

SRA Snapshots Video Science™: Level A
correlation to
Pennsylvania Academic Standards for Science and Technology
Grade 3

SRA Snapshots Video Science™ consists of four interdependent components. Each level has four program DVDs that provide engaging video lessons. The student edition (**SE**) provides student friendly text that reinforces the concepts introduced in the video. The Teacher's Resource Book (**TRB**) provides support activities in a blackline master format. The Teacher's Guide (**TG**) provides lesson planning, differentiated instruction activities, and answers to all student activities in the Student Edition.

KEY:

Reference	Program Component
Video	Video lessons on program DVDs
SE	Student Edition
TRB	Teacher's Resource Book
TG	Teacher's Guide

3.1. Unifying Themes of Science

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential 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.

Chapter 1, Lesson 1, Process Skill, SE page 7

Chapter 2, Lesson 1, Video B, SE page 26; Process Skill, SE page 29; Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33; Process Skill, SE page 35

Chapter 3, Lesson 3, Video A, SE page 61; Video B, SE page 62

Chapter 4, Lesson 2, Video C, SE page 77; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84

Chapter 5, Lesson 1, Video A, SE page 91; Video B, SE page 92; Video C, SE page 93; Lesson 2, Video B, SE page 100; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102

Chapter 6, Lesson 1, Video A, SE page 113; Video B, SE page 114; Video C, SE page 115; Lesson 2, Video A, SE page 119; Video B, SE page 120; Video C, SE page 121; Lesson 3, Video A, SE page 127; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120

Chapter 7, Lesson 1, video C, SE page 137; Lesson 2, Video A, SE page 144; Video C, SE page 145; Lesson 3, Video A, SE page 149; Video B, SE page 150; Video C, SE page 151

Chapter 8, Lesson 3, Video B, SE page 172; Video C, SE page 173

Chapter 9, Lesson 1, Video A, SE page 179; Video B, SE page 180; Video C, SE page 181; Lesson 2, Video A, SE page 187; Video B, SE page 188; Video C, SE page 189; Lesson 3, Video A, SE page 193; Video B, SE page 194; Video C, SE page 195

3.1. Unifying Themes of Science
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know models as useful simplifications of objects or processes. <ul style="list-style-type: none"> 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).
Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84 Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120 Chapter 7, Lesson 3, Process Skill, SE page 153 Chapter 9, Lesson 2, Process Skill, SE page 191 Food Web, SE page 203 Earth's Layers, SE page 204 The Water Cycle, SE page 204 Climate Zones, SE page 205 Eclipses, SE page 205

3.1. Unifying Themes of Science
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Illustrate patterns that regularly occur and reoccur in nature. <ul style="list-style-type: none"> Identify observable patterns (e.g., growth 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).
Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Video C, SE page 19; Process Skill, SE page 21 Chapter 4, Lesson 2, Video A, SE page 74 Chapter 5, Lesson 1, Video A, SE page 91; Video B, SE page 92; Video C, SE page 93; Lesson 2, Video B, SE page 100 Chapter 6, Lesson 1, Video A, SE page 113; Video B, SE page 114; Video C, SE page 115 Chapter 8, Lesson 3, Video A, SE page 171

3.1. Unifying Themes of Science
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Know that scale is an important attribute of natural and human made objects, events and phenomena. <ul style="list-style-type: none"> Identify the use of scale as it relates to the measurements of distance, volume and mass. Describe the scale as a ratio (e.g., map scales). Explain the importance of scale in producing models and apply it to a model.
Chapter 3, Lesson 2, Video A, SE page 55; Process Skill, SE page 59 Chapter 7, Lesson 3, Process Skill, SE page 153

3.1. Unifying Themes of Science
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>E. Recognize change in natural and physical systems.</p> <ul style="list-style-type: none"> • 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.
<p>Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Video C, SE page 19; Process Skill, SE page 21 Chapter 2, Lesson 1, Video C, SE page 27 Chapter 3, Lesson 3, Video B, SE page 62 Chapter 5, Lesson 1, Video B, SE page 92; Video C, SE page 93; Lesson 2, Video B, SE page 100; Lesson 3, Video B, SE page 106 Chapter 6, Lesson 1, Video A, SE page 113; Video B, SE page 114; Video C, SE page 115 Chapter 8, Lesson 2, Video A, SE page 163; Video B, SE page 164; Video C, SE page 165; Lesson 3, Process Skill, SE page 175 Chapter 9, Lesson 3, Video B, SE page 194</p>

