that interprets and analyzes the past. It is a narrative—a story. In order to tell the story it is not sufficient to simply recall facts; it is also necessary to understand the context of the time and place and to apply historical thinking skills. It is with this concept established, that the content delineated in Pennsylvania, United States, and World Histories should be approached. Having established the need to move beyond recall, it is the intent of these standards to give students throughout Pennsylvania a common cultural literacy.

Pennsylvania, United States, and World History standard categories use the same four standard statements to guide teachers in developing planned instruction. The four standard statements are: (A) Political and Cultural Contributions of Individuals and Groups; (B) Primary Documents, Material Artifacts, and Historical Places; (C) How Continuity and Change Has Influenced History; (D) Conflict and Cooperation Among Social Groups and Organizations. The chart, Four Standard Statements within the Academic Standards for History: An Overview outlines standard statements and descriptors.

Although the standard statements are similar across grade levels and standard categories, the degree of comprehension, change in content and shifts in chronological periods within the standards differ. Although different grade levels outline different chronological periods within the standards, it is intended that the specified chronological eras be linked to past learnings and that all eras be linked to the present in the standards. The following chronological time periods for the standard categories are established for the standard categories.
A glossary is included to assist the reader in understanding terminology. The Academic Standards for History consist of four standard categories (designated as 8.1., 8.2., 8.3., and 8.4.). Each category has four standard statements (designated A, B, C, and D). Most standard statements have bulleted items known as standard descriptors. The descriptors are items within the document to illustrate and enhance the standard statement. These are suggestions and the choice of specific content is a local decision as is the method of instruction. Activities and the choice of specific content is a local decision. The Academic Standards for History consist of four standard categories (designated as 8.1., 8.2., 8.3., and 8.4.) and are included in the document. The descriptors are items within the document to illustrate and enhance the standard statements. These are suggestions and the choice of specific content is a local decision as is the method of instruction. The Academic Standards for History consist of four standard categories (designated as 8.1., 8.2., 8.3., and 8.4.) and are included in the document. The descriptors are items within the document to illustrate and enhance the standard statements.
Four Standard Statements within the Academic Standards for History:

**An Overview**

- Political and Cultural Contributions of Individuals and Groups
  - Inhabitants (cultures, subcultures, groups)
  - Political Leaders (monarchs, governors, elected officials)
  - Military Leaders (generals, noted military figures)
  - Cultural and Commercial Leaders (entrepreneurs, corporate executives, artists, entertainers, writers)
  - Innovators and Reformers (inventors, philosophers, religious leaders, social change agents, improvers of technology)

- How Continuity and Change Have Influenced History
  - Belief Systems and Religions (ideas, beliefs, values)
  - Commerce and Industry (jobs, trade, environmental change, labor systems, entertainment)
  - Innovations (ideas, technology, methods and processes)
  - Politics (political party systems, administration of government, rules, regulations and laws, political and judicial interpretation)
  - Transportation (methods of moving people and goods over time, transportation routes, circulation systems)
  - Settlement Patterns and Expansion (population density and diversity, settlement types, land use, colonization)
  - Social Organization (social structure, identification of social groups, families, groups and communities, education, school population, enrollment, school organization, social change)
  - Women's Movement (changing roles of women, social change)

**4-280**

(State Board of Education)
**Four Standard Statements within the Academic Standards for History:**

**An Overview**

<table>
<thead>
<tr>
<th>Conflict and Cooperation Among Social Groups and Organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Military Conflicts (causes, management, intensity)</td>
</tr>
<tr>
<td>Conditions over time, influence collective bargaining, working conditions and individual and collective experiences</td>
</tr>
<tr>
<td>Immediate and extended influence, intercultural, ethnic and xenophobic, ethnic and religious prejudices</td>
</tr>
<tr>
<td>Domestic, regional, and national and international politics</td>
</tr>
<tr>
<td>Document, written and oral, collective and individual</td>
</tr>
<tr>
<td>Conflict and cooperation among social groups and organizations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Domestic and Non-Religious Cultural Symbols and Cultural Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional government, social organizations, and non-religious symbols and practices</td>
</tr>
<tr>
<td>Historical and artistic symbols and practices</td>
</tr>
<tr>
<td>Government, social organizations, and non-religious symbols and practices</td>
</tr>
<tr>
<td>Domestic and Non-Religious Cultural Symbols and Cultural Practices</td>
</tr>
</tbody>
</table>

**Primary Documents, Material Artifacts, and Oral Sources**

Each standard statement outlines its respective standard descriptors. Each standard descriptor suggests content that may be addressed. These are not all encompassing and local planned instruction is not limited to these examples.

---

**Note:**

4-281

(294993) No. 340 Mar. 03

Ch. 4 ACADEMIC STANDARDS AND ASSESSMENTS

---

Ch. 4 ACADEMIC STANDARDS AND ASSESSMENTS
### 8.1. Historical Analysis and Skills Development

<table>
<thead>
<tr>
<th>8.1.3. GRADE 3</th>
<th>8.1.6. GRADE 6</th>
<th>8.1.9. GRADE 9</th>
<th>8.1.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Understand chronological thinking and distinguish between past, present and future time.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Calendar time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Time lines</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Continuity and change</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Events (time and place)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B. Develop an understanding of historical sources.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Data in historical maps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Visual data from maps and tables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Mathematical data from graphs and tables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Author or historical source</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8.1.3. GRADE 3</th>
<th>8.1.6. GRADE 6</th>
<th>8.1.9. GRADE 9</th>
<th>8.1.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Analyze chronological thinking,</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Difference between past, present and future</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Sequential order of historical narrative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Data presented in time lines</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Continuity and change</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Context for events</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B. Explain and analyze historical sources.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Literal meaning of a historical passage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Data in historical and contemporary maps, graphs and tables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Author or historical source</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Multiple historical perspectives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Visual evidence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Mathematical data from graphs and tables</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8.1.3. GRADE 3</th>
<th>8.1.6. GRADE 6</th>
<th>8.1.9. GRADE 9</th>
<th>8.1.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B. Analyze and interpret historical sources.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Literal meaning of historical passages</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Data in historical and contemporary maps, graphs and tables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Different historical perspectives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Data from maps, graphs and tables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Visual data presented in historical evidence</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...

- Calendar time
- Time lines
- People and events in time
- Patterns of continuity and change
- Sequential order
- Context for events
- Data presented in time lines
- Continuity and change
- Context for events
- Different historical perspectives
- Data from maps, graphs and tables
- Visual data presented in historical evidence
8.1. Historical Analysis and Skills Development

<table>
<thead>
<tr>
<th>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C. Understand fundamentals of historical interpretation.</strong></td>
</tr>
<tr>
<td>- Difference between fact and opinion</td>
</tr>
<tr>
<td>- The existence of multiple points of view</td>
</tr>
<tr>
<td>- Illustrations in historical stories</td>
</tr>
<tr>
<td>- Causes and results</td>
</tr>
<tr>
<td><strong>C. Explain the fundamentals of historical interpretation.</strong></td>
</tr>
<tr>
<td>- Difference between fact and opinion</td>
</tr>
<tr>
<td>- Multiple points of view</td>
</tr>
<tr>
<td>- Illustrations in historical stories</td>
</tr>
<tr>
<td>- Causes and results</td>
</tr>
<tr>
<td>- Author or source of historical narratives</td>
</tr>
<tr>
<td><strong>C. Analyze the fundamentals of historical interpretation.</strong></td>
</tr>
<tr>
<td>- Fact versus opinion</td>
</tr>
<tr>
<td>- Reasons/causes for multiple points of view</td>
</tr>
<tr>
<td>- Illustrations in historical documents and stories</td>
</tr>
<tr>
<td>- Causes and results</td>
</tr>
<tr>
<td>- Author or source used to develop historical narratives</td>
</tr>
<tr>
<td>- Central issue</td>
</tr>
<tr>
<td><strong>C. Evaluate historical interpretation of events.</strong></td>
</tr>
<tr>
<td>- Impact of opinions on the perception of facts</td>
</tr>
<tr>
<td>- Issues and problems in the past</td>
</tr>
<tr>
<td>- Multiple points of view</td>
</tr>
<tr>
<td>- Illustrations in historical stories and sources</td>
</tr>
<tr>
<td>- Connections between causes and results</td>
</tr>
<tr>
<td>- Author or source of historical narratives' points of view</td>
</tr>
<tr>
<td>- Central issue</td>
</tr>
</tbody>
</table>
### 8.1. Historical Analysis and Skills Development

<table>
<thead>
<tr>
<th>8.1.3. GRADE 3</th>
<th>8.1.6. GRADE 6</th>
<th>8.1.9. GRADE 9</th>
<th>8.1.12. GRADE 12</th>
</tr>
</thead>
</table>
<Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to . . . |

D. Understand historical research.
- Event (time and place)
- Facts, folklore and fiction
- Formation of historical question
- Primary sources
- Secondary sources
- Conclusions (e.g., storytelling, role playing, diorama)

D. Describe and explain historical research.
- Historical events (time and place)
- Facts, folklore and fiction
- Historical questions
- Primary sources
- Secondary sources
- Conclusions (e.g., simulations, group projects, skits and plays)

D. Analyze and interpret historical research.
- Historical event (time and place)
- Facts, folklore and fiction
- Historical questions
- Primary sources
- Secondary sources
- Conclusions (e.g., History Day projects, mock trials, speeches)
- Credibility of evidence

D. Synthesize historical research.
- Historical event (time and place)
- Facts, folklore and fiction
- Historical questions
- Primary sources
- Secondary sources
- Conclusions (e.g., Senior Projects, research papers, debates)
- Credibility of evidence

Pennsylvania History, 8.3 United States History and 8.4 World History

Historical Analysis and Skill Development are learned through and applied to the standards statements and their descriptors for 8.2 Pennsylvania History, 8.3 United States History and 8.4 World History.
8.2. Pennsylvania History

<table>
<thead>
<tr>
<th>8.2.3. GRADE 3</th>
<th>8.2.6. GRADE 6</th>
<th>8.2.9. GRADE 9</th>
<th>8.2.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to analyze cultural, economic, geographic, political and social relations to . . .</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**A. Understand the political and cultural contributions of individuals and groups to Pennsylvania history.**
- William Penn
- Benjamin Franklin
- Pennsylvanians impacting American Culture (e.g., John Chapman, Richard Allen, Betsy Ross, Mary Ludwig Hayes, Rachel Carson, Elizabeth Jane Cochran, Marian Anderson)
- Local historical figures in municipalities and counties.

**A. Identify and explain the political and cultural contributions of individuals and groups to Pennsylvania history from Beginnings to 1824.**
- Inhabitants (e.g., Native Americans, Europeans, Africans)
- Military Leaders (e.g., Anthony Wayne, Oliver H. Perry, John Muhlenberg)
- Political Leaders (e.g., William Penn, Hannah Penn, Benjamin Franklin)
- Cultural and Commercial Leaders (e.g., Robert Morris, John Bartram, Albert Gallatin)
- Innovators and Reformers (e.g., Society of Friends, Richard Allen, Sybilla Masters)

**A. Analyze the political and cultural contributions of individuals and groups to Pennsylvania history from 1787 to 1914.**
- Political Leaders (e.g., James Buchanan, Thaddeus Stevens, Andrew Curtin)
- Military Leaders (e.g., George Meade, George McClellan, John Hartranft)
- Cultural and Commercial Leaders (e.g., John J. Audubon, Rebecca Webb Lukens, Stephen Foster)
- Innovators and Reformers (e.g., George Westinghouse, Edwin Drake, Lucretia Mott)

**A. Evaluate the political and cultural contributions of individuals and groups to Pennsylvania history from 1890 to Present.**
- Political Leaders (e.g., Gifford Pinchot, Genevieve Blatt, K. Leroy Irvis)
- Military Leaders (e.g., Tasker H. Bliss, Henry “Hap” Arnold, George C. Marshall)
- Cultural and Commercial Leaders (e.g., Milton Hershey, Marian Anderson, Fred Rogers)
- Innovators and Reformers (e.g., Frank Conrad, Rachel Carson, Joseph Rothrock)
### 8.2. Pennsylvania History

<table>
<thead>
<tr>
<th>8.2.3. GRADE 3</th>
<th>8.2.6. GRADE 6</th>
<th>8.2.9. GRADE 9</th>
<th>8.2.12. GRADE 12</th>
</tr>
</thead>
</table>

**Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to analyze cultural, economic, geographic, political and social relations to**

**B. Identify and describe primary documents, material artifacts and historic sites important in Pennsylvania history.**
- Documents, Writings and Oral Traditions (e.g., Penn’s Charter, Pennsylvania “Declaration of Rights”)
- Artifacts, Architecture and Historic Places (e.g., Local historical sites, museum collections, Independence Hall)
- Liberty Bell
- Official Commonwealth symbols (e.g., tree, bird, dog, insect)

**B. Identify and explain primary documents, material artifacts and historic sites important in Pennsylvania history from Beginnings to 1824.**
- Documents, Writings and Oral Traditions (e.g., Charter of Privileges, The Gradual Abolition of Slavery Act of 1780, *Letters from a Pennsylvania Farmer*)
- Artifacts, Architecture and Historic Places (e.g., Conestoga Wagon, Pennsylvania rifle, Brig Niagara)

**B. Identify and analyze primary documents, material artifacts and historic sites important in Pennsylvania history from 1787 to 1914.**
- Documents, Writings and Oral Traditions (e.g., Pennsylvania Constitutions of 1838 and 1874, The “Gettysburg Address,” *The Pittsburgh Survey*)
- Artifacts, Architecture and Historic Places (e.g., Gettysburg, Eckley Miners’ Village, Drake’s Well)

**B. Identify and evaluate primary documents, material artifacts and historic sites important in Pennsylvania history from 1890 to Present.**
- Documents, Writings and Oral Traditions (e.g., Constitution of 1968, *Silent Spring* by Rachel Carson, Pennsylvania historical markers)
- Artifacts, Architecture and Historic Places (e.g., 28th Division Shrine, Fallingwater, Levittown, Allegheny Ridge heritage corridor)
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to analyze cultural, economic, geographic, political and social relations to...

<table>
<thead>
<tr>
<th>8.2.3. GRADE 3</th>
<th>8.2.6. GRADE 6</th>
<th>8.2.9. GRADE 9</th>
<th>8.2.12. GRADE 12</th>
</tr>
</thead>
</table>
| C. Identify and describe how continuity and change have influenced Pennsylvania history.  
- Belief Systems and Religions (e.g., Native Americans, early settlers, contemporary religions)  
- Commerce and Industry (e.g., jobs, trade, environmental change)  
- Innovations (e.g., technology, ideas, processes)  
- Politics (e.g., rules, regulations, laws)  
- Settlement Patterns (e.g., farms, towns, rural communities, cities)  
- Social Organization (e.g., relationships of individuals, families, groups, communities; ability to be educated)  
- Transportation (e.g., methods of moving people and goods over time)  
- Women’s Movement (e.g., changes in roles and rights over time) | C. Identify and explain how continuity and change have influenced Pennsylvania history from the Beginnings to 1824.  
- Belief Systems and Religions (e.g., Native Americans, Quakers)  
- Commerce and Industry (e.g., iron production, sailing, fur trade)  
- Innovations (e.g., steam boat, Conestoga Wagon)  
- Politics (e.g., The Mason-Dixon Line, Pennsylvania’s acquisition and detachment of the “lower three counties,” movements of State capital)  
- Settlement Patterns (e.g., native settlements, Westward expansion, development of towns)  
- Social Organization (e.g., trade and development of cash economy, African Methodist Episcopal Church founded, schools in the colony) | C. Identify and analyze how continuity and change have influenced Pennsylvania history from 1787 to 1914.  
- Belief Systems and Religions (e.g., Ephrata Cloister, Harmonists, Amish, immigrant influences)  
- Commerce and Industry (e.g., mining coal, producing iron, harvesting timber)  
- Innovations (e.g., John Roebling’s steel cable, steel-tipped plow, improved techniques for making iron, steel and glass)  
- Politics (e.g., Fugitive Slave Act reaction, canal system legislation, The Free School Act of 1834)  
- Settlement Patterns (e.g., farms and growth of urban centers) | C. Identify and evaluate how continuity and change have influenced Pennsylvania history from the 1890s to Present.  
- Belief Systems and Religions (e.g., Buddhism, Christianity, Hinduism, Islam, Judaism)  
- Commerce and Industry (e.g., work of defense industries, rise and decline of the steel industry, increase of service industries)  
- Innovations (e.g., polio vaccine, air pollution examined, nuclear power plants)  
- Politics (e.g., Great Depression special legislative session, creation of the state income tax)  
- Settlement Patterns (e.g., growth and decline of cities, coal towns, Pittsburgh Renaissance) |
### 8.2. Pennsylvania History

<table>
<thead>
<tr>
<th>8.2.3. GRADE 3</th>
<th>8.2.6. GRADE 6</th>
<th>8.2.9. GRADE 9</th>
<th>8.2.12. GRADE 12</th>
</tr>
</thead>
</table>
| **Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to analyze cultural, economic, geographic, political and social relations to . . .** | • Transportation (e.g., trade routes, turnpikes, post roads)  
• Women’s Movement (e.g., voting qualifications, role models) | • Social Organization (e.g., the Philadelphia Centennial Exposition of 1876, prohibition of racial discrimination in schools)  
• Transportation (e.g., canals, National Road, Thompson’s Horseshoe Curve)  
• Women’s Movement (e.g., work of the Equal Rights League of Pennsylvania) | • Social Organization (e.g., creation of the State Soil Conservation Commission, First Amendment challenges to education, social services)  
• Transportation (e.g., Pennsylvania Turnpike, Interstate highways, international airports)  
• Women’s Movement (e.g., League of Women Voters, Commission for Women) |
<table>
<thead>
<tr>
<th>Grade</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>8.2.3. Identify and describe conflict and cooperation among social groups and organizations in Pennsylvania history.</td>
</tr>
<tr>
<td>6</td>
<td>8.2.6. Identify and explain conflict and cooperation among social groups and organizations in Pennsylvania history from Beginnings to 1824.</td>
</tr>
<tr>
<td>9</td>
<td>8.2.9. Identify and analyze conflict and cooperation among social groups and organizations in Pennsylvania history from 1787 to 1914.</td>
</tr>
<tr>
<td>12</td>
<td>8.2.12. Identify and evaluate conflict and cooperation among social groups and organizations in Pennsylvania history from 1890 to Present.</td>
</tr>
</tbody>
</table>

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to analyze cultural, economic, geographic, political and social relations to...
<table>
<thead>
<tr>
<th>Grade 3</th>
<th>Grade 6</th>
<th>Grade 9</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.2.3.</td>
<td>8.2.6.</td>
<td>8.2.9.</td>
<td>8.2.12.</td>
</tr>
</tbody>
</table>

Standard Category 8.1: Historical Analysis and Skills Development should be applied to the above standard statements and descriptors. Suggested chronology for grade levels 4-6, 7-9, and 10-12 focus on a particular century; however, instruction is encouraged that draws on prior and later events in history so that students may develop a seamless view of the world.
Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to analyze cultural, economic, geographic, political and social relations to...
### 8.3. United States History

<table>
<thead>
<tr>
<th>8.3.3. GRADE 3</th>
<th>8.3.6. GRADE 6</th>
<th>8.3.9. GRADE 9</th>
<th>8.3.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B. Identify and describe primary documents, material artifacts and historic sites important in United States history.</strong></td>
<td><strong>B. Identify and explain primary documents, material artifacts and historic sites important in United States history from Beginnings to 1824.</strong></td>
<td><strong>B. Identify and analyze primary documents, material artifacts and historic sites important in United States history from 1787 to 1914.</strong></td>
<td><strong>B. Identify and evaluate primary documents, material artifacts and historic sites important in United States history from 1890 to Present.</strong></td>
</tr>
<tr>
<td><strong>• Documents (e.g., Declaration of Independence, U.S. Constitution, Bill of Rights)</strong></td>
<td><strong>• Documents (e.g., Mayflower Compact, Northwest Ordinance, Washington’s Farewell Address)</strong></td>
<td><strong>• Documents (e.g., Fugitive Slave Law, Treaty of Guadalupe Hidalgo, Emancipation Proclamation)</strong></td>
<td><strong>• Documents (e.g., Treaty of Versailles, North Atlantic Treaty, Neutrality Acts)</strong></td>
</tr>
<tr>
<td><strong>• Writings and Communications (e.g., Pledge of Allegiance, famous quotations and sayings)</strong></td>
<td><strong>• 18th Century Writings and Communications (e.g., Paine’s Common Sense; Franklin’s “Join, or Die,” Henry’s “Give me liberty or give me death”)</strong></td>
<td><strong>• 19th Century Writings and Communications (e.g., Stowe’s Uncle Tom’s Cabin, Brown’s “Washed by Blood,” Key’s Star Spangled Banner)</strong></td>
<td><strong>• 20th Century Writings and Communication (e.g., Coolidge’s “The Business of America is Business,” King’s “I Have A Dream,” Armstrong’s “One Small Step for Man”)</strong></td>
</tr>
<tr>
<td><strong>• Historic Places (e.g., The White House, Mount Rushmore, Statue of Liberty)</strong></td>
<td><strong>• Historic Places (e.g., Cahokia Mounds, Spanish Missions, Jamestown)</strong></td>
<td><strong>• Historic Places (e.g., The Alamo, Underground Railroad sites, Erie Canal)</strong></td>
<td><strong>• Historic Places (e.g., Ellis Island, Pearl Harbor, Los Alamos)</strong></td>
</tr>
</tbody>
</table>

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to analyze cultural, economic, geographic, political and social relations to . . .