3.2. Inquiry and Design
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>A. Identify and use the nature of scientific and technological knowledge.</p> <ul style="list-style-type: none"> • 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.
<p>Chapter 1, Lesson 1, Process Skill, SE page 7; Lesson 3, Process Skill, SE page 21 Chapter 2, Lesson 2, Process Skill, SE page 35; Lesson 3, Process Skill, SE page 43 Chapter 3, Lesson 2, Process Skill, SE page 59 Chapter 4, Lesson 2, Process Skill, SE page 79 Chapter 5, Lesson 3, Process Skill, SE page 109 Chapter 6, Lesson 1, Process Skill, SE page 117; Lesson 3, Process Skill, SE page 131 Chapter 7, Lesson 2, Process Skill, SE page 147 Chapter 9, Lesson 1, Process Skill, SE page 183</p>

3.2. Inquiry and Design
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>B. Describe objects in the world using the five senses.</p> <ul style="list-style-type: none"> • Recognize observational descriptors from each of the five senses (e.g., see-blue, feel-rough). • Use observations to develop a descriptive vocabulary.
<p>Chapter 2, Lesson 3, Writing in Science, SE page 43 Chapter 4, Lesson 2, Video C, SE page 77; Process Skill, SE page 79 Chapter 6, Lesson 2, Process Skill, SE page 123 Chapter 8, Lesson 1, Video B, SE page 158; Video C, SE page 159; Writing in Science, SE page 161 Chapter 9, Lesson 1, Writing in Science, SE page 183</p>

3.2. Inquiry and Design
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>C. Recognize and use the elements of scientific inquiry to solve problems.</p> <ul style="list-style-type: none"> • Generate questions about objects, organisms, and/or events that can be answered through scientific investigations. • Design an experiment. • Conduct an experiment. • State a conclusion that is consistent with the information.
<p>Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48 Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66 Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84 Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102 Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120 Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138 Chapter 8, Lesson 3, Process Skill, SE page 175; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156 Chapter 9, LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174</p>

3.2. Inquiry and Design
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>D. Recognize and use the technological design process to solve problems.</p> <ul style="list-style-type: none"> • 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.
<p>Chapter 5, LabTime Hands-On Activity, TRB pages 87-89, TG page 102 Chapter 9, Lesson 2 Process Skill, SE page 191</p>

3.3. Biological Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>A. Know the similarities and differences of living things.</p> <ul style="list-style-type: none"> • 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, types of covering, body segments) and that similarities and differences are related to environmental habitat. • Describe basic needs of plants and animals.
<p>Chapter 1, Lesson 1, Video A, SE page 3; Video B, SE page 4; Video C, SE page 5; Process Skill, SE page 7; Lesson 2, Video A, SE page 9; Video B, SE page 10; Video C, SE page 11; Lesson 3, Video A, SE page 17; Video B, SE page 18; Video C, SE page 19; Process Skill, SE page 21 Chapter 2, Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33; KnowZone, SE pages 36-37; Lesson 3, Video C, SE page 41; Process Skill, SE page 43 Chapter 3, Lesson 1, Video A, SE page 47; Video B, SE page 48; Video C, SE page 49; Process Skill, SE page 51 Energy Transfer, SE page 203</p>

3.3. Biological Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know that living things are made up of parts that have specific functions. <ul style="list-style-type: none"> Identify examples of unicellular and multicellular organisms. Determine how different parts of living things work together to make the organism function.
Chapter 1, Lesson 2, Video A, SE page 9; Video B, SE page 10; Video C, SE page 11; KnowZone, SE pages 14-15 Chapter 2, KnowZone, SE pages 36-37 Chapter 3, Lesson 2, Video A, SE page 55, Video B, SE page 56; Video C, SE page 57

3.3. Biological Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Know that characteristics are inherited and, thus, offspring closely resemble their parents. <ul style="list-style-type: none"> 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.
Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Video C, SE page 19 Chapter 2, KnowZone, SE page 36-37; Lesson 3, Video B, SE page 40; Video C, SE page 41