---

Copyright © 2003 Commonwealth of Pennsylvania
### 8.3 United States History

<table>
<thead>
<tr>
<th>8.3.3. GRADE 3</th>
<th>8.3.6. GRADE 6</th>
<th>8.3.9. GRADE 9</th>
<th>8.3.12. GRADE 12</th>
</tr>
</thead>
</table>

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to analyze cultural, economic, geographic, political and social relations to . . .

C. Identify important changes in United States history (e.g., Belief Systems and Religions, Commerce and Industry, Innovations, Politics, Settlement Patterns and Expansion, Social Organization, Transportation, Women’s Movement).

<table>
<thead>
<tr>
<th>8.3.3. GRADE 3</th>
<th>8.3.6. GRADE 6</th>
<th>8.3.9. GRADE 9</th>
<th>8.3.12. GRADE 12</th>
</tr>
</thead>
</table>

C. Explain how continuity and change has influenced United States history from Beginnings to 1824.
- Belief Systems and Religions (e.g., impact on daily life, colonial government established religions, communal sects)
- Commerce and Industry (e.g., fur trade, development of cash crops)
- Innovations (e.g., cotton gin, Whitney; wooden clock, Banneker; stove, Franklin)
- Politics (e.g., Hamilton’s defense of John Peter Zenger, The Great Compromise, Marbury v. Madison)
- Settlement Patterns (e.g., frontier settlements, slave plantation society, growth of cities)
- Social Organization (e.g., community structure on the frontier, cultural and language barriers)

<table>
<thead>
<tr>
<th>8.3.3. GRADE 3</th>
<th>8.3.6. GRADE 6</th>
<th>8.3.9. GRADE 9</th>
<th>8.3.12. GRADE 12</th>
</tr>
</thead>
</table>

C. Analyze how continuity and change has influenced United States history from 1787 to 1914.
- Belief Systems and Religions (e.g., 19th century trends and movements)
- Commerce and Industry (e.g., growth of manufacturing industries, economic nationalism)
- Innovations (e.g., Brooklyn Bridge, refrigerated shipping, telephone)
- Politics (e.g., election of 1860, impeachment of Andrew Johnson, Jim Crow Laws)
- Settlement Patterns and Expansion (e.g., Manifest Destiny, successive waves of immigrants, purchase of Alaska and Hawaii)
- Social Organization (e.g., social class differences, women’s rights and antislavery movement, education reforms)

<table>
<thead>
<tr>
<th>8.3.3. GRADE 3</th>
<th>8.3.6. GRADE 6</th>
<th>8.3.9. GRADE 9</th>
<th>8.3.12. GRADE 12</th>
</tr>
</thead>
</table>

C. Evaluate how continuity and change has influenced United States history from 1890 to Present.
- Belief Systems and Religions (e.g., 20th century movements, religions of recent immigrants)
- Commerce and Industry (e.g., corporations, conglomerates, multinational corporations)
- Innovations (e.g., The Tin Lizzie, radio, World Wide Web)
- Politics (e.g., New Deal legislation, Brown v. Topeka, isolationist/non-isolationist debate)
- Settlement Patterns (e.g., suburbs, large urban centers, decline of city population)
- Social Organization (e.g., compulsory school laws, court decisions expanding individual rights, technological impact)
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to analyze cultural, economic, geographic, political and social relations to...

<table>
<thead>
<tr>
<th>8.3.3. GRADE 3</th>
<th>8.3.6. GRADE 6</th>
<th>8.3.9. GRADE 9</th>
<th>8.3.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Transportation and Trade (e.g., methods of overland travel, water transportation, National Road)</td>
<td>• Transportation and Trade (e.g., Pony Express, telegraph, Transcontinental Railroad)</td>
<td>• Transportation and Trade (e.g., expansion and decline of railroads, increased mobility, Internet)</td>
<td></td>
</tr>
<tr>
<td>• Women’s Movement (e.g., roles and changing status of women, Margaret Brent’s vote, soldier Deborah Sampson)</td>
<td>• Women’s Movement (e.g., roles in the Civil War, medical college for women, Seneca Falls Conference)</td>
<td>• Women’s Movement (e.g., right to vote, women in the war effort, Women’s Peace Party)</td>
<td></td>
</tr>
</tbody>
</table>
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to analyze cultural, economic, geographic, political and social relations to . . .

<table>
<thead>
<tr>
<th>8.3. United States History</th>
<th>8.3.3. GRADE 3</th>
<th>8.3.6. GRADE 6</th>
<th>8.3.9. GRADE 9</th>
<th>8.3.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>D. Identify conflict and cooperation among social groups and organizations in United States history.</td>
<td>• Domestic Instability (e.g., impact on daily activities)</td>
<td>• Domestic Instability (e.g., Salem Witch Trials, Shays Rebellion, religious persecution)</td>
<td>• Domestic Instability (e.g., wartime confiscation of private property, abolitionist movement, Reconstruction)</td>
<td>• Domestic Instability (e.g., Great Depression, assassination of political and social leaders, terrorist threats)</td>
</tr>
<tr>
<td>D. Identify and explain conflict and cooperation among social groups and organizations in United States history from Beginnings to 1824.</td>
<td>• Ethnic and Racial Relations (e.g., treatment of minority groups in history)</td>
<td>• Ethic and Racial Relations (e.g., cooperation between and among Native Americans and European settlers, slave uprisings, “Colored” troops in the Revolution)</td>
<td>• Ethnic and Racial Relations (e.g., Cherokee Trail of Tears, slavery and the Underground Railroad, draft riots)</td>
<td>• Ethnic and Racial Relations (e.g., internment camps for Japanese Americans, Montgomery Alabama Bus Boycott, land tensions with Native Americans)</td>
</tr>
<tr>
<td>D. Identify and analyze conflict and cooperation among social groups and organizations in United States history from 1787 to 1914.</td>
<td>• Labor Relations (e.g., working conditions over time)</td>
<td>• Labor Relations (e.g., early union efforts, 10-hour day, women’s role)</td>
<td>• Labor Relations (e.g., female and child labor, trade unionism, strike breakers)</td>
<td>• Labor Relations (e.g., rise and decline of industrial unions, free trade agreements, imports impact on domestic employment)</td>
</tr>
<tr>
<td>D. Identify and evaluate conflict and cooperation among social groups and organizations in United States history from 1890 to the Present.</td>
<td>• Immigration (e.g., diverse groups inhabiting the state)</td>
<td>• Immigration and Migration (e.g., western settlements, Louisiana Purchase, European immigration)</td>
<td>• Immigration and Migration (e.g., eastern and southern European immigration, Chinese Exclusion Act)</td>
<td>• Immigration and Migration (e.g., anti-immigrant attitudes, quota laws, westward and southward migration)</td>
</tr>
</tbody>
</table>
8.3. United States History

<table>
<thead>
<tr>
<th>8.3.3. GRADE 3</th>
<th>8.3.6. GRADE 6</th>
<th>8.3.9. GRADE 9</th>
<th>8.3.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Military Conflicts (e.g., French and Indian War, American Revolutionary War, War of 1812)</td>
<td>Military Conflicts (e.g., Native American opposition to expansion and settlement, Civil War, Spanish-American War)</td>
<td>Military Conflicts (e.g., World War I, World War II, War on Terrorism)</td>
<td></td>
</tr>
</tbody>
</table>

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to analyze cultural, economic, geographic, political and social relations to . . .

Standard Category 8.1. Historical Analysis and Skills Development should be applied to the above standard statements and descriptors. Suggested chronology for grade levels 4-6, 7-9 and 10-12 focus on a particular century; however, instruction is encouraged that draws on prior or later events in history so that students may develop a seamless view of the world.
8.4. World History

<table>
<thead>
<tr>
<th>8.4.3. GRADE 3</th>
<th>8.4.6. GRADE 6</th>
<th>8.4.9. GRADE 9</th>
<th>8.4.12. GRADE 12</th>
</tr>
</thead>
</table>

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to analyze cultural, economic, geographic, political and social relations to . . .

A. Identify individuals and groups who have made significant political and cultural contributions to world history.

- Africa (e.g., Nefertiti, Mansa Musa, Nelson Mandela)
- Americas (e.g., Montezuma, Simon Bolivar, Fidel Castro)
- Asia (e.g., Hammurabi, Mohandas Gandhi, Benazir Bhutto)
- Europe (e.g., Julius Caesar, Joan of Arc, Pope John Paul)

A. Identify and explain how individuals and groups made significant political and cultural contributions to world history.

- Africa (e.g., Nelson Mandela, Desmond Tutu, F. W. de Klerk, Pieter Botha, African National Congress)
- Americas (e.g., Pizarro, Atahualpa, Aztecs, Incas, Montezuma, Cortez)
- Asia (e.g., Tokugawa Ieyasu, Toyotomi clan, shogun Iemitsu, Commodore Perry, daimyo)
- Europe (e.g., Pope Leo X, John Calvin, John Wesley, Martin Luther, Ignatius of Loyola)

A. Analyze the significance of individuals and groups who made major political and cultural contributions to world history before 1500.

- Political and Military Leaders (e.g., King Ashoka, Montezuma I, Ghenghis Khan, William the Conqueror)
- Cultural and Commercial Leaders (e.g., Mansa Musa, Yak Pac, Cheng Ho, Marco Polo)
- Innovators and Reformers (e.g., Erastostenes, Tupac Inka Yupenqui, Johannes Gutenberg)

A. Evaluate the significance of individuals and groups who made major political and cultural contributions to world history since 1450.

- Political and Military Leaders (e.g., Askia Daud, Simon Bolivar, Napoleon Bonaparte, Mao Zedong)
- Cultural and Commercial Leaders (e.g., Chinua Achebe, Gabriel Garcia Marquez, Akira Kurosawa, Christopher Columbus)
- Innovators and Reformers (e.g., Nelson Mandela, Louis-Joseph Papineau, Mohandas Gandhi, Alexander Fleming)
8.4. World History

<table>
<thead>
<tr>
<th>8.4.3. GRADE 3</th>
<th>8.4.6. GRADE 6</th>
<th>8.4.9. GRADE 9</th>
<th>8.4.12. GRADE 12</th>
</tr>
</thead>
</table>

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to analyze cultural, economic, geographic, political and social relations to . . .

B. Identify historic sites and material artifacts important to world history.
   - Africa (e.g., Pyramids, treasures of Tutankhamen, Nefertiti’s sculpture)
   - Americas (e.g., Olmec ritualistic centers, Mayan pyramids, arrowheads)
   - Asia (e.g., Code of Hammurabi, Ziggurat at Ur, canals)
   - Europe (e.g., ancient megaliths, Arc de Triomphe, Acropolis)

B. Identify and explain important documents, material artifacts and historic sites in world history.
   - Africa (e.g., Prohibition of Marriages Act, prison on Robben Island)
   - Americas (e.g., Tenochtitlan, Aztec masks)
   - Asia (e.g., samurai sword, Commodore Perry’s Black Ships)
   - Europe (e.g., Luther’s Ninety-Five Theses, Wittenberg Castle Church)

B. Analyze historical documents, material artifacts and historic sites important to world history before 1500.
   - Documents, Writings and Oral Traditions (e.g., Rosetta Stone, Aztec glyph writing, Dead Sea Scrolls, Magna Carta)
   - Artifacts, Architecture and Historic Places (e.g., Ethiopian rock churches, Mayan pyramids, Nok terra cotta figures, megaliths at Stonehenge)
   - Historic districts (e.g., Memphis and its Necropolis, Sanctuary of Machu Picchu, Old City of Jerusalem and its Walls, Centre of Rome and the Holy See)

B. Evaluate historical documents, material artifacts and historic sites important to world history since 1450.
   - Documents, Writings and Oral Traditions (e.g., Declaration of the International Conference on Sanctions Against South Africa; Monroe Doctrine, Communist Manifesto, Luther’s Ninety-five Theses)
   - Artifacts, Architecture and Historic Places (e.g., Robben Island, New York Trade Center, Hiroshima Ground Zero Memorial, Nazi concentration camps)
   - Historic districts (e.g., Timbuktu, Centre of Mexico City and Xochimilco, Taj Mahal and Gardens, Kremlin and Red Square)
### 8.4. World History

<table>
<thead>
<tr>
<th>8.4.3. GRADE 3</th>
<th>8.4.6. GRADE 6</th>
<th>8.4.9. GRADE 9</th>
<th>8.4.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C. Compare similarities and differences between earliest civilizations and life today.</strong> (e.g., Africa, Egypt; Asia, Babylonia; Americas, Olmec; Europe, Neolithic settlements).</td>
<td><strong>C. Identify and explain how continuity and change has affected belief systems, commerce and industry, innovations, settlement patterns, social organizations, transportation and women’s roles in world history.</strong></td>
<td><strong>C. Analyze how continuity and change throughout history has impacted belief systems and religions, commerce and industry, innovations, settlement patterns, social organization, transportation and roles of women before 1500.</strong></td>
<td><strong>C. Evaluate how continuity and change throughout history has impacted belief systems and religions, commerce and industry, innovations, settlement patterns, social organization, transportation and roles of women since 1450.</strong></td>
</tr>
<tr>
<td>• Africa (e.g., Apartheid)</td>
<td>• Africa (e.g., European conquest)</td>
<td>• Africa</td>
<td>• Africa</td>
</tr>
<tr>
<td>• Americas (e.g., European conquest)</td>
<td>• Americas</td>
<td>• Americas</td>
<td>• Americas</td>
</tr>
<tr>
<td>• Asia (e.g., Japanese society prior to the Meiji Restoration)</td>
<td>• Asia</td>
<td>• Asia</td>
<td>• Asia</td>
</tr>
<tr>
<td>• Europe (e.g., Impact of the Great Schism and Reformation)</td>
<td>• Europe</td>
<td>• Europe</td>
<td>• Europe</td>
</tr>
</tbody>
</table>

*Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to analyze cultural, economic, geographic, political and social relations to...*
### 8.4. World History

<table>
<thead>
<tr>
<th>8.4.3. GRADE 3</th>
<th>8.4.6. GRADE 6</th>
<th>8.4.9. GRADE 9</th>
<th>8.4.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to analyze cultural, economic, geographic, political and social relations to . . .</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### D. Identify how conflict and cooperation among social groups and organizations affected world history.
- Domestic Instability (e.g., political, economic and geographic impact on normal activities)
- Labor Relations (e.g., working conditions over time)
- Racial and Ethnic Relations (e.g., treatment of various ethnic and racial groups in history)
- Immigration and migration (e.g., diverse groups inhabiting a territory)
- Military Conflicts (e.g., struggle for control)

#### D. Explain how conflict and cooperation among social groups and organizations affected world history
- Africa (e.g., imperialism)
- Americas (e.g., European diseases)
- Asia (e.g., trade routes)
- Europe (e.g., Counter reformation)

#### D. Analyze how conflict and cooperation among social groups and organizations impacted world history through 1500 in Africa, Americas, Asia and Europe
- Domestic Instability
- Ethnic and Racial Relations
- Labor Relations
- Immigration and Migration
- Military Conflicts

#### D. Evaluate how conflict and cooperation among social groups and organizations impacted world history from 1450 to present in Africa, Americas, Asia and Europe.
- Domestic Instability
- Ethnic and Racial Relations
- Labor Relations
- Immigration and Migration
- Military Conflicts

---

Standard Category 8.1. Historical Analysis and Skills Development should be applied to the above standard statements and descriptors. Suggested chronology in organizing the content for grade levels 7-9 and 10-12 use the 15th century as the dividing point; however, instruction is encouraged that draws on prior and later events in history so that students may develop a seamless view of the world.
Pennsylvania Core Standards for Reading in History and Social Studies

Grades 6-12

INTRODUCTION

These standards describe what students should know and be able to do as they progress through the educational program. The standards are not a curriculum or a prescribed series of activities. School entities will use them to develop a local school curriculum that will meet local needs.

The standards below begin at Grade 6. Standards for Grades K-5 reading in History and Social Studies, Science, and Technical subjects are integrated into the K-5 Reading Standards.

Each standard implies an end of year goal—what the students should know and be able to do as they progress through the educational program. The standards for Grades K-5 reading in History and Social Studies, Science, and Technical subjects are integrated into the K-5 Reading Standards.

The English Language Arts Standards for History and Social Studies also provide parents and community members with information about what students should know and be able to do as they progress through the educational program. The standards for Grades K-5 reading in History and Social Studies, Science, and Technical subjects are integrated into the K-5 Reading Standards.

The standards below begin at Grade 6. Standards for Grades K-5 reading in History and Social Studies, Science, and Technical subjects are integrated into the K-5 Reading Standards.

Each standard implies an end of year goal—what the students should know and be able to do as they progress through the educational program. The standards are not a curriculum or a prescribed series of activities. School entities will use them to develop a local school curriculum that will meet local needs.

The standards below begin at Grade 6. Standards for Grades K-5 reading in History and Social Studies, Science, and Technical subjects are integrated into the K-5 Reading Standards.
## 8.5 Reading Informational Text

Students read, understand, and respond to informational text—with emphasis on comprehension, making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>Key Ideas and Details</th>
<th>GRADE 6-8</th>
<th>GRADE 9-10</th>
<th>GRADE 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CC.8.5.6-8.A.</strong></td>
<td>Cite specific textual evidence to support analysis of primary and secondary sources.</td>
<td><strong>CC.8.5.9-10.A.</strong></td>
<td>Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.</td>
</tr>
<tr>
<td><strong>CC.8.5.6-8.B.</strong></td>
<td>Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.</td>
<td><strong>CC.8.5.9-10.B.</strong></td>
<td>Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.</td>
</tr>
<tr>
<td><strong>CC.8.5.6-8.C.</strong></td>
<td>Identify key steps in a text’s description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).</td>
<td><strong>CC.8.5.9-10.C.</strong></td>
<td>Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.</td>
</tr>
<tr>
<td><strong>CC.8.5.6-8.D.</strong></td>
<td></td>
<td></td>
<td><strong>CC.8.5.11-12.D.</strong></td>
</tr>
</tbody>
</table>
### 8.5 Reading Informational Text
Students read, understand, and respond to informational text—with emphasis on comprehension, making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>Craft and Structure</th>
<th>GRADE 6-8</th>
<th>GRADE 9-10</th>
<th>GRADE 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.8.5.6-8.D.</td>
<td>Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.</td>
<td>CC.8.5.9-10.D. Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.</td>
<td>CC.8.5.11-12.D. Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines faction in Federalist No. 10).</td>
</tr>
<tr>
<td>CC.8.5.6-8.E.</td>
<td>Describe how a text presents information (e.g., sequentially, comparatively, causally).</td>
<td>CC.8.5.9-10.E. Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.</td>
<td>CC.8.5.11-12.E. Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.</td>
</tr>
<tr>
<td>CC.8.5.6-8.F.</td>
<td>Identify aspects of a text that reveal an author’s point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).</td>
<td>CC.8.5.9-10.F. Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.</td>
<td>CC.8.5.11-12.F. Evaluate authors’ differing points of view on the same historical event or issue by assessing the authors’ claims, reasoning, and evidence.</td>
</tr>
</tbody>
</table>
### 8.5 Reading Informational Text

Students read, understand, and respond to informational text—with emphasis on comprehension, making connections among ideas and between texts with focus on textual evidence.

<table>
<thead>
<tr>
<th>GRADE 6-8</th>
<th>GRADE 9-10</th>
<th>GRADE 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Integration of Knowledge and Ideas</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.8.5.6-8.G.</td>
<td>CC.8.5.9-10.G.</td>
<td>CC.8.5.11-12.G.</td>
</tr>
<tr>
<td>Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.</td>
<td>Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.</td>
<td>Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.</td>
</tr>
<tr>
<td>CC.8.5.6-8.H.</td>
<td>CC.8.5.9-10.H.</td>
<td>CC.8.5.11-12.H.</td>
</tr>
<tr>
<td>Distinguish among fact, opinion, and reasoned judgment in a text.</td>
<td>Assess the extent to which the reasoning and evidence in a text support the author’s claims.</td>
<td>Evaluate an author’s premises, claims, and evidence by corroborating or challenging them with other information.</td>
</tr>
<tr>
<td>CC.8.5.6-8.I.</td>
<td>CC.8.5.9-10.I.</td>
<td>CC.8.5.11-12.I.</td>
</tr>
<tr>
<td>Analyze the relationship between a primary and secondary source on the same topic.</td>
<td>Compare and contrast treatments of the same topic in several primary and secondary sources.</td>
<td>Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.</td>
</tr>
<tr>
<td><strong>Range and Level of Complex Texts</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC.8.5.6-8.J.</td>
<td>CC.8.5.9-10.J.</td>
<td>CC.8.5.11-12.J.</td>
</tr>
<tr>
<td>By the end of grade 8, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently.</td>
<td>By the end of grade 10, read and comprehend history/social studies texts in the grades 9-10 text complexity band independently and proficiently.</td>
<td>By the end of grade 12, read and comprehend history/social studies texts in the grades 11-CCR text complexity band independently and proficiently.</td>
</tr>
</tbody>
</table>
Pennsylvania Core Standards for Writing in History and Social Studies

Introduction

These standards describe what students in the social studies classroom should know and be able to do with the English language in writing. Each standard implies an end-of-year goal—with the understanding that exceed-

eeds, students, educators and community members become partners in learning. The English Language Arts Standards for History and Social Studies also pro-

The English Language Arts Standards for History and Social Studies will use them to develop a local school curriculum that will meet local student needs.

The standards below begin at grade 6; standards for K-5 reading in history/social studies, science, and technical subjects are integrated into the K-5 reading.

Grade 6-12 standards describe what students in the social studies classroom should
8.6 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>GRADES 6-8</th>
<th>GRADES 9-10</th>
<th>GRADES 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.8.6.6-8.A. Write arguments focused on discipline-specific content.</td>
<td>CC.8.6.9-10.A. Write arguments focused on discipline-specific content.</td>
<td>CC.8.6.11-12.A. Write arguments focused on discipline-specific content.</td>
</tr>
<tr>
<td>• Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.</td>
<td>• Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</td>
<td>• Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</td>
</tr>
<tr>
<td>• Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.</td>
<td>• Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience’s knowledge level and concerns.</td>
<td>• Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</td>
</tr>
<tr>
<td>• Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.</td>
<td>• Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</td>
<td>• Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</td>
</tr>
<tr>
<td>• Establish and maintain a formal style.</td>
<td>• Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</td>
<td>• Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</td>
</tr>
<tr>
<td>• Provide a concluding statement or section that follows from and supports the argument presented.</td>
<td>• Provide a concluding statement or section that follows from or supports the argument presented.</td>
<td>• Provide a concluding statement or section that follows from or supports the argument presented.</td>
</tr>
</tbody>
</table>
### 8.6 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>GRADES 6-8</th>
<th>GRADES 9-10</th>
<th>GRADES 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.8.6.6-8.B.* Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.</td>
<td>CC.8.6.9-10.B.* Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.</td>
<td>CC.8.6.11-12.B.* Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.</td>
</tr>
<tr>
<td>- Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.</td>
<td>- Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</td>
<td>- Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</td>
</tr>
<tr>
<td>- Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic.</td>
<td>- Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic.</td>
<td>- Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic.</td>
</tr>
<tr>
<td>- Use precise language and domain-specific vocabulary to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</td>
<td>- Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</td>
<td>- Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</td>
</tr>
<tr>
<td>- Establish and maintain a formal style and objective tone.</td>
<td>- Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</td>
<td>- Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</td>
</tr>
<tr>
<td>- Provide a concluding statement or section that follows from and supports the information or explanation presented.</td>
<td>- Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</td>
<td>- Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</td>
</tr>
</tbody>
</table>
## Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>GRADES 6-8</th>
<th>GRADES 9-10</th>
<th>GRADES 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC.8.6.6-8.C. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</td>
<td>CC.8.6.9-10.C. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</td>
<td>CC.8.6.11-12.C. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</td>
</tr>
<tr>
<td>CC.8.6.6-8.D. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.</td>
<td>CC.8.6.9-10.D. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</td>
<td>CC.8.6.11-12.D. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</td>
</tr>
<tr>
<td>CC.8.6.6-8.E. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.</td>
<td>CC.8.6.9-10.E. Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology’s capacity to link to other information and to display information flexibly and dynamically.</td>
<td>CC.8.6.11-12.E. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</td>
</tr>
</tbody>
</table>
### Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th>GRADES 6-8</th>
<th>GRADES 9-10</th>
<th>GRADES 11-12</th>
</tr>
</thead>
</table>
| **CC.8.6.6-8.F.**
Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration. | **CC.8.6.9-10.F.**
Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. | **CC.8.6.11-12.F.**
Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. |
| **CC.8.6.6-8.G.**
Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. | **CC.8.6.9-10.G.**
Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation. | **CC.8.6.11-12.G.**
Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. |
| **CC.8.6.6-8.H.**
Draw evidence from informational texts to support analysis, reflection, and research. | **CC.8.6.9-10.H.**
Draw evidence from informational texts to support analysis, reflection, and research. | **CC.8.6.11-12.H.**
Draw evidence from informational texts to support analysis, reflection, and research. |
8.6 Writing

Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

<table>
<thead>
<tr>
<th></th>
<th>GRADES 6-8</th>
<th>GRADES 9-10</th>
<th>GRADES 11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Range of Writing</strong></td>
<td><strong>CC.8.6.6-8.I.</strong> Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</td>
<td><strong>CC.8.6.9-10.I.</strong> Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</td>
<td><strong>CC.8.6.11-12.I.</strong> Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</td>
</tr>
</tbody>
</table>

* Students’ narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In history/social studies, students must be able to incorporate narrative accounts into their analyses of individuals or events of historical import. In science and technical subjects, students must be able to write precise enough descriptions of the step-by-step procedures they use in their investigations or technical work that others can replicate them and (possibly) reach the same results.
XXIV. GLOSSARY

Artifact: Any object made by human work or skill.

Beginnings: A demarcation of time designating studies to commence with the written historical record.

Central issue: The primary concern from which other problems or matters are derived. For example, today's world migration flows are a central issue from which other concerns such as terrorism, hunger, or disease may arise.

Ch. 4 ACADEMIC STANDARDS AND ASSESSMENTS

Chronology: The science of measuring time and of dating events. Examples include BCE (before the common era) and CE (common era). Another reference is CE (common era) followed by a given year. For example, CE 1800.

Conflicts: The opposition of groups that gives rise to dramatic action. Such actions could include the use of force as in combat.

Culture: The skills, arts, and beliefs of a given people in a given period of time or civilization. The skills and arts of a given people in a given period of time or civilization could include the memorialization of the opposition of groups that gives rise to dramatic action. Such actions could include the use of force as in combat.

Document: Anything written or printed used to record or prove something.

Historical evidence: Something that makes something else noticeable, obvious or evident.

Historical passage: An article or section of a longer work that has importance to the past.

Innovation: The introduction of something new; an idea, method or device.

Interpretation: Explanation or reply to a situation in order to make sense of it, to see a line of events in order to explain or reply to a situation.

Invention: The introduction of something new; an idea, method or device.

Method of detection: The introduction of something new: an idea, invention or device. Sometimes this makes something else noticeable.

Memorial: An object or ceremony serving as a remembrance of a person, group, day, site or event.

Museum: A historical display in a building, room, etc. for an object or ceremony serving as a remembrance of a person, group, day, site or event.
Opinion:
A belief based not on certainty but on what seems to be true or probable.

Strike:
A work stoppage by employees organized against the management of a business entity.

Time lines:
A measure of a period during which something exists or happens; usually displayed in chronological order on a graph or linear lines.

War:
A conflict in which two or more nations or two or more entities inside a nation are at odds.

Xenophobia:
An intense fear or dislike of groups unknown or not within one's experience including the group's customs and culture.

APPENDIX D
Academic Standards for the Arts and Humanities and Health, Safety and Physical Education and Family and Consumer Sciences

Source

XXV. TABLE OF CONTENTS

Introduction

THE ACADEMIC STANDARDS

Historical and Cultural Contexts

THE ARTS

Production, Performance and Exhibition of Dance, Music, Theatre and Visual Arts

A. Elements and Principles in each Art Form
B. Demonstration of Dance, Music, Theatre and Visual Arts
C. Vocabulary within each Art Form
D. Styles in Production, Performance and Exhibition

HISTORICAL AND CULTURAL CONTEXTS

1. Chronologies in the Arts
2. Styles in the Arts
3. Vocabularies in the Arts
4. Community Performances and Exhibitions
5. Theories in Art Forms
6. Themes in Art Forms

THE ARTS

A. Elements and Principles in each Art Form
B. Demonstration of Dance, Music, Theatre and Visual Arts
C. Vocabulary within each Art Form
D. Styles in Production, Performance and Exhibition

XXVI.

STATE BOARD OF EDUCATION

Pt. I

4-302

22

The Academic Standards for the Arts and Humanities describe what students should know and be able to do at the end of grades 3, 5, 8, and 12 in the visual and performing arts.
A glossary is included to assist the reader in understanding terminology common in the 21st Century.

unifying themes of production, history, criticism and aesthetics are common to each area of study within the Academic Standards in the Arts and Humanities.

• Dance Education is a kinesthetic art form that satisfies the human need to respond to life experiences through movement of the physical being.

• Music Education is an aural art form that satisfies the human need to respond to life experiences through singing, listening and/or playing an instrument.

• Theatre Education is an interdisciplinary art form that satisfies the human need to express thoughts and feelings through written text, dramatic interpretation and multimedia production.

• Visual Arts Education is a spatial art form that satisfies the human need to respond to life experiences through images, structures and tactile works.

• Humanities Education is the understanding and integration of human thought and accomplishment.

Knowledge of the Academic Standards for the Arts and Humanities incorporates carefully developed and integrated components:

• Application of problem solving skills
• Extensive practice in the comprehension of basic symbol systems and abstract concepts
• Application of technical skills in practical production and performance
• Application of theoretical skills in practical production and performance
• Development of verbal and nonverbal communication skills
• Development of creative thinking skills

These standards provide the framework and foundation for success in student learning in arts and humanities. They describe the expectations for students' accomplishment and accomplishments. These standards are essential for success in student learning in arts and humanities. They describe the expectations for students' accomplishment and accomplishments.

The arts represent society's capacity to integrate human experience with individual creativity. Comprehensive study of the arts provides an opportunity for all students to observe, reflect and participate both in the arts of their culture and the cultures of others. Sequential study in the arts and humanities provides the skills and knowledge necessary for students to observe, reflect and participate both in the arts of other cultures and the cultures of their own. Sequential study in the arts and humanities provides the skills and knowledge necessary for students to observe, reflect and participate both in the arts of other cultures and the cultures of their own.

The arts represent society's capacity to integrate human experience with individual creativity. Comprehensive study of the arts provides an opportunity for all students to observe, reflect and participate both in the arts of their culture and the cultures of others. Sequential study in the arts and humanities provides the skills and knowledge necessary for students to observe, reflect and participate both in the arts of other cultures and the cultures of their own.

A glossary is included to assist the reader in understanding terminology common in the 21st Century.

unifying themes of production, history, criticism and aesthetics are common to each area of study within the Academic Standards in the Arts and Humanities.

• Dance Education is a kinesthetic art form that satisfies the human need to respond to life experiences through movement of the physical being.

• Music Education is an aural art form that satisfies the human need to respond to life experiences through singing, listening and/or playing an instrument.

• Theatre Education is an interdisciplinary art form that satisfies the human need to express thoughts and feelings through written text, dramatic interpretation and multimedia production.

• Visual Arts Education is a spatial art form that satisfies the human need to respond to life experiences through images, structures and tactile works.

• Humanities Education is the understanding and integration of human thought and accomplishment.

Knowledge of the Academic Standards for the Arts and Humanities incorporates carefully developed and integrated components:

• Application of problem solving skills
• Extensive practice in the comprehension of basic symbol systems and abstract concepts
• Application of technical skills in practical production and performance
• Application of theoretical skills in practical production and performance
• Development of verbal and nonverbal communication skills
• Development of creative thinking skills

These standards provide the framework and foundation for success in student learning in arts and humanities. They describe the expectations for students' accomplishment and accomplishments. These standards are essential for success in student learning in arts and humanities. They describe the expectations for students' accomplishment and accomplishments.

The arts represent society's capacity to integrate human experience with individual creativity. Comprehensive study of the arts provides an opportunity for all students to observe, reflect and participate both in the arts of their culture and the cultures of others. Sequential study in the arts and humanities provides the skills and knowledge necessary for students to observe, reflect and participate both in the arts of other cultures and the cultures of their own.

A glossary is included to assist the reader in understanding terminology common in the 21st Century.

unifying themes of production, history, criticism and aesthetics are common to each area of study within the Academic Standards in the Arts and Humanities.

• Dance Education is a kinesthetic art form that satisfies the human need to respond to life experiences through movement of the physical being.

• Music Education is an aural art form that satisfies the human need to respond to life experiences through singing, listening and/or playing an instrument.

• Theatre Education is an interdisciplinary art form that satisfies the human need to express thoughts and feelings through written text, dramatic interpretation and multimedia production.

• Visual Arts Education is a spatial art form that satisfies the human need to respond to life experiences through images, structures and tactile works.

• Humanities Education is the understanding and integration of human thought and accomplishment.

Knowledge of the Academic Standards for the Arts and Humanities incorporates carefully developed and integrated components:

• Application of problem solving skills
• Extensive practice in the comprehension of basic symbol systems and abstract concepts
• Application of technical skills in practical production and performance
• Application of theoretical skills in practical production and performance
• Development of verbal and nonverbal communication skills
• Development of creative thinking skills
9.1. Production, Performance and Exhibition of Dance, Music, Theatre and Visual Arts

<table>
<thead>
<tr>
<th>9.1.3. GRADE 3</th>
<th>9.1.5. GRADE 5</th>
<th>9.1.8. GRADE 8</th>
<th>9.1.12. GRADE 12</th>
</tr>
</thead>
</table>

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

A. Know and use the elements and principles of each art form to create works in the arts and humanities.
   - Elements
     - Dance: • energy/force • space • time
     - Music: • duration • intensity • pitch • timbre
     - Theatre: • scenario • script/text • set design
     - Visual Arts: • color • form/shape • line • space • texture • value
   - Principles
     - Dance: • choreography • form • genre • improvisation • style • technique
     - Music: • composition • form • genre • harmony • rhythm • texture
     - Theatre: • balance • collaboration • discipline • emphasis • focus • intention • movement • rhythm • style
     - Voice
     - Visual Arts: • balance • contrast • emphasis/focal point • movement/rhythm • proportionSCALE • repetition
     - unity/harmony

B. Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts.
   - Dance: • move • perform • read and notate dance • create and choreograph • improvise
   - Music: • sing • play an instrument • read and notate music • compose and arrange • improvise
   - Theatre: • stage productions • read and write scripts • improvise • interpret a role • design sets • direct
   - Visual Arts: • paint • draw • craft • sculpt • print • design for environment, communication, multi-media

C. Recognize and use fundamental vocabulary within each of the arts forms.
C. Know and use fundamental vocabulary within each of the arts forms.
C. Identify and use comprehensive vocabulary within each of the arts forms.
C. Integrate and apply advanced vocabulary to the arts forms.
# Oregon's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

<table>
<thead>
<tr>
<th>9.1.3. GRADE 3</th>
<th>9.1.5. GRADE 5</th>
<th>9.1.8. GRADE 8</th>
<th>9.1.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>D. Use knowledge of varied styles within each art form through a performance or exhibition of unique work.</strong></td>
<td><strong>D. Describe and use knowledge of a specific style within each art form through a performance or exhibition of a unique work.</strong></td>
<td><strong>D. Demonstrate knowledge of at least two styles within each art form through performance or exhibition of unique works.</strong></td>
<td><strong>D. Demonstrate specific styles in combination through the production or performance of a unique work of art (e.g., a dance composition that combines jazz dance and African dance).</strong></td>
</tr>
<tr>
<td><strong>E. Demonstrate the ability to define objects, express emotions, illustrate an action or relate an experience through creation of works in the arts.</strong></td>
<td><strong>E. Know and demonstrate how arts can communicate experiences, stories or emotions through the production of works in the arts.</strong></td>
<td><strong>E. Communicate a unifying theme or point of view through the production of works in the arts.</strong></td>
<td><strong>E. Delineate a unifying theme through the production of a work of art that reflects skills in media processes and techniques.</strong></td>
</tr>
<tr>
<td><strong>F. Identify works of others through a performance or exhibition (e.g., exhibition of student paintings based on the study of Picasso).</strong></td>
<td><strong>F. Describe works of others through performance or exhibition in two art forms.</strong></td>
<td><strong>F. Explain works of others within each art form through performance or exhibition.</strong></td>
<td><strong>F. Analyze works of arts influenced by experiences or historical and cultural events through production, performance or exhibition.</strong></td>
</tr>
<tr>
<td><strong>G. Recognize the function of rehearsals and practice sessions.</strong></td>
<td><strong>G. Identify the function and benefits of rehearsal and practice sessions.</strong></td>
<td><strong>G. Explain the function and benefits of rehearsal and practice sessions.</strong></td>
<td><strong>G. Analyze the effect of rehearsal and practice sessions.</strong></td>
</tr>
<tr>
<td>9.1.3. GRADE 3</td>
<td>9.1.5. GRADE 5</td>
<td>9.1.8. GRADE 8</td>
<td>9.1.12. GRADE 12</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------</td>
<td>----------------</td>
<td>------------------</td>
</tr>
<tr>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| **H.** Handle materials, equipment and tools safely at work and performance spaces.  
  • Identify materials used.  
  • Identify issues of cleanliness related to the arts.  
  • Recognize some mechanical/electrical equipment.  
  • Recognize differences in selected physical space/environments.  
  • Recognize the need to select safe props/stage equipment.  
  • Identify methods for storing materials in the arts. | **H.** Use and maintain materials, equipment and tools safely at work and performance spaces.  
  • Describe some materials used.  
  • Describe issues of cleanliness related to the arts.  
  • Describe types of mechanical/electrical equipment usage.  
  • Know how to work in selected physical space/environments.  
  • Identify the qualities of safe props/stage equipment.  
  • Describe methods for storing materials in the arts. | **H.** Demonstrate and maintain materials, equipment and tools safely at work and performance spaces.  
  • Analyze the use of materials.  
  • Explain issues of cleanliness related to the arts.  
  • Explain the use of mechanical/electrical equipment.  
  • Demonstrate how to work in selected physical space/environment.  
  • Demonstrate the selection of safe props/stage equipment.  
  • Demonstrate methods for storing materials in the arts. | **H.** Incorporate the effective and safe use of materials, equipment and tools into the production of works in the arts at work and performance spaces.  
  • Evaluate the use and applications of materials.  
  • Evaluate issues of cleanliness related to the arts.  
  • Evaluate the use and applications of mechanical/electrical equipment.  
  • Evaluate differences among selected physical space/environment.  
  • Evaluate the use and applications of safe props/stage equipment.  
  • Evaluate the use and apply safe methods for storing materials in the arts. |
| **I.** Identify arts events that take place in schools and in communities. | **I.** Describe arts events that take place in schools and in communities. | **I.** Know where arts events, performances and exhibitions occur and how to gain admission. | **I.** Distinguish among a variety of regional arts events and resources and analyze methods of selection and admission. |
9.1. Production, Performance and Exhibition of Dance, Music, Theatre and Visual Arts

| J. Know and use traditional and contemporary technologies for producing, performing and exhibiting works in the arts or the works of others.  
| Know and use traditional technologies (e.g., charcoal, pigments, clay, needle/thread, quill pens, stencils, tools for wood carving, looms, stage equipment).  
| Know and use contemporary technologies (e.g., CDs/software, audio/sound equipment, polymers, clays, board-mixers, photographs, recorders). |

| J. Apply traditional and contemporary technologies for producing, performing and exhibiting works in the arts or the works of others.  
| Experiment with traditional technologies (e.g., ceramic/wooden tools, earthen clays, masks, instruments, folk shoes, etching tools, folk looms).  
| Experiment with contemporary technologies (e.g., color fills on computers, texture methods on computers, fonts/point systems, animation techniques, video teleconferencing, multimedia techniques, internet access, library computer card catalogues). |

| K. Know and use traditional and contemporary technologies for furthering knowledge and understanding in the humanities.  
| Apply traditional and contemporary technology in furthering knowledge and understanding in the humanities.  
| Incorporate specific uses of traditional and contemporary technologies within the design for producing, performing and exhibiting works in the arts or the works of others.  
| Know and use traditional and contemporary technologies for furthering knowledge and understanding in the humanities.  
| Apply traditional and contemporary technology in furthering knowledge and understanding in the humanities.  
| Incorporate specific uses of traditional and contemporary technologies within the design for producing, performing and exhibiting works in the arts or the works of others. |

| Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to: |

| J. Know and use traditional and contemporary technologies for producing, performing and exhibiting works in the arts or the works of others. |

| Know and use traditional technologies (e.g., charcoal, pigments, clay, needle/thread, quill pens, stencils, tools for wood carving, looms, stage equipment). |

| Know and use contemporary technologies (e.g., CDs/software, audio/sound equipment, polymers, clays, board-mixers, photographs, recorders). |

| J. Apply traditional and contemporary technologies for producing, performing and exhibiting works in the arts or the works of others. |

| Experiment with traditional technologies (e.g., ceramic/wooden tools, earthen clays, masks, instruments, folk shoes, etching tools, folk looms). |

| Experiment with contemporary technologies (e.g., color fills on computers, texture methods on computers, fonts/point systems, animation techniques, video teleconferencing, multimedia techniques, internet access, library computer card catalogues). |

| K. Know and use traditional and contemporary technologies for furthering knowledge and understanding in the humanities. |

| Know and use traditional and contemporary technologies for furthering knowledge and understanding in the humanities. |

| Incorporate specific uses of traditional and contemporary technologies within the design for producing, performing and exhibiting works in the arts or the works of others. |

| Incorporate specific uses of traditional and contemporary technologies within the design for producing, performing and exhibiting works in the arts or the works of others. |

| Analyze and evaluate the use of traditional and contemporary technologies for producing, performing and exhibiting works in the arts or the works of others. |

| Analyze and evaluate the use of traditional and contemporary technologies for producing, performing and exhibiting works in the arts or the works of others. |

| Analyze and evaluate the use of traditional and contemporary technologies in furthering knowledge and understanding in the humanities. |

| Analyze and evaluate the use of traditional and contemporary technologies in furthering knowledge and understanding in the humanities. |
## 9.2. Historical and Cultural Contexts