3.3. Biological Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Identify changes in living things over time. <ul style="list-style-type: none"> Compare extinct life forms with living organisms.
Chapter 3, Lesson 3, Video C, SE page 63 Chapter 4, Lesson 1, Video B, SE page 76; KnowZone, SE pages 80-81

3.4. Physical Science, Chemistry, and Physics
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Recognize basic concepts about the structure and properties of matter. <ul style="list-style-type: none"> Describe properties of matter (e.g., hardness, reactions to simple chemical tests). Know that combining two or more substances can make new materials with different properties. Know different material characteristics (e.g., texture, state of matter, solubility).
Chapter 8, Lesson 1, Video A, SE page 157; Video B, SE page 159; Video C, SE page 159; Process Skill, SE page 161; Lesson 2, Video A, SE page 163; Video B, SE page 164; Video C, SE page 165; KnowZone, SE pages 168-169

3.4. Physical Science, Chemistry, and Physics
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know basic energy types, sources, and conversions. <ul style="list-style-type: none"> Identify energy forms and examples (e.g., sunlight, heat, stored, motion). Know the concept of the flow of energy by measuring flow through an object or system. Describe static electricity in terms of attraction, repulsion and sparks. Apply knowledge of the basic electrical circuits to design and construct simple direct current circuits. Classify materials as conductors and nonconductors. Know and demonstrate the basic properties of heat by producing it in a variety of ways. Know the characteristics of light (e.g., reflection, refraction, absorption) and use them to produce heat, color, or a virtual image.
Chapter 7, Lesson 2, Video A, SE page 143; Video B, SE page 144; Video C, SE page 145; Process Skill, SE page 147 Chapter 8, Lesson 3, Video A, SE page 171; Video B, SE page 172; Video C, SE page 173; Process Skill, SE page 175; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156 Chapter 9, Lesson 1, Video A, SE page 179; Video B, SE page 180; Video C, SE page 181; Process Skill, SE page 183; KnowZone, SE pages 184-185; Lesson 2, Video A, SE page 187; Video B, SE page 188; Video C, SE page 189; Process Skill, SE page 191; Lesson 3, Video A, SE page 193; Video B, SE page 194; Video C, SE page 195; Process Skill, SE page 197; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174

3.4. Physical Science, Chemistry, and Physics
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>C. Observe and describe different types of force and motion.</p> <ul style="list-style-type: none"> Identify characteristics of sound (pitch, loudness and echoes). Recognize forces that attract or repel other objects and demonstrate them. Describe various types of motion. 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).
<p>Chapter 7, Lesson 1, Video A, SE page 135; Video B, SE page 136; Video C, SE page 137; KnowZone, SE pages 140-141; Lesson 2, Video A, SE page 143; Video B, SE page 144; Video C, SE page 145; Process Skill, SE page 147; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138</p> <p>Chapter 9, Lesson 1, Video C, SE page 181; Process Skill, SE page 183</p>

3.4. Physical Science, Chemistry, and Physics
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>D. Describe the composition and structure of the universe and the earth's place in it.</p> <ul style="list-style-type: none"> 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.
<p>Chapter 6, Lesson 1, Video A, SE page 113; Video B, SE page 114; Video C, SE page 115; Process Skill, SE page 117; Lesson 2, Video A, SE page 119; Video B, SE page 120; Video C, SE page 121; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120</p> <p>Earth in Space, SE page 205</p>

3.5. Earth Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>A. Know basic landforms and earth history.</p> <ul style="list-style-type: none"> 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).
<p>Chapter 4, Lesson 1, Video A, SE page 69; Video B, SE page 70; Video C, SE page 71; Lesson 2, Video B, SE page 76; Video C, SE page 77; Process Skill, SE page 79; KnowZone, SE page 80-81; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84</p>

3.5. Earth Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>B. Know types and uses of earth materials.</p> <ul style="list-style-type: none"> Identify uses of various earth materials (e.g., buildings, highways, fuels, growing plants). Identify and sort earth materials according to a classification key (e.g., soil/rock type).
<p>Chapter 4, Lesson 2, Video A, SE page 75; Video B, SE page 76; Video C, SE page 77; Process Skill, SE page 79; Lesson 3, Video A, SE page 83; Video B, SE page 84; Video C, SE page 85; Process Skill, SE page 87</p>

3.5. Earth Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Know basic weather elements. <ul style="list-style-type: none"> Identify cloud types. Identify weather patterns from data charts (including temperature, wind direction and speed, precipitation) and graphs of the data. Explain how the different seasons affect plants, animals, food availability and daily human life.
Chapter 5, Lesson 1, Video B, SE page 92; Video C, SE page 93; Process Skill, SE page 95; KnowZone, SE pages 96-97; Lesson 2, Video B, SE page 100; Process Skill, SE page 103; Lesson 3, Video A, SE page 105; Video B, SE page 106; Video C, SE page 107; Process Skill, SE page 109; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102
Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120

3.5. Earth Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Recognize the earth's different water resources. <ul style="list-style-type: none"> Know that approximately three-fourths of the earth is covered by water. Identify and describe types of fresh and salt-water 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).
Chapter 5, Lesson 2, Video A, SE page 99; Video B, SE page 100; Video C, SE page 101

3.6. Technology Education
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Know that biotechnologies relate to propagating, growing, maintaining, adapting, treating and converting. <ul style="list-style-type: none"> 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 designs. Describe how biotechnology has impacted various aspects of daily life (e.g., health care, agriculture, waste treatment).
Chapter 3, Lesson 2, Video B, SE page 56; Video C, SE page 57

3.6. Technology Education
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know that information technologies involve encoding, transmitting, receiving, storing, retrieving, and decoding. <ul style="list-style-type: none"> 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.
Chapter 5, KnowZone, SE pages 96-97; Lesson 3, Video C, SE page 107; Process Skill, SE page 109
Chapter 6, KnowZone, SE page 124-125; Lesson 3, Video B, SE page 128

3.6. Technology Education
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>C. Know physical technologies of structural design, analysis and engineering, finance, production, marketing, research and design.</p> <ul style="list-style-type: none"> • 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). • Identify waste and pollution resulting from a manufacturing enterprise. • Explain and demonstrate the concept of manufacturing (e.g., assemble a set of papers or ball point pens sequentially, mass produce an object). • Identify transportation technologies of propelling, structuring, suspending, guiding, controlling and supporting. • Identify and experiment with simple machine used in transportation systems. • Explain how improved transportation systems have changed society.
<p>Chapter 3, Lesson 3, Video A, SE page 61 Chapter 4, Lesson 3, Video A, SE page 83; Video B, SE page 84; Video C, SE page 85 Chapter 7, Lesson 2, Video C, SE page 145; Lesson 3, Video A, SE page 149; Video B, SE page 150; Video C, SE page 151; Writing in Science, SE page 153; Process Skill, SE page 153 Chapter 8, KnowZone, SE pages 168-169; Lesson 3, Video B, SE page 172; Video C, SE page 173 Chapter 9, Lesson 2, Video A, SE page 187; Video B, SE page 188; Video C, SE page 189; Process Skill, SE page 191</p>

3.7. Technological Devices
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>A. Explore the use of basic tools, simple materials and techniques to safely solve problems.</p> <ul style="list-style-type: none"> • 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.
<p>Chapter 3, Lesson 2, Video A, SE page 55; Lesson 3, Process Skill, SE page 65 Chapter 5, KnowZone, SE page 96-97; Lesson 3, Video A, SE page 105 Chapter 6, Lesson 3, Video B, SE page 128; Video C, SE page 129 Chapter 7, Lesson 2, Video C, SE page 145; Lesson 3, Video A, SE page 149; Video B, SE page 150; Video C, SE page 151; Writing in Science, SE page 153; Process Skill, SE page 153</p>

3.7. Technological Devices
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>B. Select appropriate instruments to study materials.</p> <ul style="list-style-type: none"> • Develop simple skills to measure, record, cut and fasten. • Explain appropriate instrument selection for specific tasks.
<p>Chapter 3, Lesson 3, Process Skill, SE page 65 Chapter 5, Lesson 3, Video A, SE page 105 Chapter 8, Lesson 1, Video C, SE page 159</p>