<table>
<thead>
<tr>
<th>9.2.3. GRADE 3</th>
<th>9.2.5. GRADE 5</th>
<th>9.2.8. GRADE 8</th>
<th>9.2.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to identify, compare, contrast and analyze works in the arts in their historical and cultural context appropriate for each grade level in concert with districts' social studies, literature and language standards.</em></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **A.** Explain the historical, cultural and social context of an individual work in the arts.
- **B.** Relate works in the arts chronologically to historical events (e.g., 10,000 B.C. to present).
- **C.** Relate works in the arts to varying styles and genre and to the periods in which they were created (e.g., Bronze Age, Ming Dynasty, Renaissance, Classical, Modern, Post-Modern, Contemporary, Futuristic, others).
- **D.** Analyze a work of art from its historical and cultural perspective.
- **E.** Analyze how historical events and culture impact forms, techniques and purposes of works in the arts (e.g., Gilbert and Sullivan operettas).
- **F.** Know and apply appropriate vocabulary used between social studies and the arts and humanities.
- **G.** Relate works in the arts to geographic regions:
  - Africa
  - Asia
  - Australia
  - Central America
  - Europe
  - North America
  - South America
- **H.** Identify, describe and analyze the work of Pennsylvania Artists in dance, music, theatre and visual arts.
- **I.** Identify, explain and analyze philosophical beliefs as they relate to works in the arts (e.g., classical architecture, rock music, Native American dance, contemporary American musical theatre).
9.2. Historical and Cultural Contexts

<table>
<thead>
<tr>
<th>9.2.3. GRADE 3</th>
<th>9.2.5. GRADE 5</th>
<th>9.2.8. GRADE 8</th>
<th>9.2.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to identify, compare, contrast and analyze works in the arts in their historical and cultural context appropriate for each grade level in concert with districts' social studies, literature and language standards.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J. Identify, explain and analyze historical and cultural differences as they relate to works in the arts (e.g., plays by Shakespeare, works by Michelangelo, ethnic dance and music).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K. Identify, explain and analyze traditions as they relate to works in the arts (e.g., story telling—plays, oral histories—poetry, work songs—blue grass).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L. Identify, explain and analyze common themes, forms and techniques from works in the arts (e.g., Copland and Graham's <em>Appalachian Spring</em> and Millet's <em>The Gleaners</em>).</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9.3. Critical Response

<table>
<thead>
<tr>
<th>9.3.3. GRADE 3</th>
<th>9.3.5. GRADE 5</th>
<th>9.3.8. GRADE 8</th>
<th>9.3.12. GRADE 12</th>
</tr>
</thead>
</table>

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

A. Recognize critical processes used in the examination of works in the arts and humanities.
   - Compare and contrast
   - Analyze
   - Interpret
   - Form and test hypotheses
   - Evaluate/form judgments

B. Know that works in the arts can be described by using the arts elements, principles and concepts (e.g., use of color, shape and pattern in Mondrian’s *Broadway Boogie-Woogie*; use of dynamics, tempo, texture in Ravel’s *Bolero*).

C. Know classification skills with materials and processes used to create works in the arts (e.g., sorting and matching textiles, musical chants, television comedies).

A. Identify critical processes in the examination of works in the arts and humanities.
   - Compare and contrast
   - Analyze
   - Interpret
   - Form and test hypotheses
   - Evaluate/form judgments

B. Describe works in the arts comparing similar and contrasting characteristics (e.g., staccato in Grieg’s *In the Hall of the Mountain King* and in tap dance).

C. Classify works in the arts by forms in which they are found (e.g., farce, architecture, graphic design).

A. Know and use the critical process of the examination of works in the arts and humanities.
   - Compare and contrast
   - Analyze
   - Interpret
   - Form and test hypotheses
   - Evaluate/form judgments

B. Analyze and interpret specific characteristics of works in the arts within each art form (e.g., pentatonic scales in Korean and Indonesian music).

C. Identify and classify styles, forms, types and genre within art forms (e.g., modern dance and the ethnic dance, a ballad and a patriotic song).

A. Explain and apply the critical examination processes of works in the arts and humanities.
   - Compare and contrast
   - Analyze
   - Interpret
   - Form and test hypotheses
   - Evaluate/form judgments

B. Determine and apply criteria to a person’s work and works of others in the arts (e.g., use visual scanning techniques to critique the student’s own use of sculptural space in comparison to Julio Gonzales’ use of space in *Woman Combing Her Hair*).

C. Apply systems of classification for interpreting works in the arts and forming a critical response.
### 9.3. Critical Response

<table>
<thead>
<tr>
<th>9.3. GRADE 3</th>
<th>9.3.5. GRADE 5</th>
<th>9.3.8. GRADE 8</th>
<th>9.3.12. GRADE 12</th>
</tr>
</thead>
</table>

**Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:**

**D.** Explain meanings in the arts and humanities through individual works and the works of others using a fundamental vocabulary of critical response.

**E.** Recognize and identify types of critical analysis in the arts and humanities.
- Contextual criticism
- Formal criticism
- Intuitive criticism

**F.** Know how to recognize and identify similar and different characteristics among works in the arts (e.g., Amish and Hawaiian quilts, Navajo weavings and Kente cloth from West Africa).

**D.** Compare similar and contrasting important aspects of works in the arts and humanities based on a set of guidelines using a comprehensive vocabulary of critical response.

**E.** Describe and use types of critical analysis in the arts and humanities.
- Contextual criticism
- Formal criticism
- Intuitive criticism

**F.** Know how to recognize the process of criticism in identifying and analyzing characteristics among works in the arts.

**D.** Evaluate works in the arts and humanities using a complex vocabulary of critical response.

**E.** Interpret and use various types of critical analysis in the arts and humanities.
- Contextual criticism
- Formal criticism
- Intuitive criticism

**F.** Apply the process of criticism to identify characteristics among works in the arts.

**D.** Analyze and interpret works in the arts and humanities from different societies using culturally specific vocabulary of critical response.

**E.** Examine and evaluate various types of critical analysis of works in the arts and humanities.
- Contextual criticism
- Formal criticism
- Intuitive criticism

**F.** Analyze the processes of criticism used to compare the meanings of a work in the arts in both its own and present time.
### 9.3. Critical Response

<table>
<thead>
<tr>
<th>9.3.3. GRADE 3</th>
<th>9.3.5. GRADE 5</th>
<th>9.3.8. GRADE 8</th>
<th>9.3.12. GRADE 12</th>
</tr>
</thead>
</table>

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

- **G.** Know and demonstrate what a critic’s position or opinion is related to works in the arts and humanities (e.g., I like patriotic songs because ...; The movie was enjoyed for its exceptional special effects).
- **G.** Describe a critic’s position or opinion about selected works in the arts and humanities (e.g., student’s presentation of a critical position on Walt Disney’s *Evolution of Mickey and Minnie Mouse*).
- **G.** Compare and contrast critical positions or opinions about selected works in the arts and humanities (e.g., critic’s review and comparison of Alvin Ailey’s *Revelations* to Tchaikovsky’s *Swan Lake*).
- **G.** Analyze works in the arts by referencing the judgments advanced by arts critics as well as one’s own analysis and critique.
<table>
<thead>
<tr>
<th>9.4. Aesthetic Response</th>
<th>9.4.3. GRADE 3</th>
<th>9.4.5. GRADE 5</th>
<th>9.4.8. GRADE 8</th>
<th>9.4.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Know how to respond to a philosophical statement about works in the arts and humanities (e.g., “Can artworks that depict or are about ugly or unpleasant things ever be beautiful?”).</td>
<td>A. Identify uses of expressive symbols that show philosophical meanings in works in the arts and humanities (e.g., American TV ads versus Asian TV ads).</td>
<td>A. Compare and contrast examples of group and individual philosophical meanings of works in the arts and humanities (e.g., group discussions on musical theatre versus the individual’s concept of musical theatre).</td>
<td>A. Evaluate an individual’s philosophical statement on a work in the arts and its relationship to one’s own life based on knowledge and experience.</td>
<td></td>
</tr>
<tr>
<td>B. Know how to communicate an informed individual opinion about the meaning of works in the arts (e.g., works of an artist of the month).</td>
<td>B. Investigate and communicate multiple philosophical views about works in the arts.</td>
<td>B. Compare and contrast informed individual opinions about the meaning of works in the arts to others (e.g., debate philosophical opinions within a listserv or at an artist’s website).</td>
<td>B. Describe and analyze the effects that works in the arts have on groups, individuals and the culture (e.g., Orson Welles’ 1938 radio broadcast, <em>War of the Worlds</em>).</td>
<td></td>
</tr>
<tr>
<td>C. Recognize that the environment of the observer influences individual aesthetic responses to works in the arts (e.g., the effect of live music as opposed to listening to the same piece on a car radio).</td>
<td>C. Identify the attributes of various audiences’ environments as they influence individual aesthetic response (e.g., the Beatles’ music played by the Boston Pops versus video taped concerts from the 1970s).</td>
<td>C. Describe how the attributes of the audience’s environment influence aesthetic responses (e.g., the ambiance of the theatre in a performance of Andrew Lloyd Weber’s <em>Cats</em>).</td>
<td>C. Compare and contrast the attributes of various audiences’ environments as they influence individual aesthetic response (e.g., viewing traditional <em>Irish</em> dance at county fair versus the performance of <em>River Dance</em> in a concert hall).</td>
<td></td>
</tr>
</tbody>
</table>
## 9.4. Aesthetic Response

<table>
<thead>
<tr>
<th>9.4.3. GRADE 3</th>
<th>9.4.5. GRADE 5</th>
<th>9.4.8. GRADE 8</th>
<th>9.4.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Recognize that choices made by artists regarding subject matter and themes communicate ideas through works in the arts and humanities (e.g., artist’s interpretation through the use of classical ballet of the American West in Agnes De Mille’s <em>Rodeo</em>).</td>
<td>D. Explain choices made regarding media, technique, form, subject matter and themes that communicate the artist’s philosophy within a work in the arts and humanities (e.g., selection of stage lighting in Leonard Bernstein’s <em>West Side Story</em> to communicate mood).</td>
<td>D. Describe to what purpose philosophical ideas generated by artists can be conveyed through works in the arts and humanities (e.g., T. Ganson’s <em>Destructive Periods in Russia During Stalin’s and Deniken’s Leadership</em> conveys her memories and emotions of a specific incident).</td>
<td>D. Analyze and interpret a philosophical position identified in works in the arts and humanities.</td>
</tr>
</tbody>
</table>
XXVI. GLOSSARY

Aesthetics:
A branch of philosophy that focuses on the nature of beauty, the nature and value of the arts and the inquiry processes and human responses they produce.

Aesthetic criteria:
Standards on which to make judgments about the artistic merit of a work of art, derived from cultural and emotional values and cognitive meaning.

Aesthetic response:
A philosophical reply to works in the arts

Artistic choices:
Selections made by artists in order to convey meaning.

Arts resource:
An outside community asset (e.g., performances, exhibitions, performers, artists).

Assess:
To analyze and determine the nature and quality of the process/product through means appropriate to the art form.

Community:
A group of people who share a common social, historical, regional or cultural heritage.

Context:
A set of interrelated background conditions (e.g., social, economic, political) that influence and give meaning to the development and reception of thoughts, ideas or concepts and that define specific cultures and eras.

Critical analysis:
The process of examining and discussing the effective uses of specific aspects of works in the arts.

Create:
To produce works in the arts

Contemporary technology:
Tools, machines or implements emerging and used today for the practice or production of works in the arts.

Contextual criticism:
Discussion and evaluation with consideration of factors surrounding the origin and heritage to works in the arts.

Meaning:
Selection made by artists in order to convey meaning.

Meaning:
Cultural and emotional values and cognitive meaning of a work of art, derived from standards on which to make judgments about the work.
Formal Criticism: Discussion and evaluation of the elements and principles essential to works in the arts and humanities.

Intuitive Criticism: Discussion and evaluation of one's subjective insight to works in the arts and humanities.

Critical process: The use of sequential examination through comparison, analysis, interpretation, formation and testing of hypothesis and evaluation to form judgments.

Critical response: The act or process of describing and evaluating the media, processes and meanings of works in the arts and making comparative judgments.

Culture: The way of life of a group of people, including customs, beliefs, arts, institutions and worldview. Culture is acquired through many means and is always changing.

Elements: Core components that support the principles of the arts.

Genre: A type or category (e.g., music—opera, oratorio; theater—tragedy, comedy; dance—modern, ballet; visual arts—pastoral, scenes of everyday life).

MIDI keyboard: (Musical Instrument Digital Interface) A piece of equipment that interacts with a computer that uses a MIDI language setup to notate and play music.

Multimedia: The combined use of media such as movies, CD-ROMs, television, radio and the Internet.

Original works in the arts: Dance, music, literature and visual arts pieces created by performing or visual artists.

Improv: Spontaneous creation requiring focus and accomplishment.

Humanities: The branch of learning that connects the fine arts, literature, languages, philosophy and cultural science. The humanities are concerned with the human spirit, humanities, philosophy and cultural history. A type of category (e.g., music—opera, theater—tragedy, ballet; visual arts—pastoral, scenes of everyday life).

The combined use of media such as movies, CD-ROMs, television, radio and the Internet.

Original works in the arts: Dance, music, literature and visual arts pieces created by performing or visual artists.
Principles:
Essential assumptions, basic or essential qualities determining intrinsic characteristics.

Style:
A distinctive or characteristic manner of expression.

Technique:
Specific skills and details employed by an artist, craftsman or performer in the production of works in the arts.

Timbre:
A unique quality of sound.

Traditions:
A distinctive or characteristic manner of
expression.

Vocabulary:
Age and content appropriate terms used in the instruction of the arts and humanities that
demonstrate levels of proficiency as defined in the local curriculum (i.e., fundamental—grade 3, comprehensive—grade 5, discriminating—grade 8 and advanced—grade 12).

Traditional technology:
Tools, machines or implements used for the historical practice or production of works in the field.

Traditional techniques:
Skills and details employed by an artist.
The Academic Standards for Health, Safety and Physical Education provide the knowledge and skills that will enable them to achieve and maintain a physically active and healthy life. The knowledge and skills will enable them to achieve and maintain a physically active and healthy life. The Academic Standards for Health, Safety and Physical Education provide the knowledge and skills that will enable them to achieve and maintain a physically active and healthy life. The Academic Standards for Health, Safety and Physical Education provide the knowledge and skills that will enable them to achieve and maintain a physically active and healthy life.

The Academic Standards for Health, Safety and Physical Education provide the knowledge and skills that will enable them to achieve and maintain a physically active and healthy life. The Academic Standards for Health, Safety and Physical Education provide the knowledge and skills that will enable them to achieve and maintain a physically active and healthy life. The Academic Standards for Health, Safety and Physical Education provide the knowledge and skills that will enable them to achieve and maintain a physically active and healthy life. The Academic Standards for Health, Safety and Physical Education provide the knowledge and skills that will enable them to achieve and maintain a physically active and healthy life. The Academic Standards for Health, Safety and Physical Education provide the knowledge and skills that will enable them to achieve and maintain a physically active and healthy life.
The Academic Standards for Health, Safety and Physical Education provide parents with specific information about the knowledge and skills students should be developing as they progress through their educational programs. With the standards serving as clearly defined targets, parents, students, teachers and community members will be able to become partners in helping children achieve educational success.

A glossary is included to assist the reader in understanding terminology contained in the standards.

The Academic Standards for Health, Safety and Physical Education provide...
### 10.1. Concepts of Health

<table>
<thead>
<tr>
<th>10.1.3. GRADE 3</th>
<th>10.1.6. GRADE 6</th>
<th>10.1.9. GRADE 9</th>
<th>10.1.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A.</strong> Identify and describe the stages of growth and development.</td>
<td><strong>A.</strong> Describe growth and development changes that occur between childhood and adolescence and identify factors that can influence these changes.</td>
<td><strong>A.</strong> Analyze factors that impact growth and development between adolescence and adulthood.</td>
<td><strong>A.</strong> Evaluate factors that impact growth and development during adulthood and late adulthood.</td>
</tr>
<tr>
<td>• infancy</td>
<td>• education</td>
<td>• relationships (e.g., dating, friendships, peer pressure)</td>
<td>• acute and chronic illness</td>
</tr>
<tr>
<td>• childhood</td>
<td>• socioeconomic</td>
<td>• interpersonal communication</td>
<td>• communicable and non-communicable disease</td>
</tr>
<tr>
<td>• adolescence</td>
<td>• risk factors (e.g., physical inactivity, substance abuse, intentional/unintentional injuries, dietary patterns)</td>
<td>• health status</td>
<td>• health status (e.g., marriage, divorce, loss)</td>
</tr>
<tr>
<td>• adulthood</td>
<td>• abstinence</td>
<td>• relationships (e.g., physical inactivity, substance abuse, intentional/unintentional injuries, dietary patterns)</td>
<td>• career choice</td>
</tr>
<tr>
<td>• late adulthood</td>
<td>• STD and HIV prevention</td>
<td>• risk factors (e.g., physical inactivity, substance abuse, intentional/unintentional injuries, dietary patterns)</td>
<td>• aging process</td>
</tr>
<tr>
<td></td>
<td>• community</td>
<td></td>
<td>• retirement</td>
</tr>
<tr>
<td><strong>B.</strong> Identify and know the location and function of the major body organs and systems.</td>
<td><strong>B.</strong> Identify and describe the structure and function of the major body systems.</td>
<td><strong>B.</strong> Analyze the interdependence existing among the body systems.</td>
<td><strong>B.</strong> Evaluate factors that impact the body systems and apply protective/preventive strategies.</td>
</tr>
<tr>
<td>• circulatory</td>
<td>• nervous</td>
<td>• fitness level</td>
<td>• environment (e.g., pollutants, available health care)</td>
</tr>
<tr>
<td>• respiratory</td>
<td>• muscular</td>
<td>• health status (e.g., physical, mental, social)</td>
<td>• nutrition</td>
</tr>
<tr>
<td>• muscular</td>
<td>• integumentary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• skeletal</td>
<td>• urinary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• digestive</td>
<td>• endocrine</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• reproductive</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• immune</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 10.1. Concepts of Health

<table>
<thead>
<tr>
<th>10.1.3. GRADE 3</th>
<th>10.1.6. GRADE 6</th>
<th>10.1.9. GRADE 9</th>
<th>10.1.12. GRADE 12</th>
</tr>
</thead>
</table>
| C. Explain the role of the food guide pyramid in helping people eat a healthy diet.  
  - food groups  
  - number of servings  
  - variety of food  
  - nutrients | C. Analyze nutritional concepts that impact health.  
  - caloric content of foods  
  - relationship of food intake and physical activity (energy output)  
  - nutrient requirements  
  - label reading  
  - healthful food selection | C. Analyze factors that impact nutritional choices of adolescents.  
  - body image  
  - advertising  
  - dietary guidelines  
  - eating disorders  
  - peer influence  
  - athletic goals | C. Analyze factors that impact nutritional choices of adults.  
  - cost  
  - food preparation (e.g., time, skills)  
  - consumer skills (e.g., understanding food labels, evaluating fads)  
  - nutritional knowledge  
  - changes in nutritional requirements (e.g., age, physical activity level) |
| D. Know age appropriate drug information.  
  - definition of drugs  
  - effects of drugs  
  - proper use of medicine  
  - healthy/unhealthy risk-taking (e.g., inhalant use, smoking)  
  - skills to avoid drugs | D. Explain factors that influence childhood and adolescent drug use.  
  - peer influence  
  - body image (e.g., steroids, enhancers)  
  - social acceptance  
  - stress  
  - media influence  
  - decision-making/refusal skills  
  - rules, regulations and laws  
  - consequences | D. Analyze prevention and intervention strategies in relation to adolescent and adult drug use.  
  - decision-making/refusal skills  
  - situation avoidance  
  - goal setting  
  - professional assistance (e.g., medical, counseling, support groups)  
  - parent involvement | D. Evaluate issues relating to the use/non-use of drugs.  
  - psychology of addiction  
  - social impact (e.g., cost, relationships)  
  - chemical use and fetal development  
  - laws relating to alcohol, tobacco and chemical substances  
  - impact on the individual  
  - impact on the community |

**Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:**

- C. Explain the role of the food guide pyramid in helping people eat a healthy diet.
- C. Analyze nutritional concepts that impact health.
- C. Analyze factors that impact nutritional choices of adolescents.
- C. Analyze factors that impact nutritional choices of adults.
- D. Know age appropriate drug information.
- D. Explain factors that influence childhood and adolescent drug use.
- D. Analyze prevention and intervention strategies in relation to adolescent and adult drug use.
- D. Evaluate issues relating to the use/non-use of drugs.
10.1. Concepts of Health

<table>
<thead>
<tr>
<th>10.1.3. GRADE 3</th>
<th>10.1.6. GRADE 6</th>
<th>10.1.9. GRADE 9</th>
<th>10.1.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>E. Identify types and causes of common health problems of children.</strong>&lt;br&gt;• infectious diseases (e.g., colds, flu, chickenpox)&lt;br&gt;• noninfectious diseases (e.g., asthma, hay fever, allergies, Lyme disease)&lt;br&gt;• germs&lt;br&gt;• pathogens&lt;br&gt;• heredity</td>
<td><strong>E. Identify health problems that can occur throughout life and describe ways to prevent them.</strong>&lt;br&gt;• Diseases (e.g., cancer, diabetes, STD/HIV/AIDS, cardiovascular disease)&lt;br&gt;• Preventions (i.e. do not smoke, maintain proper weight, eat a balanced diet, practice sexual abstinence, be physically active)</td>
<td><strong>E. Analyze how personal choice, disease and genetics can impact health maintenance and disease prevention.</strong></td>
<td><strong>E. Identify and analyze factors that influence the prevention and control of health problems.</strong>&lt;br&gt;• research&lt;br&gt;• medical advances&lt;br&gt;• technology&lt;br&gt;• government policies/regulations</td>
</tr>
</tbody>
</table>

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:
10.2. Healthful Living

<table>
<thead>
<tr>
<th>10.2.3. GRADE 3</th>
<th>10.2.6. GRADE 6</th>
<th>10.2.9. GRADE 9</th>
<th>10.2.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Identify personal hygiene practices and community helpers that promote health and prevent the spread of disease.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| B. Identify health-related information.  
  • signs and symbols  
  • terminology  
  • products and services |
| C. Identify media sources that influence health and safety. |
| A. Explain the relationship between personal health practices and individual well-being.  
  • immunizations  
  • health examinations |
| B. Explain the relationship between health-related information and consumer choices.  
  • dietary guidelines/food selection  
  • sun exposure guidelines/sunscreen selection |
| C. Explain the media’s effect on health and safety issues. |
| A. Identify and describe health care products and services that impact adolescent health practices. |
| B. Analyze the relationship between health-related information and adolescent consumer choices.  
  • tobacco products  
  • weight control products |
| C. Analyze media health and safety messages and describe their impact on personal health and safety. |
| A. Evaluate health care products and services that impact adult health practices. |
| B. Assess factors that impact adult health consumer choices.  
  • access to health information  
  • access to health care  
  • cost  
  • safety |
| C. Compare and contrast the positive and negative effects of the media on adult personal health and safety. |
Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

<table>
<thead>
<tr>
<th>10.2. Healthful Living</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10.2.3. GRADE 3</strong></td>
</tr>
<tr>
<td><strong>D.</strong> Identify the steps in a decision making process.</td>
</tr>
<tr>
<td><strong>E.</strong> Identify environmental factors that affect health.</td>
</tr>
<tr>
<td>• pollution (e.g., air, water, noise, soil)</td>
</tr>
<tr>
<td>• waste disposal</td>
</tr>
<tr>
<td>• temperature extremes</td>
</tr>
<tr>
<td>• insects/animals</td>
</tr>
</tbody>
</table>

| **10.2.6. GRADE 6** |
| **D.** Describe and apply the steps of a decision making process to health and safety issues. |
| **E.** Analyze environmental factors that impact health. |
| • indoor air quality (e.g., second-hand smoke, allergens) |
| • chemicals, metals, gases (e.g., lead, radon, carbon monoxide) |
| • radiation |
| • natural disasters |

| **10.2.9. GRADE 9** |
| **D.** Analyze and apply a decision making process to adolescent health and safety issues. |
| **E.** Explain the interrelationship between the environment and personal health. |
| • ozone layer/skin cancer |
| • availability of health care/individual health |
| • air pollution/respiratory disease |
| • breeding environments/lyme disease/West Nile virus |

| **10.2.12. GRADE 12** |
| **D.** Examine and apply a decision making process to the development of short and long-term health goals. |
| **E.** Analyze the interrelationship between environmental factors and community health. |
| • public health policies and laws/health promotion and disease prevention |
| • individual choices/maintenance of environment |
| • recreational opportunities/health status |
10.3. Safety and Injury Prevention

<table>
<thead>
<tr>
<th>10.3. GRADE 3</th>
<th>10.3.6 GRADE 6</th>
<th>10.3.9. GRADE 9</th>
<th>10.3.12. GRADE 12</th>
</tr>
</thead>
</table>
| **A.** Recognize safe/unsafe practices in the home, school and community.  
   - general (e.g., fire, electrical, animals)  
   - modes of transportation (e.g., pedestrian, bicycle, vehicular)  
   - outdoor (e.g., play, weather, water)  
   - safe around people (e.g., safe/unsafe touch, abuse, stranger, bully)  
   | **A.** Explain and apply safe practices in the home, school and community.  
   - emergencies (e.g., fire, natural disasters)  
   - personal safety (e.g., home alone, latch key, harassment)  
   - communication (e.g., telephone, Internet)  
   - violence prevention (e.g., gangs, weapons)  
   | **A.** Analyze the role of individual responsibility for safe practices and injury prevention in the home, school and community.  
   - modes of transportation (e.g., pedestrian, bicycle, vehicular, passenger, farm vehicle, all-terrain vehicle)  
   - violence prevention in school  
   - self-protection in the home  
   - self-protection in public places  
   | **A.** Assess the personal and legal consequences of unsafe practices in the home, school or community.  
   - loss of personal freedom  
   - personal injury  
   - loss of income  
   - impact on others  
   - loss of motor vehicle operator’s license  
   |
| **B.** Recognize emergency situations and explain appropriate responses.  
   - importance of remaining calm  
   - how to call for help  
   - simple assistance procedures  
   - how to protect self  
   | **B.** Know and apply appropriate emergency responses.  
   - basic first aid  
   - Heimlich maneuver  
   - universal precautions  
   | **B.** Describe and apply strategies for emergency and long-term management of injuries.  
   - rescue breathing  
   - water rescue  
   - self-care  
   - sport injuries  
   | **B.** Analyze and apply strategies for the management of injuries.  
   - CPR  
   - advanced first aid  

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:
### 10.3. Safety and Injury Prevention

<table>
<thead>
<tr>
<th>10.3.3. GRADE 3</th>
<th>10.3.6 GRADE 6</th>
<th>10.3.9. GRADE 9</th>
<th>10.3.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Recognize conflict situations and identify strategies to avoid or resolve.</td>
<td>C. Describe strategies to avoid or manage conflict and violence.</td>
<td>C. Analyze and apply strategies to avoid or manage conflict and violence during adolescence.</td>
<td>C. Analyze the impact of violence on the victim and surrounding community.</td>
</tr>
<tr>
<td>• walk away</td>
<td>• anger management</td>
<td>• effective negotiation</td>
<td></td>
</tr>
<tr>
<td>• I-statements</td>
<td>• peer mediation</td>
<td>• assertive behavior</td>
<td></td>
</tr>
<tr>
<td>• refusal skills</td>
<td>• reflective listening</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• adult intervention</td>
<td>• negotiation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Identify and use safe practices in physical activity settings (e.g., proper equipment, knowledge of rules, sun safety, guidelines of safe play, warm-up, cool-down).</td>
<td>D. Analyze the role of individual responsibility for safety during physical activity.</td>
<td>D. Analyze the role of individual responsibility for safety during organized group activities.</td>
<td>D. Evaluate the benefits, risks and safety factors associated with self-selected life-long physical activities.</td>
</tr>
</tbody>
</table>
### 10.4. Physical Activity

<table>
<thead>
<tr>
<th>10.4.3. GRADE 3</th>
<th>10.4.6. GRADE 6</th>
<th>10.4.9. GRADE 9</th>
<th>10.4.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
</tr>
<tr>
<td><strong>A. Identify and engage in physical activities that promote physical fitness and health.</strong></td>
<td><strong>A. Identify and engage in moderate to vigorous physical activities that contribute to physical fitness and health.</strong></td>
<td><strong>A. Analyze and engage in physical activities that are developmentally/individually appropriate and support achievement of personal fitness and activity goals.</strong></td>
<td><strong>A. Evaluate and engage in an individualized physical activity plan that supports achievement of personal fitness and activity goals and promotes life-long participation.</strong></td>
</tr>
</tbody>
</table>
| **B. Know the positive and negative effects of regular participation in moderate to vigorous physical activities.** | **B. Explain the effects of regular participation in moderate to vigorous physical activities on the body systems.** | **B. Analyze the effects of regular participation in moderate to vigorous physical activities in relation to adolescent health improvement.**  
- stress management  
- disease prevention  
- weight management | **B. Analyze the effects of regular participation in a self-selected program of moderate to vigorous physical activities.**  
- social  
- physiological  
- psychological |

---

**Copyright © 2003 Commonwealth of Pennsylvania**

**STATE BOARD OF EDUCATION**

**Pt. I**

**No. 340 Mar. 03**

**4-328**
### 10.4. Physical Activity

<table>
<thead>
<tr>
<th>10.4.3. GRADE 3</th>
<th>10.4.6. GRADE 6</th>
<th>10.4.9. GRADE 9</th>
<th>10.4.12. GRADE 12</th>
</tr>
</thead>
</table>
| **C.** Know and recognize changes in body responses during moderate to vigorous physical activity.  
- heart rate  
- breathing rate | **C.** Identify and apply ways to monitor and assess the body’s response to moderate to vigorous physical activity.  
- heart rate monitoring  
- checking blood pressure  
- fitness assessment | **C.** Analyze factors that affect the responses of body systems during moderate to vigorous physical activities.  
- exercise (e.g., climate, altitude, location, temperature)  
- healthy fitness zone  
- individual fitness status (e.g., cardiorespiratory fitness, muscular endurance, muscular strength, flexibility)  
- drug/substance use/abuse | **C.** Evaluate how changes in adult health status may affect the responses of the body systems during moderate to vigorous physical activity.  
- aging  
- injury  
- disease |
| **D.** Identify likes and dislikes related to participation in physical activities. | **D.** Describe factors that affect childhood physical activity preferences.  
- enjoyment  
- personal interest  
- social experience  
- opportunities to learn new activities  
- parental preference  
- environment | **D.** Analyze factors that affect physical activity preferences of adolescents.  
- skill competence  
- social benefits  
- previous experience  
- activity confidence | **D.** Evaluate factors that affect physical activity and exercise preferences of adults.  
- personal challenge  
- physical benefits  
- finances  
- motivation  
- access to activity  
- self-improvement |

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:
### 10.4. Physical Activity

**Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:**

<table>
<thead>
<tr>
<th>10.4.3. GRADE 3</th>
<th>10.4.6. GRADE 6</th>
<th>10.4.9. GRADE 9</th>
<th>10.4.12. GRADE 12</th>
</tr>
</thead>
</table>

E. Identify reasons why regular participation in physical activities improves motor skills.

F. Recognize positive and negative interactions of small group activities.
   - roles (e.g., leader, follower)
   - cooperation/sharing
   - on task participation

E. Identify factors that have an impact on the relationship between regular participation in physical activity and the degree of motor skill improvement.
   - success-oriented activities
   - school-community resources
   - variety of activities
   - time on task

E. Analyze factors that impact on the relationship between regular participation in physical activity and motor skill improvement.
   - personal choice
   - developmental differences
   - amount of physical activity
   - authentic practice

E. Analyze the interrelationships among regular participation in physical activity, motor skill improvement and the selection and engagement in lifetime physical activities.

F. Identify and describe positive and negative interactions of group members in physical activities.
   - leading
   - following
   - teamwork
   - etiquette
   - adherence to rules

F. Analyze the effects of positive and negative interactions of adolescent group members in physical activities.
   - group dynamics
   - social pressure

F. Assess and use strategies for enhancing adult group interaction in physical activities.
   - shared responsibility
   - open communication
   - goal setting
### 10.5. Concepts, Principles and Strategies of Movement

<table>
<thead>
<tr>
<th>10.5.3. GRADE 3</th>
<th>10.5.6. GRADE 6</th>
<th>10.5.9. GRADE 9</th>
<th>10.5.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
</tr>
</tbody>
</table>
| A. Recognize and use basic movement skills and concepts.  
  • locomotor movements (e.g., run, leap, hop)  
  • non-locomotor movements (e.g., bend, stretch, twist)  
  • manipulative movements (e.g., throw, catch, kick)  
  • relationships (e.g., over, under, beside)  
  • combination movements (e.g., locomotor, non-locomotor, manipulative)  
  • space awareness (e.g., self-space, levels, pathways, directions)  
  • effort (e.g., speed, force) | A. Explain and apply the basic movement skills and concepts to create and perform movement sequences and advanced skills. | A. Describe and apply the components of skill-related fitness to movement performance.  
  • agility  
  • balance  
  • coordination  
  • power  
  • reaction time  
  • speed | A. Apply knowledge of movement skills, skill-related fitness and movement concepts to identify and evaluate physical activities that promote personal lifelong participation. |
<table>
<thead>
<tr>
<th></th>
<th>10.5.3. GRADE 3</th>
<th>10.5.6. GRADE 6</th>
<th>10.5.9. GRADE 9</th>
<th>10.5.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Recognize and describe the concepts of motor skill development using appropriate vocabulary.</td>
<td>B. Identify and apply the concepts of motor skill development to a variety of basic skills.</td>
<td>B. Describe and apply concepts of motor skill development that impact the quality of increasingly complex movement.</td>
<td>B. Incorporate and synthesize knowledge of motor skill development concepts to improve the quality of motor skills.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• form</td>
<td>• transfer between skills</td>
<td>• response selection</td>
<td>• open and closed skills</td>
</tr>
<tr>
<td></td>
<td>• developmental differences</td>
<td>• selecting relevant cues</td>
<td>• stages of learning a motor skill i.e. verbal cognitive, motor, automatic</td>
<td>• short-term and long-term memory</td>
</tr>
<tr>
<td></td>
<td>• critical elements</td>
<td>• types of feedback</td>
<td>• types of skill i.e. discrete, serial, continuous</td>
<td>• aspects of good performance</td>
</tr>
<tr>
<td></td>
<td>• feedback</td>
<td>• movement efficiency</td>
<td>• product (outcome/result)</td>
<td></td>
</tr>
<tr>
<td>C. Know the function of practice.</td>
<td>C. Describe the relationship between practice and skill development.</td>
<td>C. Identify and apply practice strategies for skill improvement.</td>
<td>C. Evaluate the impact of practice strategies on skill development and improvement.</td>
<td></td>
</tr>
<tr>
<td>D. Identify and use principles of exercise to improve movement and fitness activities.</td>
<td>D. Describe and apply the principles of exercise to the components of health-related and skill-related fitness.</td>
<td>D. Identify and describe the principles of training using appropriate vocabulary.</td>
<td>D. Incorporate and synthesize knowledge of exercise principles, training principles and health and skill-related fitness components to create a fitness program for personal use.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• frequency/how often to exercise</td>
<td>• cardiorespiratory endurance</td>
<td>• specificity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• intensity/how hard to exercise</td>
<td>• muscular strength</td>
<td>• overload</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• time/how long to exercise</td>
<td>• muscular endurance</td>
<td>• progression</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• type/what kind of exercise</td>
<td>• flexibility</td>
<td>• aerobic/anaerobic</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• body composition</td>
<td>• circuit/interval</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• repetition/set</td>
<td></td>
</tr>
</tbody>
</table>
### 10.5. Concepts, Principles and Strategies of Movement

<table>
<thead>
<tr>
<th>10.5.3. GRADE 3</th>
<th>10.5.6. GRADE 6</th>
<th>10.5.9. GRADE 9</th>
<th>10.5.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</strong></td>
</tr>
</tbody>
</table>
| **E.** Know and describe scientific principles that affect movement and skills using appropriate vocabulary.  
• gravity  
• force production/absorption  
• balance  
• rotation | **E.** Identify and use scientific principles that affect basic movement and skills using appropriate vocabulary.  
• Newton’s Laws of Motion  
• application of force  
• static/dynamic balance  
• levers  
• flight | **E.** Analyze and apply scientific and biomechanical principles to complex movements.  
• centripetal/centrifugal force  
• linear motion  
• rotary motion  
• friction/resistance  
• equilibrium  
• number of moving segments | **E.** Evaluate movement forms for appropriate application of scientific and biomechanical principles.  
• efficiency of movement  
• mechanical advantage  
• kinetic energy  
• potential energy  
• inertia  
• safety |
| **F.** Recognize and describe game strategies using appropriate vocabulary.  
• faking/dodging  
• passing/receiving  
• moving to be open  
• defending space  
• following rules of play | **F.** Identify and apply game strategies to basic games and physical activities.  
• give and go  
• one on one  
• peer communication | **F.** Describe and apply game strategies to complex games and physical activities.  
• offensive strategies  
• defensive strategies  
• time management | **F.** Analyze the application of game strategies for different categories of physical activities.  
• individual  
• team  
• lifetime  
• outdoor |
**Glossary**

**Abstinence:** Choosing not to do something or completely giving something up in order to gain something.

**Acute illness:** A health condition of sudden onset, sharp rises and short course.

**Adolescence:** The period of life beginning with puberty and ending with completed growth.

**Aerobic:** Physical activity or exercise done at a steady pace for an extended period of time so that the heart can supply as much oxygen as the body needs (e.g., walking, running, swimming, cycling).

**Agility:** A component of physical fitness that relates to the ability to rapidly change the position of the entire body in space with speed and accuracy.

**AIDS:** Acquired Immune Deficiency Syndrome: a condition that results when infection with HIV causes a breakdown of the body's ability to fight other infections.

**Allergen:** A substance that stimulates the production of antibodies and subsequently results in allergic reactions (e.g., mold spores, cat/dog dander, dust).

**Anaerobic:** Physical activity or exercise done in short, fast bursts so that the heart cannot supply oxygen as fast as the body needs (e.g., sprinting, weightlifting, football).

** Assertive:** The expression of thoughts and feelings without experiencing anxiety or threatening others.

**Balance:** A component of physical fitness that relates to the maintenance of equilibrium while stationary or moving.

**Biomechanical principles:** The science concerned with the action of forces, their equilibrium or motion.

**Learnin:** Movement responses how and the individual can move in space without losing balance or rhythm and feelings without maintaining posture, balance, and motion.

**Metabolic:** Physical activity of exercise done at a steady pace.

**Alcohol:** Alcoholism.

**Other infections cause a breakdown of the body's ability to fight other infections when infection with HIV causes a breakdown of the body's ability to fight other infections.**

**Neurologic:** (c.f., walking, running, swimming, cycling) can supply as much oxygen as the body needs for an extended period of time so that the heart and body can supply as much oxygen as the body needs for an extended period of time so that the heart can supply as much oxygen as the body needs.

**Physical activity of exercise done at a steady pace.**

**End of the expression with proficiency and performance.**

**Adolescence:** A health condition of sudden onset, sharp rise,

**Acute illness:** Giving something up in order to gain something.

**Absence:** Choosing not to do something or completely giving something up in order to gain something.
Body composition:
A health-related component of physical fitness that relates to the percentage of fat tissue and lean tissue in the body.

Body systems:
Anatomically or functionally related parts of the body (e.g., skeletal, nervous, immune, circulatory systems).

Caloric content:
The amount of energy supplied by food. The more calories in the food, the more fattening.

Cardiorespiratory fitness:
A health-related component of physical fitness relating to the ability of the circulatory and respiratory systems to supply oxygen during sustained physical activity.

Centrifugal:
The force that seems to pull an object away from the center as it moves in a circle.

Centripetal:
The force that seems to pull an object away from the center as it moves in a circle.

Chronic illness:
A health condition of long duration or frequent recurrence.

Circuit training:
Exercise program, similar to an obstacle course, in which the person moves from one piece of equipment to another while doing a different exercise at each piece of equipment.

Closed:
Skills that are performed in an environment that does not change or that changes very little.

Communicable illness:
An illness caused by pathogens that enter the body through direct or indirect contact and can be transmitted from one host to another.

Continuous:
Two or more repetitions of the same skill such as dribbling in basketball or soccer.

Cool-down:
Brief, mild exercise done after vigorous exercise to help the body safely return to a resting state.

Continuous:
Two or more repetitions of the same skill such as dribbling in basketball or soccer.

Community helper:
Any group or individual who plays a role in health promotion or disease prevention such as doctors, nurses, dentists, teachers, parents, therapists, volunteer organizations, or police officers.

Coaching:
Coordination: A skill-related component of physical fitness that relates to the ability to use the senses together with body parts in performing motor tasks smoothly and accurately.

CPR: A first aid technique, which involves rescue breathing and chest (heart) compressions, that is used to revive a person whose heart has stopped beating.

Critical elements: The important parts of a skill.

Decision-making process: An organized approach to making choices.

Developmental differences: Learners are at different levels in their motor, cognitive, emotional, social and physical development. The learners' developmental status will affect their ability to learn or improve.

Developmentally appropriate: Motor skill development and change that occur in an orderly, sequential fashion and are age and experience related.

Directions: Forward, backward, left, right, up, down.

Discrete: A single skill performed in isolation from other motor skills such as the soccer penalty kick and golf stroke.

Dynamic balance: Equilibrium used when in motion, standing, and facing forward, backward, left, right, up, down.

Eating disorders: Food-related dysfunction in which a person changes eating habits in a way that is harmful to the person.

Efficiency of movement: The state of skillful, coordinated performance in performance and which there is no change in the motion of movement.

Equilibrium: The state of balance or the center of gravity of a body.

Flexibility: A health-related component of physical fitness that relates to the range of motion available at a joint.

Feedback: Information given to the learner about how to improve or correct a movement.

Footwear: Equilibrium used when in motion, standing, and facing forward, backward, left, right, up, down.

Foot-related dysfunction in which a person changes eating habits in a way that is harmful to the person.

Proper balance: The state in which there is no change in the motion of a body.

Disaster: An organized approach to making choices.

Disaster management process: A series of steps (or phases) that are followed to effectively respond to a crisis.

Feedback: A skill-related component of physical fitness that relates to the ability to use the senses together with body parts in performing motor tasks smoothly and accurately.

Coordinated: A foot-related dysfunction in which a person changes eating habits in a way that is harmful to the person.

Critical elements: The important parts of a skill.
Food guide pyramid: A visual tool used to help people plan healthy diets according to the Dietary Guidelines for America.

Force: Any external agent that causes a change in the motion of a body.

Form: Manner or style of performing a movement according to recognized standards of technique.

Good performance: The ability to correctly select what to do and the ability to execute the selection appropriately.

Health: A state of complete physical, mental and social well-being, not merely the absence of disease and infirmity.

Health-related fitness: Components of physical fitness that have a relationship with good health. Components are cardiorespiratory endurance, muscular strength and endurance, flexibility and body composition.

Heimlich maneuver: A first aid technique that is used to relieve complete airway obstruction.

HIV: Human immunodeficiency virus that infects cells of the immune system and other tissues and causes acquired immunodeficiency syndrome (AIDS).

I-statement: A statement describing a specific behavior or event and the effect that behavior or event has on the person and the feelings that result.

Inertial force: A force that acts on a body at rest or in motion unless acted upon by a force.

Inertia: A body at rest will remain at rest and a body in motion will remain in motion unless acted upon by a force.

Inhalant: Chemicals that produce vapors that act on the central nervous system and alter a user’s moods, such as amphetamine, glue, and methamphetamine.

Physical education: A planned, sequential K—12 program of curricula and instruction that helps students develop knowledge, attitudes and skills related to the physical, mental, emotional and social dimensions of health.

Planned, sequential K—12 program of curriculum

Program: A visual tool used to help people plan healthy diets according to the Dietary Guidelines for America.
Integumentary system: Body system composed of the skin, hair, nails and glands.

Intensity: How hard a person should exercise to improve fitness.

Interval training: An anaerobic exercise program that consists of runs of short distance followed by rest.

Kinetic: Energy that an object possesses because it is moving, such as a pitched baseball or a person running.

Levels: Positions of the body (e.g., high, medium, low).

Linear motion: Movement which occurs in a straight path.

Locomotor movement: Movement which occurs in a straight path.

Long-term memory: Ability to recall information that was learned days or weeks ago.

Manipulative movements: Control of objects with body parts and implements. Action causes an object to move from one place to another.

Moderate physical activity: Sustained, repetitive, large muscle movements.

Motor skills: Non-fitness abilities that improve with practice and relate to one's ability to perform specific tasks such as tennis serve, golf swing, etc.

Non-fitness abilities that improve with practice and relate to one's ability to perform specific tasks such as tennis serve, golf swing, etc.

Mechanical advantage: The ratio between the force put into a machine and the force that comes out of the same machine.

Mechanical advantage: The ratio between the force put into a machine and the force that comes out of the same machine.

Media sources: Various forms of mass communication such as television, radio, magazines, newspapers and the Internet.

The media: Various forms of mass communication such as television, radio, magazines, newspapers and the Internet.

Media escalated advantage: Control of objects with body parts and implements. Action causes an object to move from one place to another.

Physical education: Sustained, repetitive, large muscle movements.

Physical fitness: Ability to recall information that was learned days or weeks ago.

Photocopying prohibited without permission from the State Board of Education.
Motor stage of learning:

Individual working to perfect the motor skill and
makes conscious adjustments to the environment.

Movement skills:

Proficiency in performing nonlocomotor,
locomotor and manipulative movements that are
the foundation for participation in physical
activities.

Muscular endurance:

A health-related component of physical fitness that
relates to the ability of a muscle to continue to
perform without fatigue.

Muscular strength:

A health-related component of physical fitness that
relates to the ability of the muscle to exert force.

Newton’s Laws of Motion:

Three laws by Sir Isaac Newton that explain the
relations between force and the motions produced
by them:

1. Law of Inertia
2. Force and Acceleration
3. Reacting Forces

Noncommunicable:

Illness that is not caused by a pathogen that is not
transmitted from one host to another.

Nonlocomotor movement:

Movements that do not produce physical
displacement of the body.

Open:

Skill performed in an environment that varies or is
unpredictable such as the tennis forehand or the
soccer pass.

Nutrient:

A basic component of food that nourishes the
body.

Overload:

A principle of exercise that states that the only
way to improve fitness is to exceed more than
a muscle’s ability to exceed that which it can
perform without fatigue.

Pathways:

Patterns of travel while performing locomotor
movements (e.g., straight, curved, zigzag).

Physical activity:

Bodily movement produced by the
contraction of skeletal muscle and
which substantially increases energy
expenditure.

Physical education:

Individual working to perfect the motor skill and
makes conscious adjustments to the environment.

Procedures in performing nonlocomotor
movements.

Procedures in performing locomotor
movements.

Procedures in performing manipulative
movements.

Motor stage of learning:

Individual working to perfect the motor skill and
makes conscious adjustments to the environment.
Physical education:
A planned, sequential, movement-based program of curricula and instruction that helps students develop knowledge, attitudes, motor skills, self-management skills and confidence needed to adapt and maintain a physically active life.

Physical fitness:
A set of attributes that people have or achieve and that relate to their ability to perform physical activity. Generally accepted to consist of health-related fitness and skill-related fitness.

Potential:
Energy stored in a body because of its position such as the crouch position prior to a jump.

Power:
A skill-related component of physical fitness that relates to the rate at which one can perform work.

Progression:
A principle of exercise that states that a person should start slowly and increase exercise gradually.

Reaction time:
A skill-related component of physical fitness that relates to the time elapsed between stimulation and the beginning of the response to it.

Repetitions:
The number of times an exercise is repeated.

Refusal skills:
Systematic ways to handle situations in which a person wants to say no to an action and/or leave a threatening environment that results in health or safety risks, breaking laws, or not following guidelines set by responsible adults or others who know what is best and understand the big picture of the response to it.

Rescue breathing:
A technique used to supply air to an individual who is not breathing.

Reflective listening:
An active listening skill in which the individual lets others known he/she has heard and understands what has been said.

Reflexive breathing:
A skill-related component of physical fitness that relates to the rate at which one can perform work.

Reflective skills:
Systematic ways to handle situations in which a person wants to say no to an action and/or leave a threatening environment that results in health or safety risks, breaking laws, or not following guidelines set by responsible adults or others who know what is best and understand the big picture of the response to it.

Repetitions of exercise:
Guidelines to follow to obtain the maximum benefit from physical activity and exercise.

Repetitions of training:
Guidelines to follow to obtain the maximum benefit from an exercise plan.

Reaction time of training:
Guidelines to follow in order to obtain the maximum benefit from an exercise plan.
Rotary motion: Force that produces movement that occurs around an axis or center point such as a somersault.

Safety education: Planned, sequential program of curricula and instruction that helps students develop the knowledge, attitudes and confidence needed to protect themselves from injury.

Self-space: All the space that the body or its parts can reach without moving from a starting location.

Serial: Two or more different skills performed together such as fielding a ball and throwing it or dribbling a basketball and shooting it.

Set: A group of several repetitions.

Short-term memory: The ability to recall recently learned information, such as within the past few seconds or minutes.

Specificity: A principle of exercise that states that specific kinds of exercises must be done to develop specific aspects of the body and specific aspects of fitness.

Specificity: A principle of exercise that states that specific kinds of exercises must be done to develop specific aspects of the body and specific aspects of fitness.

Speed: A skill-related component of physical fitness that relates to the ability to perform a movement or cover a distance in a short period of time.

Static balance: Maintaining equilibrium while holding a pose or cover a distance in a short period of time.

Universal precautions: An approach to infection control. All human blood and body fluids are treated as if known to be sexually transmitted disease.

Warm-up: Brief, mild exercise that is done to get ready for more vigorous exercise.

STD: Sexually transmitted disease.

Sweat balance: A skill-related component of physical fitness that relates to the ability to perform a movement or cover a distance in a short period of time.

Specificity: A principle of exercise that states that specific kinds of exercises must be done to develop specific aspects of the body and specific aspects of fitness.

Specificity: A principle of exercise that states that specific kinds of exercises must be done to develop specific aspects of the body and specific aspects of fitness.

Universal precautions: An approach to infection control. All human blood and body fluids are treated as if known to be sexually transmitted disease.

STD: Sexually transmitted disease.

Sweat balance: A skill-related component of physical fitness that relates to the ability to perform a movement or cover a distance in a short period of time.

Specificity: A principle of exercise that states that specific kinds of exercises must be done to develop specific aspects of the body and specific aspects of fitness.

Specificity: A principle of exercise that states that specific kinds of exercises must be done to develop specific aspects of the body and specific aspects of fitness.

Universal precautions: An approach to infection control. All human blood and body fluids are treated as if known to be sexually transmitted disease.
Verbal cognitive stage of learning: The individual is attempting to move from verbal instruction to applying what he/she has learned. The individual is acquiring the move from verbal instruction to applying it to a skill. The individual is moving from verbal instruction to understanding the skill. The individual is attempting to move from verbal instruction to applying the skill. The individual is acquiring the skill.

Vigorous physical activity: Sustained, repetitive, large muscle movements (e.g., running, swimming, soccer) done at 60% or more of maximum heart rate for age. Maximum heart rate is 220 beats per minute minus the participant's age. Activity makes the person sweat and breathe hard.

Academic Standards for Family and Consumer Sciences

II.1. Food Science and Nutrition
H. Communications
C. Family Life Cycle
F. Nutrition and Health
E. Consumer Analysis
B. Service and Environment
A. Food Supply

II.2. Balancing Family, Work, and Community Responsibilities
C. Services
E. Planing
F. Income
D. Consumer Rights and Responsibilities
C. Housing
B. Spending Plan
A. Resource Management

II.3. Financial and Resource Management
H. Communications
C. Family Life Cycle
E. Family Functions
F. Technology
D. Space Planning
C. Team Building
B. Action Plan
A. Problem Solving

THE ACADEMIC STANDARDS

XX. TABLE OF CONTENTS

Introduction
This document includes Academic Standards for Family and Consumer Sciences at four grade levels (third, sixth, ninth and twelfth) with the emphasis on what students will know and be able to do in the following areas:

- Financial and Resource Management
- Balancing Family, Work, and Community Responsibility
- Food Science and Nutrition
- Child Development

The focus of the Academic Standards for Family and Consumer Sciences is the individual, the family and the community. The 21st Century requires students to develop the ability to transform information into knowledge by using standards to certify that this information is meaningful, categorizing it to a purpose and then turning this information into wisdom by applying it to real life. Family and Consumer Sciences is a discipline composed of strong subject matter that links theory into knowledge and wisdom by using standards to certify the ability to transform information into knowledge and wisdom. The focus of the Academic Standards for Family and Consumer Sciences is the individual, the family and the community. The economic, social and political well-being of our state depends on the well-being of Pennsylvania's families. The family is responsible for nurturing its members. Family and Consumer Sciences, working with Pennsylvania's families, supports the development of the knowledge and skills that students need as family members both now and in the future.

Family and Consumer Sciences is a discipline composed of strong subject matter that links theory into knowledge and wisdom by using standards to certify the ability to transform information into knowledge and wisdom. The focus of the Academic Standards for Family and Consumer Sciences is the individual, the family and the community. The economic, social and political well-being of our state depends on the well-being of Pennsylvania's families. The family is responsible for nurturing its members. Family and Consumer Sciences, working with Pennsylvania's families, supports the development of the knowledge and skills that students need as family members both now and in the future.
Learners in Family and Consumer Sciences nurture themselves and others, taking increased responsibility for improving their quality of living.

The Academic Standards for Family and Consumer Sciences are written to empower individuals and families to manage the challenges of living and working in a diverse, global society. These Academic Standards address the function and evaluation of family and community, personal, and social issues. An integrative approach is used to help individuals and families develop the knowledge, skills, and attitudes needed to meet their personal, family, and work responsibilities.

The focus is on the recurring, practical problems of individuals and families. Comprehensive classroom experiences allow students to develop the knowledge and skills needed to make choices to meet their personal, family, and work responsibilities. Comprehensive classroom experiences allow students to develop the knowledge and skills needed to make choices to meet their personal, family, and work responsibilities.

A glossary is included to assist the reader in understanding terminology included in the standards.
11.1. Financial and Resource Management

<table>
<thead>
<tr>
<th>11.1.3. GRADE 3</th>
<th>11.1.6. GRADE 6</th>
<th>11.1.9. GRADE 9</th>
<th>11.1.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
<td><strong>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...</strong></td>
</tr>
<tr>
<td>A. Identify money denominations, services and material resources available as trade-offs within the home, school and community.</td>
<td>A. Justify the decision to use or not use resources based on scarcity.</td>
<td>A. Analyze current conservation practices and their effect on future renewable and non-renewable resources.</td>
<td>A. Evaluate the impact of family resource management on the global community.</td>
</tr>
<tr>
<td>B. Define the components of a spending plan (e.g., income, expenses, savings).</td>
<td>B. Know the relationship of the components of a simple spending plan and how that relationship allows for managing income, expenses and savings.</td>
<td>B. Explain the responsibilities associated with managing personal finances (e.g., savings, checking, credit, noncash systems, investments, insurance).</td>
<td>B. Analyze the management of financial resources across the lifespan.</td>
</tr>
<tr>
<td>C. Explain the need for shelter for the purpose of safety, warmth and comfort.</td>
<td>C. Describe the adaptability to meet basic human needs of the different types of housing available (e.g., single home, apartment, mobile home, shelter, recreational vehicle, public housing).</td>
<td>C. Delineate and assess the factors affecting the availability of housing (e.g., supply and demand, market factors, geographical location, community regulations).</td>
<td>C. Analyze the relationship among factors affecting consumer housing decisions (e.g., human needs, financial resources, location, legal agreements, maintenance responsibilities).</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to . . .</strong></td>
<td><strong>D. Explain consumer rights and responsibilities.</strong>&lt;br&gt;• To be safe&lt;br&gt;• To be informed&lt;br&gt;• To be heard&lt;br&gt;• To choose&lt;br&gt;• To redress</td>
<td><strong>D. Analyze information in care instructions, safety precautions and the use of consumable goods as a demonstration of understanding of consumer rights and responsibilities.</strong></td>
<td><strong>D. Explain how consumer rights and responsibilities are protected (e.g., government agencies, consumer protection agencies, consumer action groups).</strong></td>
</tr>
<tr>
<td><strong>E. Explain the relationship between work and income.</strong></td>
<td><strong>E. Explain the principles of child labor laws and the opportunity cost of working by evaluating the advantages and disadvantages of holding a job while a teenager.</strong></td>
<td><strong>E. Compare the influences of income and fringe benefits to make decisions about work.</strong></td>
<td><strong>E. Compare and contrast factors affecting annual gross and taxable income and reporting requirements (e.g., W-2 form, Income tax form).</strong></td>
</tr>
<tr>
<td><strong>F. Describe criteria needed to identify quality in consumer goods and services (e.g., food, clothing, furniture, home technology, health care, transportation, services).</strong></td>
<td><strong>F. Explain practices to maintain and/or repair consumer goods and services.</strong></td>
<td><strong>F. Evaluate different strategies to obtain consumer goods and services.</strong></td>
<td><strong>F. Compare and contrast the selection of goods and services by applying effective consumer strategies.</strong></td>
</tr>
<tr>
<td><strong>G. Identify the services that communities provide for individuals and families.</strong></td>
<td><strong>G. Identify the public and nonpublic services that are available to serve families within the community.</strong></td>
<td><strong>G. Analyze how public, nonpublic and for-profit service providers serve the family.</strong></td>
<td><strong>G. Compare the availability, costs and benefits of accessing public, nonpublic and for-profit services to assist the family.</strong></td>
</tr>
</tbody>
</table>
## 11.2. Balancing Family, Work and Community Responsibility

**Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to . . .**

<table>
<thead>
<tr>
<th></th>
<th>11.2.3. GRADE 3</th>
<th>11.2.6. GRADE 6</th>
<th>11.2.9. GRADE 9</th>
<th>11.2.12. GRADE 12</th>
</tr>
</thead>
</table>
| A. Examine consequences of family, work or career decisions. | A. Contrast the solutions reached through the use of a simple decision making process that includes analyzing consequences of alternative solutions against snap decision making methods. | A. Solve dilemmas using a practical reasoning approach  
  - Identify situation  
  - Identify reliable information  
  - List choices and examine the consequences of each  
  - Develop a plan of action  
  - Draw conclusions  
  - Reflect on decisions | A. Justify solutions developed by using practical reasoning skills. |
| B. Identify the importance of routines and schedules while differentiating between short and long term goals. | B. Deduce the importance of time management skills (e.g. home, school, recreational activities). | B. Know FCCLA action planning procedure and how to apply it to family, work and community decisions. | B. Evaluate the effectiveness of action plans that integrate personal, work, family and community responsibilities. |
| C. Indicate the benefits and costs of working as an individual or as a team member and of being a leader or follower. | C. Classify the components of effective teamwork and leadership. | C. Assess the effectiveness of the use of teamwork and leadership skills in accomplishing the work of the family. | C. Analyze teamwork and leadership skills and their application in various family and work situations. |
| D. Explain the importance of organizing space for efficiency and a sense of comfort (e.g., desk space, classroom space). | D. Identify the concepts and principles used in planning space for activities. | D. Analyze the space requirements for a specified activity to meet a given need (e.g., family room, home office, kitchen). | D. Based on efficiency, aesthetics and psychology, evaluate space plans (e.g., home, office, work areas) for their ability to meet a variety of needs including those of individuals with special needs. |
11.2. Balancing Family, Work and Community Responsibility

<table>
<thead>
<tr>
<th>11.2.3. GRADE 3</th>
<th>11.2.6. GRADE 6</th>
<th>11.2.9. GRADE 9</th>
<th>11.2.12. GRADE 12</th>
</tr>
</thead>
</table>

*Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...*

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>E.</td>
<td>Analyze the effectiveness of technology used for school and home in accomplishing the work of the family (e.g., security, entertainment, communication, education).</td>
<td>E.</td>
<td>Describe the role of technology within a community in maintaining a safe and healthy living environment (e.g., safety, hospitals, waste treatment, water quality, schools).</td>
</tr>
<tr>
<td>F.</td>
<td>Explain daily activities that fulfill family functions in meeting responsibilities (e.g., economic, emotional support, childcare and guidance, housekeeping, maintaining kinship, providing recreation).</td>
<td>F.</td>
<td>Compare and contrast how different cultures meet family responsibilities within differing configurations (e.g., new parent, just married, single adult living alone, “empty nest,” retired, senior citizen).</td>
</tr>
<tr>
<td>G.</td>
<td>Identify the life stages by identifying their developmental task (e.g., infant, pre-schooler, school age, teen-age, adult, senior citizen).</td>
<td>G.</td>
<td>Identify the characteristics of the stages of the family life cycle (e.g., beginning, expanding, developing, launching, middle years, retirement, variations).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E.</td>
<td>Evaluate the impact of technology and justify the use or nonuse of it (e.g., safety, cost/budget, appearance, efficiency).</td>
<td>E.</td>
<td>Assess the availability of emerging technology that is designed to do the work of the family and evaluate the impact of its use on individuals, families and communities.</td>
</tr>
<tr>
<td>F.</td>
<td>Contrast past and present family functions and predict their probable impact on the future of the family.</td>
<td>F.</td>
<td>Assess the relationship of family functions to human developmental stages.</td>
</tr>
<tr>
<td>G.</td>
<td>Explain the influences of family life cycle stages on the needs of families and communities (e.g., a large number of young families needing day care, fixed income senior citizens, school age children).</td>
<td>G.</td>
<td>Hypothesize the impact of present family life-cycle trends on the global community (e.g., over population, increase in an aging population, economic base).</td>
</tr>
<tr>
<td>11.2.3. GRADE 3</td>
<td>11.2.6. GRADE 6</td>
<td>11.2.9. GRADE 9</td>
<td>11.2.12. GRADE 12</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------</td>
<td>---------------</td>
<td>------------------</td>
</tr>
</tbody>
</table>
| **H. Identify how to resolve conflict using interpersonal communications skills.**  
  - Speaking and listening  
  - I messages  
  - Active listening  
  - Checking for understanding  
  - Following directions  
  - Empathy  
  - Feedback |
| **H. Describe positive and negative interactions within patterns of interpersonal communications.**  
  - Placating  
  - Blaming  
  - Distracting  
  - Intellectualizing  
  - Asserting |
| **H. Justify the significance of interpersonal communication skills in the practical reasoning method of decision making.**  
  - Placating  
  - Blaming  
  - Distracting  
  - Intellectualizing  
  - Asserting |
| **H. Evaluate the effectiveness of using interpersonal communication skills to resolve conflict.**  
  - Placating  
  - Blaming  
  - Distracting  
  - Intellectualizing  
  - Asserting |