3.7. Technological Devices
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Identify basic computer operations and concepts. <ul style="list-style-type: none"> Identify the major parts necessary for a computer to input and output data. Explain and demonstrate the basic use of input and output devices (e.g., keyboard, monitor, printer, mouse). Explain and demonstrate the use of external and internal storage devices (e.g., disk drive, CD drive).
Chapter 1, KnowZone, SE pages 14-15 Chapter 2, KnowZone, SE pages 36-37 Chapter 3, KnowZone, SE pages 52-53 Chapter 4, KnowZone, SE pages 80-81 Chapter 5, KnowZone, SE pages 96-97 Chapter 6, KnowZone, SE pages 124-125 Chapter 7, KnowZone, SE pages 140-141 Chapter 8, KnowZone, SE pages 168-169 Chapter 9, KnowZone, SE pages 184-185

3.7. Technological Devices
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Use basic computer software. <ul style="list-style-type: none"> Apply operating system skills to perform basic computer skills. Apply basic word processing skills. Identify and use simple graphic and presentation graphic materials generated by the computer. Apply specific instructional software.
Chapter 1, KnowZone, SE pages 14-15 Chapter 2, KnowZone, SE pages 36-37 Chapter 3, KnowZone, SE pages 52-53 Chapter 4, KnowZone, SE pages 80-81 Chapter 5, KnowZone, SE pages 96-97 Chapter 6, KnowZone, SE pages 124-125 Chapter 7, KnowZone, SE pages 140-141 Chapter 8, KnowZone, SE pages 168-169 Chapter 9, KnowZone, SE pages 184-185

3.7. Technological Devices
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
E. Identify basic computer communication systems. <ul style="list-style-type: none"> Apply a web browser. Apply basic electronic mail functions. Use on-line searches to answer age appropriate questions.
Chapter 2, Lesson 3, Process Skill, SE page 43 Chapter 5, Lesson 3, Process Skill, SE page 109

3.8. Science, Technology, and Human Endeavors
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>A. Know that people select, create and use science and technology and that they are limited by social and physical restraints.</p> <ul style="list-style-type: none"> 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.
<p>Chapter 5, KnowZone, SE pages 96-97 Chapter 6, KnowZone, SE pages 124-125; Lesson 3, Video B, SE page 128; Video C, SE page 129 Chapter 7, Lesson 3, Video A, SE page 149; Video B, SE page 150; Video C, SE page 151; Writing in Science, SE page 153 Chapter 8, KnowZone, SE pages 168-169; Lesson 3, Video B, SE page 172; Video C, SE page 173; Critical Thinking, SE page 175; Process Skill, SE page 175 Chapter 9, Lesson 2, Process Skill, SE page 191</p>

3.8. Science, Technology, and Human Endeavors
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>B. Know how human ingenuity and technological resources satisfy specific human needs and improve the quality of life.</p> <ul style="list-style-type: none"> 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.
<p>Chapter 3, Lesson 3, Video A, SE page 61; Video C, SE page 63 Chapter 4, Lesson 2, Video C, SE page 77; Lesson 3, Video A, SE page 83; Video B, SE page 84; Video C, SE page 85; Process Skill, SE page 87 Chapter 7, Lesson 3, Video A, SE page 149; Video B, SE page 150; Video C, SE page 151; Writing in Science, SE page 153 Chapter 8, KnowZone, SE pages 168-169; Lesson 3, Video B, SE page 172; Video C, SE page 173; Critical Thinking, SE page 175 Chapter 9, Lesson 3, Video C, SE page 195</p>

3.8. Science, Technology, and Human Endeavors
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>C. Know the pros and cons of possible solutions to scientific and technological problems in society.</p> <ul style="list-style-type: none"> 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.
<p>Chapter 3, Lesson 3, Video A, SE page 61 Chapter 4, Lesson 3, Video B, SE page 84 Chapter 6, KnowZone, SE pages 124-125; Lesson 3, Video B, SE page 128; Video C, SE page 129 Chapter 8, KnowZone, SE pages 168-169; Lesson 3, Video B, SE page 172; Video C, SE page 173; Critical Thinking, SE page 175</p>

4.1. Watersheds and Wetlands
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Identify various types of water environments. <ul style="list-style-type: none"> Identify the lotic system (e.g., creeks, rivers, streams). Identify the lentic system (e.g., ponds, lakes, swamps).
Chapter 5, Lesson 2, Video A, SE page 99; Video C, SE page 101

4.1. Watersheds and Wetlands
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Explain the differences between moving and still water. <ul style="list-style-type: none"> Explain why water moves or does not move. Identify types of precipitation.
Chapter 5, Lesson 2, Video B, SE page 101; Process Skill, SE page 103 The Water Cycle, SE page 204