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...
### 11.3. Food Science and Nutrition

<table>
<thead>
<tr>
<th>11.3.3. GRADE 3</th>
<th>11.3.6. GRADE 6</th>
<th>11.3.9. GRADE 9</th>
<th>11.3.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Know the production steps that a food travels from the farm to the consumer.</td>
<td>A. Demonstrate knowledge of techniques used to evaluate food in various forms (e.g., canned, frozen, dried, irradiated).</td>
<td>A. Explain how scientific and technological developments enhance our food supply (e.g., food preservation techniques, packaging, nutrient fortification).</td>
<td>A. Analyze how food engineering and technology trends will influence the food supply.</td>
</tr>
<tr>
<td>B. Describe personal hygiene techniques in food handling (e.g., handwashing, sneeze control, signs of food spoilage).</td>
<td>B. Describe safe food handling techniques (e.g., storage, temperature control, food preparation, conditions that create a safe working environment for food production).</td>
<td>B. Identify the cause, effect and prevention of microbial contamination, parasites and toxic chemicals in food.</td>
<td>B. Evaluate the role of Government agencies in safeguarding our food supply (e.g., USDA, FDA, EPA and CDC).</td>
</tr>
<tr>
<td>C. Explain the importance of eating a varied diet in maintaining health.</td>
<td>C. Analyze factors that effect food choices.</td>
<td>C. Analyze the impact of food addictions and eating disorders on health.</td>
<td>C. Evaluate sources of food and nutrition information.</td>
</tr>
<tr>
<td>D. Classify foods by food group within the food guide pyramid including the serving size and nutrient function within the body.</td>
<td>D. Describe a well-balanced daily menu using the dietary guidelines and the food guide pyramid.</td>
<td>D. Analyze relationship between diet and disease and risk factors (e.g., calcium and osteoporosis; fat, cholesterol and heart disease; folate and birth defects; sodium and hypertension).</td>
<td>D. Critique diet modifications for their ability to improve nutritionally-related health conditions (e.g., diabetes, lactose-intolerance, iron deficiency).</td>
</tr>
</tbody>
</table>
### 11.3. Food Science and Nutrition

| E. Define energy-yielding nutrients and calories. | E. Explain the relationship between calories, nutrient and food input versus energy output; describe digestion. | E. Analyze the energy requirements, nutrient requirements and body composition for individuals at various stages of the life cycle. | E. Analyze the breakdown of foods, absorption of nutrients and their conversion to energy by the body. |
| F. Identify components of a basic recipe (e.g., volume, weight, fractions, recipe ingredients, recipe directions, safety techniques). | F. Analyze basic food preparation techniques and food-handling procedures. | F. Hypothesize the effectiveness of the use of meal management principles (e.g., time management, budgetary considerations, sensory appeal, balanced nutrition, safety, sanitation). | F. Evaluate the application of nutrition and meal planning principles in the selection, planning, preparation and serving of meals that meet the specific nutritional needs of individuals across their lifespan. |
| G. Classify foods according to senses (e.g., taste, touch, smell, mouth feel, sight, sound). | G. Describe the physical, biological, and chemical changes that take place in food preparation. | G. Analyze the application of physical and chemical changes that occur in food during preparation and preservation. | G. Analyze the relevance of scientific principles to food processing, preparation and packaging. |

Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...
## 11.4. Child Development

### Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...

<table>
<thead>
<tr>
<th>11.4.3. GRADE 3</th>
<th>11.4.6. GRADE 6</th>
<th>11.4.9. GRADE 9</th>
<th>11.4.12. GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A.</strong> Identify characteristics in each stage of child development.</td>
<td><strong>A.</strong> Compare and contrast child development guided practices according to the stage of child development.</td>
<td><strong>A.</strong> Analyze physical, intellectual and social/emotional development in relation to theories of child development.</td>
<td><strong>A.</strong> Analyze current research on existing theories in child development and its impact on parenting (e.g., Piaget, Erikson and prior findings versus new brain development research).</td>
</tr>
<tr>
<td>• Infancy/birth to 1 year</td>
<td>• Infancy/birth to 1 year</td>
<td>• Infancy/birth to 1 year</td>
<td>• Infancy/birth to 1 year</td>
</tr>
<tr>
<td>• Early childhood/1 to 6 years</td>
<td>• Early childhood/1 to 6 years</td>
<td>• Early childhood/1 to 6 years</td>
<td>• Early childhood/1 to 6 years</td>
</tr>
<tr>
<td>• Middle childhood/6 to 9 years</td>
<td>• Middle childhood/6 to 9 years</td>
<td>• Middle childhood/6 to 9 years</td>
<td>• Middle childhood/6 to 9 years</td>
</tr>
<tr>
<td>• Late childhood/9—13 years</td>
<td>• Late childhood/9—13 years</td>
<td>• Late childhood/9—13 years</td>
<td>• Late childhood/9—13 years</td>
</tr>
<tr>
<td>• Adolescence/13—18 years</td>
<td>• Adolescence/13—18 years</td>
<td>• Adolescence/13—18 years</td>
<td>• Adolescence/13—18 years</td>
</tr>
<tr>
<td><strong>B.</strong> Identify health and safety needs for children at each stage of child development.</td>
<td><strong>B.</strong> Identify ways to keep children healthy and safe at each stage of child development.</td>
<td><strong>B.</strong> Evaluate health and safety hazards relating to children at each stage of child development.</td>
<td><strong>B.</strong> Analyze current issues in health and safety affecting children at each stage of child development.</td>
</tr>
<tr>
<td><strong>C.</strong> Identify the characteristics of a learning environment.</td>
<td><strong>C.</strong> Identify the role of the caregiver in providing a learning environment (e.g., babysitting, daycare, preschool).</td>
<td><strong>C.</strong> Evaluate various environments to determine if they provide the characteristics of a proper learning environment.</td>
<td><strong>C.</strong> Analyze practices that optimize child development (e.g., stimulation, safe environment, nurturing caregivers, reading to children).</td>
</tr>
<tr>
<td><strong>D.</strong> Identify community resources provided for children.</td>
<td><strong>D.</strong> Identify child-care provider considerations.</td>
<td><strong>D.</strong> Analyze the roles, responsibilities and opportunity for family involvement in schools.</td>
<td><strong>D.</strong> Analyze plans and methods to blend work and family responsibilities to meet the needs of children.</td>
</tr>
<tr>
<td><strong>E.</strong> Explain how the home and community help a person learn to read, write and compute.</td>
<td><strong>E.</strong> Identify characteristics of quality literature for children and other literacy enhancing activities.</td>
<td><strong>E.</strong> Explain how storytelling, story reading and writing enhance literacy development in children.</td>
<td><strong>E.</strong> Identify practices that develop the child’s imagination, creativity and reading and writing skills through literature.</td>
</tr>
</tbody>
</table>
XXXIII. GLOSSARY

Aesthetics: Appreciation of and responsive to beauty.

CDC: Center for Disease Control

Child-care provider considerations: Criteria to use in evaluating child care facilities. These include well-trained and highly motivated staff, pleasant sanitary surroundings, variety in toys and supplies, ratio of staff to children.

Child development stage: An age range with similar growth characteristics.

Consumer responsibilities: The need to interpret information in care instructions, safety precautions and proper use of consumer goods.

Consumer rights: The guarantee to be safe, the right to be informed, to choose.

Dietary guidelines: A set of seven recommendations developed by the United States Department of Agriculture and the Department of Health and Human Services to help healthy people.

Developmental tasks: Changes in the thinking and behavior of individuals over time.

Developmental skills: The ability to do a task or to carry out a plan.

Diety guidelines:

Environmental Protection Agency: The action of understanding another's thoughts.

Empathy:

EPA:

EPA:

Empathy:

Empathy:

EPA:

Empathy:

Empathy:

EPA:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:

Empathy:
### Food and Drug Administration

**Family, Career, and Community Leaders of America:**

- Vocational student organization sponsored by Family and Consumer Sciences classrooms.

**Food guide pyramid:**

A visual tool used to help people plan healthy diets according to the Dietary Guidelines for America.

**Guided practices:**

- Interaction with a child based on age-appropriate developmental principles.

**I message:**

- A statement containing three parts:
  1. The situation
  2. How it makes the speaker feel
  3. What will happen if it continues

**Kinship:**

- Relationships or relatives.

**Leadership skills:**

- Use resources
- Delegate authority
- Assess composition of group
- Determine and rank goals
- Evaluate consequences
- Communicate effectively
- Delegate authority
- Use resources
- The ability to

**Lessee cost:**

- Opportunity cost.

**Microbial contamination:**

- Most common food contaminants causing foodborne illnesses.

**Nutrient:**

- A basic component of food that nourishes the body.

**Opportunity cost:**

- The tangible and intangible trade-off necessary to procure a good or service or to take an action.

**Practical reasoning:**

- A decision making process unique because of its emphasis on relationships and involving six steps:
  1. Identify situation to be solved
  2. Draw conclusion
  3. Develop plan of action
  4. List choices and examine consequences
  5. Review conclusion
  6. Decide on decision

**Practitioner:**

- Food and Drug Administration.

**Problem:**

- A basic component of food that nourishes the body.

**Prone to:**

- Most common food contaminants causing foodborne illnesses.

**Prone to contamination:**

- A statement containing three parts:
  1. The situation
  2. How it makes the speaker feel
  3. What will happen if it continues

**Relationships or relatives:**

- What will happen if it continues.

**Redress:**

- To set right or remedy.

---

**Guidelines for educators:**

- A visual tool used to help people plan healthy diets according to the Dietary Guidelines for America.

**Guidelines for educators:**

- A visual tool used to help people plan healthy diets according to the Dietary Guidelines for America.

**Guidelines for educators:**

- A visual tool used to help people plan healthy diets according to the Dietary Guidelines for America.

---

**FDa:**

- Family, Career, and: Community Leaders of America.
<table>
<thead>
<tr>
<th>Ch. 4 Academic Standards and Assessments</th>
</tr>
</thead>
</table>

### APPENDIX E

#### Academic Standards for Career Education and Work

**Introduction**


**XXIX**

**TABLE OF CONTENTS**

#### Career Awareness and Preparation

- **Career Awareness (Getting a Job)**
  - A. Abilities and Aptitudes
  - B. Personal Interests
  - C. Nontraditional Workplace Roles
  - D. Local Career Preparation Opportunities
  - E. National Career Preparation Opportunities
  - F. Preparation for Careers
  - G. Career Selection Influences
  - H. Relationship Between Education and Career
  - I. Career Plan Components

#### Career Acquisition (Getting a Job)

- A. Interviewing Skills
- B. Resources
- C. Career Acquisition Documents
- D. Career Planning Portfolios
- E. Career Acquisition Process

**Ch. 4 Academic Standards and Assessments**

**USD:** United States Department of Education

**Trade-off:**

- Exchange of goods, services or money;
  - Reach consensus;
  - Set common goals;
  - Cooperate;
  - Collaborate;

**Team work skills:**

- The lack of provisions for the support of the body;
  - Resists resilience forms that are positions to the contamination found in natural, environmental and

**Search:**

**Toxic chemical:**
INTRODUCTION

The Academic Standards for Career Education and Work reflect the increasing complexity and sophistication that students experience as they progress through school. Career Education and Work Standards describe what students should know and be able to do at four grade levels (3, 5, 8 and 11) in four areas:

1. Career Awareness and Preparation
2. Career Acquisition (Getting a Job)
3. Career Retention and Advancement
4. Entrepreneurship

Pennsylvania's economic future depends on having a well-educated and skilled workforce. No student should leave secondary education without a solid foundation in Career Education and Work. Through a comprehensive approach, Career Education and Work Standards complement all disciplines and other academic standards. If Pennsylvania's workforce is to succeed in the workplace, students need to develop the skills that they need to function effectively in their respective careers. 

Pennsylvania's economic future depends on having a well-educated and skilled workforce. No student should leave secondary education without a solid foundation in Career Education and Work. Through a comprehensive approach, Career Education and Work Standards complement all disciplines and other academic standards. If Pennsylvania's workforce is to succeed in the workplace, students need to develop the skills that they need to function effectively in their respective careers.

The Academic Standards for Career Education and Work reflect the increasing complexity and sophistication that students experience as they progress through school. Career Education and Work Standards describe what students should know and be able to do at four grade levels (3, 5, 8 and 11) in four areas:

1. Career Awareness and Preparation
2. Career Acquisition (Getting a Job)
3. Career Retention and Advancement
4. Entrepreneurship

A glossary is included to assist the reader in understanding terminology.
# 13.1 Career Awareness and Preparation

<table>
<thead>
<tr>
<th>13.1.3. GRADE 3</th>
<th>13.1.5. GRADE 5</th>
<th>13.1.8. GRADE 8</th>
<th>13.1.11. GRADE 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Recognize that individuals have unique interests.</td>
<td>A. Describe the impact of individual interests and abilities on career choices.</td>
<td>A. Relate careers to individual interests, abilities and aptitudes.</td>
<td>A. Relate careers to individual interests, abilities and aptitudes.</td>
</tr>
<tr>
<td>B. Identify current personal interests.</td>
<td>B. Describe the impact of personal interest and abilities on career choices.</td>
<td>B. Relate careers to personal interests, abilities and aptitudes.</td>
<td>B. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.</td>
</tr>
<tr>
<td>C. Recognize that the roles of individuals at home, in the workplace and in the community are constantly changing.</td>
<td>C. Relate the impact of change to both traditional and nontraditional careers.</td>
<td>C. Explain how both traditional and nontraditional careers offer or hinder career opportunities.</td>
<td>C. Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.</td>
</tr>
<tr>
<td>13.1.3. GRADE 3</td>
<td>13.1.5. GRADE 5</td>
<td>13.1.8. GRADE 8</td>
<td>13.1.11. GRADE 11</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>------------------</td>
</tr>
<tr>
<td><strong>D. Identify the range of jobs available in the community.</strong></td>
<td><strong>D. Describe the range of career training programs in the community such as, but not limited to:</strong></td>
<td><strong>D. Explain the relationship of career training programs to employment opportunities.</strong></td>
<td><strong>D. Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to:</strong></td>
</tr>
<tr>
<td>• Two-and-four year colleges</td>
<td>• Career and technical education programs at centers (formerly AVTS) and high schools</td>
<td>• Career days</td>
<td>• Career days</td>
</tr>
<tr>
<td>• CareerLinks</td>
<td>• Community/recreation centers</td>
<td>• Career portfolio</td>
<td>• Career portfolio</td>
</tr>
<tr>
<td>• Faith-based organizations</td>
<td>• Local industry training centers</td>
<td>• Community service</td>
<td>• Community service</td>
</tr>
<tr>
<td>• Military</td>
<td>• Registered apprenticeship</td>
<td>• Cooperative education</td>
<td>• Cooperative education</td>
</tr>
<tr>
<td>• Registered apprenticeship</td>
<td>• Vocational rehabilitation centers</td>
<td>• Graduation/senior project</td>
<td>• Graduation/senior project</td>
</tr>
<tr>
<td>• Web-based training</td>
<td></td>
<td>• Internship</td>
<td>• Internship</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Job shadowing</td>
<td>• Job shadowing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Part-time employment</td>
<td>• Part-time employment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Registered apprenticeship</td>
<td>• Registered apprenticeship</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• School-based enterprise</td>
<td>• School-based enterprise</td>
</tr>
</tbody>
</table>
### 13.1. Career Awareness and Preparation

<table>
<thead>
<tr>
<th>13.1.3. GRADE 3</th>
<th>13.1.5. GRADE 5</th>
<th>13.1.8. GRADE 8</th>
<th>13.1.11. GRADE 11</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his maximum potential and to acquire the knowledge and skills needed to:</strong></td>
</tr>
</tbody>
</table>
| E. Describe the work done by school personnel and other individuals in the community. | E. Describe the factors that influence career choices, such as, but not limited to:  
- Geographic location  
- Job description  
- Salaries/benefits  
- Work schedule  
- Working conditions | E. Analyze the economic factors that impact employment opportunities, such as, but not limited to:  
- Competition  
- Geographic location  
- Global influences  
- Job growth  
- Job openings  
- Labor supply  
- Potential advancement  
- Potential earnings  
- Salaries/benefits  
- Unemployment | E. Justify the selection of a career. |
<table>
<thead>
<tr>
<th>13.1. Career Awareness and Preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.1.3. GRADE 3</td>
</tr>
<tr>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his maximum potential and to acquire the knowledge and skills needed to:</strong></td>
</tr>
<tr>
<td>F. Explore how people prepare for careers.</td>
</tr>
<tr>
<td>• Associate degree</td>
</tr>
<tr>
<td>• Baccalaureate degree</td>
</tr>
<tr>
<td>• Certificate/licensure</td>
</tr>
<tr>
<td>• Entrepreneurship</td>
</tr>
<tr>
<td>• Immediate part/full time employment</td>
</tr>
<tr>
<td>• Industry training</td>
</tr>
<tr>
<td>• Military training</td>
</tr>
<tr>
<td>• Professional degree</td>
</tr>
<tr>
<td>• Registered apprenticeship</td>
</tr>
<tr>
<td>• Tech Prep</td>
</tr>
<tr>
<td>• Vocational rehabilitation centers</td>
</tr>
</tbody>
</table>
### 13.1. Career Awareness and Preparation

<table>
<thead>
<tr>
<th>13.1.3. GRADE 3</th>
<th>13.1.5. GRADE 5</th>
<th>13.1.8. GRADE 8</th>
<th>13.1.11. GRADE 11</th>
</tr>
</thead>
</table>

**Pennsylvania’s public schools shall teach, challenge and support every student to realize his maximum potential and to acquire the knowledge and skills needed to:**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>
| G. Explain why education and training plans are important to careers. | G. Identify the components of a career plan, such as, but not limited to:  
- Beginnings of career portfolio  
- Career goals  
- Individual interests and abilities  
- Training/education requirements and costs | G. Create an individualized career plan including, such as, but not limited to:  
- Assessment and continued development of career portfolio  
- Career goals  
- Cluster/pathway opportunities  
- Individual interests and abilities  
- Training/education requirements and financing |
| H. Explain how workers in their careers use what is learned in the classroom. | H. Connect personal interests and abilities and academic strengths to personal career options. | H. Choose personal electives and extra curricular activities based upon personal career interests, abilities and academic strengths. | G. Assess the implementation of the individualized career plan through the ongoing development of the career portfolio. |
|   |   |   | H. Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests. |
## 13.2. Career Acquisition (Getting a Job)

<table>
<thead>
<tr>
<th>13.2.3. GRADE 3</th>
<th>13.2.5. GRADE 5</th>
<th>13.2.8. GRADE 8</th>
<th>13.2.11. GRADE 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Identify appropriate speaking and listening techniques used in conversation.</td>
<td>A. Apply appropriate speaking and listening techniques used in conversation.</td>
<td>A. Identify effective speaking and listening skills used in a job interview.</td>
<td>A. Apply effective speaking and listening skills used in a job interview.</td>
</tr>
<tr>
<td>B. Discuss resources available in researching job opportunities, such as, but not limited to:</td>
<td>B. Identify and review resources available in researching job opportunities, such as, but not limited to:</td>
<td>B. Evaluate resources available in researching job opportunities, such as, but not limited to:</td>
<td>B. Apply research skills in searching for a job:</td>
</tr>
<tr>
<td>• Internet</td>
<td>• Internet (i.e. O*NET)</td>
<td>• CareerLinks</td>
<td>• CareerLinks</td>
</tr>
<tr>
<td>• Magazines</td>
<td>• Networking</td>
<td>• Internet</td>
<td>• Internet (i.e. O*NET)</td>
</tr>
<tr>
<td>• Newspapers</td>
<td>• Newspapers</td>
<td>• Networking</td>
<td>• Networking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Professional associations</td>
<td>• Professional associations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Resource books (that is Occupational Outlook Handbook, PA Career Guide)</td>
<td>• Resource books (that is Occupational Outlook Handbook, PA Career Guide)</td>
</tr>
</tbody>
</table>

**Pennsylvania’s public schools shall teach, challenge and support every student to realize his maximum potential and to acquire the knowledge and skills needed to:**

A. Identify appropriate speaking and listening techniques used in conversation.

B. Discuss resources available in researching job opportunities, such as, but not limited to:

- Internet
- Magazines
- Newspapers
### 13.2. Career Acquisition (Getting a Job)