4.1. Watersheds and Wetlands
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Identify living things found in water environments. <ul style="list-style-type: none"> Identify fish, insects and amphibians that are found in fresh water. Identify plants found in fresh water.
Chapter 1, Lesson 3, Video B, SE page 18; Process Skill, SE page 21 Chapter 2, Lesson 1, Video A, SE page 25; Video B, SE page 26; Video C, SE page 27; Lesson 3, Process Skill, SE page 43

4.1. Watersheds and Wetlands
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Identify a wetland and the plants and animals found there. <ul style="list-style-type: none"> Identify different types of wetlands. Identify plants and animals found in wetlands. Explain wetlands as habitats for plants and animals.
Chapter 1, Lesson 3, Video B, SE page 18; Process Skill, SE page 21 Chapter 2, Lesson 1, Video A, SE page 25; Video B, SE page 26; Video C, SE page 27; Lesson 3, Process Skill, SE page 43 Chapter 5, Lesson 2, Video A, SE page 99; Video C, SE page 101

4.1. Watersheds and Wetlands
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
E. Recognize the impact of watersheds and wetlands on animals and plants. <ul style="list-style-type: none"> Explain the role of watersheds in everyday life. Identify the role of watersheds and wetlands for plants and animals.
Chapter 5, Lesson 2, Video A, SE page 99; Video C, SE page 101

4.2. Renewable and Nonrenewable Resources
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Identify needs of people. <ul style="list-style-type: none"> 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.
Chapter 3, Lesson 3, Video A, SE page 61; Video C, SE page 63 Chapter 4, Lesson 2, Video C, SE page 77; Lesson 3, Video A, SE page 83; Video B, SE page 84; Video C, SE page 85 Chapter 5, Lesson 2, Video B, SE page 100 The Water Cycle, SE page 204

4.2. Renewable and Nonrenewable Resources
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Identify products derived from natural resources. <ul style="list-style-type: none"> Identify products made from trees. Identify by-products of plants and animals. Identify sources of manmade products (e.g., plastics, metal, aluminum, fabrics, paper, cardboard).
Chapter 4, Lesson 3, Video A, SE page 83 Chapter 8, KnowZone, SE page 168-169; Lesson 3, Video B, SE page 172; Video C, SE page 173

4.2. Renewable and Nonrenewable Resources
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Know that some natural resources have limited life spans. <ul style="list-style-type: none"> 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.
Chapter 3, Lesson 3, Video C, SE page 63 Chapter 4, Lesson 2, Video C, SE page 77; Lesson 3, Video A, SE page 83; Video B, SE page 84; Video C, SE page 85; Process Skill, SE page 87 Chapter 5, Lesson 2, Video C, SE page 101; Critical Thinking, SE page 103 Chapter 9, Lesson 3, Video C, SE page 195; Critical Thinking, SE page 197; Process Skill, SE page 197

4.2. Renewable and Nonrenewable Resources
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Identify by-products and their use of natural resources. <ul style="list-style-type: none"> Understand the waste stream. Identify those items that can be recycled and those that can not. Identify use of reusable products. Identify the use of compost, landfills, and incinerators.
Chapter 5, Lesson 2, Video C, SE page 101

4.3. Environmental Health
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>A. Know that plants, animals, and humans are dependent on air and water.</p> <ul style="list-style-type: none"> • Know that all living things need air and water to survive. • Describe potentially dangerous pest controls used in the home. • Identify things that cause sickness when put into air, water or soil. • Identify different areas where health can be affected by air, water or and pollution.
<p>Chapter 1, Lesson 1, Video A, SE page 3; Video B, SE page 4 ; Video C, SE page 5; Critical Thinking, SE page 7 Chapter 2, Lesson 2, Video A, SE page 31 Chapter 3, Lesson 1, Video A, SE page 47; Lesson 2, Video B, SE page 56; Video C, SE page 57; Critical Thinking, SE page 59; Process Skill, SE page 59; Lesson 3, Video A, SE page 61 Chapter 5, Lesson 2, Video C, SE page 101; Critical Thinking, SE page 103</p>