<table>
<thead>
<tr>
<th>13.2.3. GRADE 3</th>
<th>13.2.5. GRADE 5</th>
<th>13.2.8. GRADE 8</th>
<th>13.2.11. GRADE 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania's public schools shall teach, challenge and support every student to realize his maximum potential and to acquire the knowledge and skills needed to:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Compose a personal letter.</td>
<td>C. Compose and compare a business and a personal letter.</td>
<td>C. Prepare a draft of career acquisition documents, such as, but not limited to:</td>
<td>C. Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to:</td>
</tr>
<tr>
<td>• Job application</td>
<td>• Letter of appreciation following an interview</td>
<td>• Request for letter of recommendation</td>
<td>• Job application</td>
</tr>
<tr>
<td>• Letter of introduction</td>
<td>• Letter of introduction</td>
<td>• Resume</td>
<td>• Letter of appreciation following an interview</td>
</tr>
<tr>
<td>• Postsecondary education/ training applications</td>
<td>• Letter of introduction</td>
<td>• Request for letter of recommendation</td>
<td>• Postsecondary education/ training applications</td>
</tr>
<tr>
<td>• Request for letter of recommendation</td>
<td>• Resume</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
13.2. Career Acquisition (Getting a Job)

<table>
<thead>
<tr>
<th>13.2.3. GRADE 3</th>
<th>13.2.5. GRADE 5</th>
<th>13.2.8. GRADE 8</th>
<th>13.2.11. GRADE 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania's public schools shall teach, challenge and support every student to realize his maximum potential and to acquire the knowledge and skills needed to:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

D. Identify the importance of developing a plan for the future.  
D. Identify individualized career portfolio components, such as, but not limited to:  
- Achievements  
- Awards/recognitions  
- Career exploration results  
- Career plans  
- Community service involvement/projects  
- Interests/hobbies  
- Personal career goals  
- Selected school work  
- Self inventories  

D. Develop an individualized career portfolio including components, such as, but not limited to:  
- Achievements  
- Awards/recognitions  
- Career exploration results  
- Career plans  
- Community service involvement/projects  
- Interests/hobbies  
- Personal career goals  
- Selected school work  
- Self inventories  

D. Analyze, revise and apply an individualized career portfolio to chosen career path.
### 13.2. Career Acquisition (Getting a Job)

<table>
<thead>
<tr>
<th>13.2.3. GRADE 3</th>
<th>13.2.5. GRADE 5</th>
<th>13.2.8. GRADE 8</th>
<th>13.2.11. GRADE 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. Discuss the importance of the essential workplace skills, such as, but not limited to:</td>
<td>E. Apply to daily activities, the essential workplace skills, such as, but not limited to:</td>
<td>E. Explain, in the career acquisition process, the importance of the essential workplace skills/knowledge, such as, but not limited to:</td>
<td>E. Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to:</td>
</tr>
<tr>
<td>• Dependability</td>
<td>• Commitment</td>
<td>• Commitment</td>
<td>• Commitment</td>
</tr>
<tr>
<td>• Health/safety</td>
<td>• Communication</td>
<td>• Communication</td>
<td>• Communication</td>
</tr>
<tr>
<td>• Team building</td>
<td>• Dependability</td>
<td>• Dependability</td>
<td>• Dependability</td>
</tr>
<tr>
<td>• Technology</td>
<td>• Health/safety</td>
<td>• Health/safety</td>
<td>• Health/safety</td>
</tr>
<tr>
<td>• Personal initiative</td>
<td>• Laws and regulations (that is Americans With Disabilities Act, child labor laws, Fair Labor Standards Act, OSHA, Material Safety Data Sheets)</td>
<td>• Laws and regulations (that is Americans With Disabilities Act, child labor laws, Fair Labor Standards Act, OSHA, Material Safety Data Sheets)</td>
<td>• Laws and regulations (that is Americans With Disabilities Act, child labor laws, Fair Labor Standards Act, OSHA, Material Safety Data Sheets)</td>
</tr>
<tr>
<td>• Scheduling/time management</td>
<td>• Personal initiative</td>
<td>• Personal initiative</td>
<td>• Personal initiative</td>
</tr>
<tr>
<td>• Team building</td>
<td>• Self-advocacy</td>
<td>• Self-advocacy</td>
<td>• Self-advocacy</td>
</tr>
<tr>
<td>• Technical literacy</td>
<td>• Scheduling/time management</td>
<td>• Scheduling/time management</td>
<td>• Scheduling/time management</td>
</tr>
<tr>
<td>• Technology</td>
<td>• Team building</td>
<td>• Team building</td>
<td>• Team building</td>
</tr>
<tr>
<td></td>
<td>• Technical literacy</td>
<td>• Technical literacy</td>
<td>• Technical literacy</td>
</tr>
<tr>
<td></td>
<td>• Technology</td>
<td>• Technology</td>
<td>• Technology</td>
</tr>
</tbody>
</table>

Pennsylvania's public schools shall teach, challenge and support every student to realize his maximum potential and to acquire the knowledge and skills needed to:
13.3. Career Retention and Advancement

<table>
<thead>
<tr>
<th>13.3.3. GRADE 3</th>
<th>13.3.5. GRADE 5</th>
<th>13.3.8. GRADE 8</th>
<th>13.3.11. GRADE 11</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his maximum potential and to acquire the knowledge and skills needed to:</strong></td>
<td><strong>Pennsylvania’s public schools shall teach, challenge and support every student to realize his maximum potential and to acquire the knowledge and skills needed to:</strong></td>
</tr>
<tr>
<td>A. Identify attitudes and work habits that contribute to success at home and school.</td>
<td>A. Explain how student attitudes and work habits transfer from the home and school to the workplace.</td>
<td>A. Determine attitudes and work habits that support career retention and advancement.</td>
<td>A. Evaluate personal attitudes and work habits that support career retention and advancement.</td>
</tr>
<tr>
<td>B. Identify how to cooperate at both home and school.</td>
<td>B. Explain the importance of working cooperatively with others at both home and school to complete a task.</td>
<td>B. Analyze the role of each participant’s contribution in a team setting.</td>
<td>B. Evaluate team member roles to describe and illustrate active listening techniques:</td>
</tr>
<tr>
<td>C. Explain effective group interaction terms, such as, but not limited to:</td>
<td>C. Identify effective group interaction strategies, such as, but not limited to:</td>
<td>C. Explain and demonstrate conflict resolution skills:</td>
<td>C. Evaluate conflict resolution skills as they relate to the workplace:</td>
</tr>
<tr>
<td>• Compliment</td>
<td>• Building consensus</td>
<td>• Constructive criticism</td>
<td>• Constructive criticism</td>
</tr>
<tr>
<td>• Cooperate</td>
<td>• Communicating effectively</td>
<td>• Group dynamics</td>
<td>• Group dynamics</td>
</tr>
<tr>
<td>• Encourage</td>
<td>• Establishing ground rules</td>
<td>• Managing/leadership</td>
<td>• Managing/leadership</td>
</tr>
<tr>
<td>• Participate</td>
<td>• Listening to others</td>
<td>• Mediation</td>
<td>• Mediation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Negotiation</td>
<td>• Negotiation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Problem solving</td>
<td>• Problem solving</td>
</tr>
</tbody>
</table>
### 13.3. Career Retention and Advancement

<table>
<thead>
<tr>
<th>13.3.3. GRADE 3</th>
<th>13.3.5. GRADE 5</th>
<th>13.3.8. GRADE 8</th>
<th>13.3.11. GRADE 11</th>
</tr>
</thead>
</table>
| D. Explain how money is used. | D. Explain budgeting. | D. Analyze budgets and pay statements, such as, but not limited to:  
- Charitable contributions  
- Expenses  
- Gross pay  
- Net pay  
- Other income  
- Savings  
- Taxes | D. Develop a personal budget based on career choice, such as, but not limited to:  
- Charitable contributions  
- Fixed/variable expenses  
- Gross pay  
- Net pay  
- Other income  
- Savings  
- Taxes |
| E. Discuss how time is used at both home and school. | E. Develop a personal schedule based on activities and responsibilities at both home and school. | E. Identify and apply time management strategies as they relate to both personal and work situations. | E. Evaluate time management strategies and their application to both personal and work situations. |
| F. Identify the changes in family and friend’s roles at home, at school and in the community. | F. Describe the impact of role changes at home, school, and at work, and how the role changes impact career advancement and retention. | F. Identify characteristics of the changing workplace including Americans With Disabilities Act accommodations, and explain their impact on jobs and employment. | F. Evaluate strategies for career retention and advancement in response to the changing global workplace. |
| G. Define and describe the importance of lifelong learning. | G. Describe how personal interests and abilities impact lifelong learning. | G. Identify formal and informal lifelong learning opportunities that support career retention and advancement. | G. Evaluate the impact of lifelong learning on career retention and advancement. |

"Pennsylvania's public schools shall teach, challenge and support every student to realize his maximum potential and to acquire the knowledge and skills needed to:"

13.3. Career Retention and Advancement
Pennsylvania's public schools shall teach, challenge and support every student to realize his maximum potential and to acquire the knowledge and skills needed to:

<table>
<thead>
<tr>
<th>Grade 3</th>
<th>Grade 5</th>
<th>Grade 8</th>
<th>Grade 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Define entrepreneurship.</td>
<td>A. Identify the risks and rewards of entrepreneurship.</td>
<td>A. Compare and contrast entrepreneurship to traditional employment, such as, but not limited to: • Benefits • Job security • Operating costs • Wages</td>
<td>A. Analyze entrepreneurship as it relates to personal career goals and corporate opportunities.</td>
</tr>
<tr>
<td>B. Describe the character traits of successful entrepreneurs, such as, but not limited to: • Adaptability • Creative thinking • Ethical behavior • Leadership • Positive attitude • Risk-taking</td>
<td>B. Discuss the entrepreneurial character traits of historical or contemporary entrepreneurs.</td>
<td>B. Evaluate how entrepreneurial character traits influence career opportunities.</td>
<td>B. Analyze entrepreneurship as it relates to personal character traits.</td>
</tr>
</tbody>
</table>
Pennsylvania's public schools shall teach, challenge and support every student to realize his maximum potential and to acquire the knowledge and skills needed to:

<table>
<thead>
<tr>
<th>C.</th>
<th>Grade 3</th>
<th>Grade 5</th>
<th>Grade 8</th>
<th>Grade 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Describe age-appropriate entrepreneurial opportunities, such as, but not limited to:</td>
<td>Bake sale</td>
<td>Crafts</td>
<td>Lemonade stand</td>
<td>Pet care</td>
</tr>
<tr>
<td>C. Discuss the steps entrepreneurs take to bring their goods or services to market, such as, but not limited to:</td>
<td>Marketing</td>
<td>Production</td>
<td>Research and development</td>
<td>Selection of goods and services</td>
</tr>
<tr>
<td>C. Identify and describe the basic components of a business plan, such as, but not limited to:</td>
<td>Business idea</td>
<td>Competitive analysis</td>
<td>Daily operations</td>
<td>Finances/budget</td>
</tr>
<tr>
<td>C. Develop a business plan for an entrepreneurial concept of personal interest and identify available resources, such as, but not limited to:</td>
<td>Community based organizations (that is chambers of commerce, trade/technical associations, Industrial Resource Centers)</td>
<td>Financial institutions</td>
<td>School-based career centers</td>
<td>Small Business Administration services (that is SCORE, Small Business Development Centers, Entrepreneurial Development Centers)</td>
</tr>
</tbody>
</table>
Americans With Disabilities Act (Pub. L. No. 101-336): The Americans With Disabilities Act is a Federal civil rights law that prohibits discrimination and for ensuring equal opportunity for persons with disabilities in employment, state and local government services, public accommodations, commercial facilities, transportation and requiring the establishment of TDD/telephone relay services.

Aptitudes: Capacity to learn and understand.

Associate degree: A postsecondary degree typically earned within a 2-year period.

Budget: A financial plan that summarizes anticipated income and expenditures over a period of time.

Career cluster: A grouping of related occupations, which share similar skill sets.

Career and technical centers: Schools that educate secondary students and adults in academic instruction, job preparation and acquisition of occupational skills leading to credentials or employment, or both, in specific industries. The centers also provide opportunities for transition to postsecondary education and continuing education.

Career plan: A prepared document detailing the past, present and future of an organization, and future of an organization's training programs and the like.

Benefit: Something of value that an employee receives in addition to a wage or salary. Examples include health and insurance, vacation leave, retirement plans, and the like.

Baccalaureate degree: A postsecondary degree also known as a bachelor's degree, typically earned within a 4-year time frame from a college or university.

Business plan: A prepared document detailing the past, present and future of an organization.
Career days: Special events that allow students to meet with employers, career development specialists, community-based organization representatives and postsecondary educators. Events are designed to encourage students to gain information about careers and job opportunities.

Career plan: A document developed by the student that identifies a series of educational studies and experiences to prepare them for postsecondary education or work, or both, in a selected career cluster or area.

Career portfolio: An ongoing, individualized collection of materials (electronic or hard copy) that documents a student's educational performance, career exploration and employment experiences over time. While there is no standard format that a career portfolio must take, it typically includes a career education plan, a career education portfolio that documents a student's educational performance, a career education portfolio that documents a student's educational performance, and a career education portfolio that documents a student's educational performance.

Career retention and advancement: Career retention is the process of keeping a job. Career advancement is the process of progressing in a career.

CareerLinks: A cooperative system that provides one-stop delivery of career services to job seekers, employers and other interested individuals.

Certificate/licensure: A document, issued by associations, employers, educational institutions, government and the like, that verifies that one has fulfilled the requirements and is able to perform to a specified level of proficiency within a career field.

Child labor laws: Legislation governing the employment of children.

Competitive analysis: A tool that allows a business to identify its competitors and evaluate their respective strengths and weaknesses.

Childhood education: Early childhood education, including pre-kindergarten programs, that provides educational services to children under the age of 5.

Childhood education: Early childhood education, including pre-kindergarten programs, that provides educational services to children under the age of 5.
Cooperative education: A structured method of instruction whereby students alternate or coordinate their high school studies with a job in a field related to their academic or career objectives.

Entrepreneurs: Individuals who engage in the process of organizing, managing, and assuming the risk of a new business or enterprise.

Entrepreneurship: The process of organizing, managing, and assuming the risks of a new business or enterprise.


Entrepreneurship: The process of organizing, managing, and assuming the risks of a new business or enterprise.

Global influences: Political and cultural changes that impact the world and its economy.

Fixed/variable expenses: Fixed expenses are regular in their timing and amount and include things such as rent, mortgage, and insurance. Variable expenses are irregular in their timing and amount and include things such as food, clothing, and entertainment expenses.

Gross pay: The amount earned before deductions, such as taxes, insurance, and retirement plan.

Industrial resource centers: Nonprofit corporations that provide assistance and information on the expansion and improvement of the small-to-medium sized manufacturing, farming, and service industries.

Internship: A work experience with an employer for a specified period of time that allows students to gain hands-on experience in their field of study.

Occupation: Takes from different jobs or fields from a single field. May include special projects, a sample of tasks, or a single task.

Pay: The amount earned in a given period of time, including vacation, sick leave, and holidays.

Payroll: The process of maintaining employees' records, calculating wages and salaries, and preparing payroll checks.

Prepaid expenses: Expenses that have been paid in advance, such as prepaid insurance, prepaid rent, and prepaid taxes.

Profit/Loss Statement: A financial report that shows the income and expenses of a business over a specific period of time.
Job shadowing:
Typically as part of career exploration activities in late middle and early high school, a student follows an employee for 1 or more days to learn about a particular occupation or industry. Job shadowing is intended to help students explore a range of career objectives and to possibly select a career pathway.

Labor supply:
The number of persons either working or unemployed and actively seeking work.

Marketing:
The process or technique of promoting, selling and distributing a product of service.

Material Safety Data Sheets:
Federally-mandated listings of all hazardous materials that will impact the health and safety of employees.

Mediation:
Third-party intervention between conflicting parties to promote reconciliation, settlement or compromise.

Net pay:
The amount remaining after deductions, such as taxes, insurance and retirement/pension plan contributions, from the gross pay of an employee.

Net worth:
The total value of an individual's or household's assets minus the total of their liabilities.

Nontraditional careers:
Fields of work for which individuals from one gender comprise less than 25% of the individuals employed in each occupation or field of work.

O*NET:
Occupational Information Network is a free public access online web-based system provided by the United States Department of Labor, which includes comprehensive up-to-date occupational information including skills, knowledge, abilities and related educational attainment requirements for more than 950 occupations.

Operating costs:
The funds necessary to operate a business, not including the cost of goods sold. This is also referred to as overhead.

Networking:
The act of exchanging information, contacts and services.

opportunities:
A product of service.

parental involvement:
The process of helping of parents provide a product of service.

peer influence:
The number of persons other who work on career pathways, including help students explore a particular career or industry. Job shadowing is one way to help students explore a particular career or industry. It follows an employee for 1 or more days to learn the middle and early high school a student typically as part of career exploration activities.
OSHA: The Occupational Safety and Health Administration—A national agency with representatives in each state who monitor health and safety issues in the workplace.

Professional associations: Organizations of people having common interests.

Professional degree: A title conferred on students by a college, university, or professional school upon completion of a program of study.

Registered apprenticeship: A formal program registered with the United States Department of Labor's Bureau of Apprenticeship and Training and with the Pennsylvania Apprenticeship Council. This program must follow strict guidelines as to the types of training and amount of training time an apprentice receives and must lead directly into occupations requiring the training for entry.

Resume: A summary of one's personal qualifications, education/training, and employment experience.

Salaries/benefits: Financial compensation paid regularly for services (see "benefits" for definition).

School-based enterprise: The production of goods or services as part of a school program.

School-based enterprise: The production of goods or services as part of a school program.

Self inventories: Evaluation of one's personal qualifications, education/training, and employment experience.

Sales forecasting: Predicting the number of services or units likely to be sold over a specified period of time.

SCORE: A Small Business Administration Federally-sponsored program to assist small-to-medium sized businesses.

Service Corps of Retired Executives: A federally-sponsored program to assist small-to-medium sized businesses.

Self inventories: Evaluation of one's personal qualifications, education/training, and employment experience.

School-based enterprise: The production of goods or services as part of a school program.

Score: A Small Business Administration Federally-sponsored program to assist small-to-medium sized businesses.

School-based enterprise: The production of goods or services as part of a school program.

Self inventories: Evaluation of one's personal qualifications, education/training, and employment experience.

School-based enterprise: The production of goods or services as part of a school program.

Self inventories: Evaluation of one's personal qualifications, education/training, and employment experience.

School-based enterprise: The production of goods or services as part of a school program.

Self inventories: Evaluation of one's personal qualifications, education/training, and employment experience.

School-based enterprise: The production of goods or services as part of a school program.

Self inventories: Evaluation of one's personal qualifications, education/training, and employment experience.
Tech Prep:
The name given to programs that offer at least 4 years of sequential course work at the secondary and postsecondary levels to prepare students for technical careers. The curricula are designed to build student competency in academic subjects, as well as to provide broad technical preparation in a field or occupation.

Technical Literacy:
The ability of individuals to use existing and emerging technologies, equipment, language, materials and manuals to participate intelligently in performing tasks related to everyday life, school or job.

Technical Literacy Centers:
Educational facilities that provide life skills and vocational training services for individuals with special needs.

Unemployment:
Measurement of the number of people who are not employed in each occupation or field of work.

Venture Capital:
Public or private funds invested in a potentially profitable business enterprise despite the risk of loss.

Working Conditions:
The environment in which an individual is employed.

Working Habits:
Acquired behaviors that individuals regularly perform in completing tasks related to chores, school or job.

Work-based Training:
Instruction that is available online.

Web-based Training:
Instruction that is available online.

Time Management Strategies:
Scheduling techniques used to effectively and efficiently direct or control activities.

Traditional Careers:
Fields of work for which individuals from one gender comprise more than 25% of the individuals employed in each occupation or field of work.

Traditional Career Centers:
Educational facilities that provide life skills and vocational training services for individuals with special needs.

Career Area:
The ability of individuals to use existing and developing technologies to produce goods and services.

Technical Literacy:
The ability of individuals to use existing and emerging technologies, equipment, language, materials and manuals to participate intelligently in performing tasks related to everyday life, school or job.

Venture Capital:
Public or private funds invested in a potentially profitable business enterprise despite the risk of loss.

Unemployment:
Measurement of the number of people who are not employed in each occupation or field of work.

Working Conditions:
The environment in which an individual is employed.

Working Habits:
Acquired behaviors that individuals regularly perform in completing tasks related to chores, school or job.

Work-based Training:
Instruction that is available online.

Web-based Training:
Instruction that is available online.

Time Management Strategies:
Scheduling techniques used to effectively and efficiently direct or control activities.

Traditional Careers:
Fields of work for which individuals from one gender comprise more than 25% of the individuals employed in each occupation or field of work.

Traditional Career Centers:
Educational facilities that provide life skills and vocational training services for individuals with special needs.

Career Area:
The ability of individuals to use existing and developing technologies to produce goods and services.