4.3. Environmental Health
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>B. Know how human actions affect environmental health.</p> <ul style="list-style-type: none"> • Identify pollutants. • Identify sources of pollution. • Identify litter and its effect on the environment. • Describe how people can reduce pollution.
<p>Chapter 3, Lesson 3, Video A, SE page 61 Chapter 4, Lesson 3, Video B, SE page 84 Chapter 5, Lesson 2, Video C, SE page 101; Critical Thinking, SE page 103</p>

4.3. Environmental Health
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>C. Understand that the elements of natural systems are interdependent.</p> <ul style="list-style-type: none"> • Identify some of the organisms that live together in an ecosystem. • Understand that the components of a system all play a part in the healthy natural system. • Identify the effects of a healthy environment on the ecosystem.
<p>Chapter 1, Lesson 1, Video A, SE page 3; Video B, SE page 4; Video C, SE page 5; Process Skill, SE page 7 Chapter 2, Lesson 1, Video A, SE page 25; Video B, SE page 26; Video C, SE page 27; Process Skill, SE page 29; Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33; Process Skill, SE page 35; KnowZone, SE pages 36-37; Lesson 3, Video A, SE page 39</p>

4.4. Agriculture and Society
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>A. Know the importance of agriculture to humans.</p> <ul style="list-style-type: none"> • 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.
<p>Chapter 3, Lesson 1, Video A, SE page 47; Video B, SE page 48; Video C, SE page 49; Critical Thinking, SE page 51; Process Skill, SE page 51; KnowZone, SE pages 52-53</p>

4.4. Agriculture and Society
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Identify the role of the sciences in Pennsylvania agriculture. <ul style="list-style-type: none"> • 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.
Chapter 4, Lesson 2, Process Skill, SE page 79

4.4. Agriculture and Society
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Know that food and fiber originate from plants and animals. <ul style="list-style-type: none"> • Define and identify food and fiber. • Identify what plants and animals need to grow, • Identify agricultural products that are local and regional. • Identify an agricultural product based on its origin. • Describe several products and tell their origins. • Describe the journey of a local agricultural product from production to consumer.
Chapter 1, Lesson 1, Video A, SE page 3; Video B, SE page 4; Video C, SE page 5

4.4. Agriculture and Society
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Identify technology and energy use associated with agriculture. <ul style="list-style-type: none"> • Identify 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.
This concept is not covered at this level.

4.5. Integrated Pest Management
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Know types of pests. <ul style="list-style-type: none"> • Identify classification of pests. • Identify and categorize pests. • Know how pests fit into a food chain.
This concept is not covered at this level.

4.5. Integrated Pest Management
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Explain pest control. <ul style="list-style-type: none"> • Know reasons why people control pests. • Identify different methods for controlling specific pests in the home, school, and community. • Identify chemical labels (e.g., caution, poison, warning).
Chapter 3, Lesson 2, Video C, SE page 57; Critical Thinking, SE page 59

4.5. Integrated Pest Management
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Understand society's need for integrated pest management. <ul style="list-style-type: none"> Identify integrated pest management practices in the home. Identify integrated pest management practices outside the home.
Chapter 3, Lesson 2, Video C, SE page 57

4.6. Ecosystems and their Interactions
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Understand that living things are dependent on nonliving things in the environment for survival. <ul style="list-style-type: none"> Identify and categorize living and nonliving things. Describe the basic needs of an organism. Identify basic needs of a plants and an animal and explain how their needs are met. Identify plants and animals with their habitat and food services. 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. Identify a local ecosystem and its living and nonliving components. Identify a simple ecosystem and its living and nonliving components. Identify common soil textures. Identify animals that live underground.
Chapter 1, Lesson 1, Video A, SE page 3; Video B, SE page 4; Video C, SE page 5; Process Skill, SE page 7; Lesson 2, Video A, SE page 9; Video B, SE page 10; Video C, SE page 11 Chapter 2, Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33; Process Skill, SE page 35; KnowZone, SE pages 36-37; Lesson 3, Video A, SE page 39 Classification, SE page 202 Energy Transfer, SE page 203

4.6. Ecosystems and their Interactions
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Understand the concept of cycles. <ul style="list-style-type: none"> Explain the water cycle. Explain the carbon dioxide/oxygen cycle (photosynthesis).
Chapter 2, Lesson 2, Video A, SE page 31 Chapter 5, Lesson 2, Video B, SE page 100 The Water Cycle, SE page 204

4.6. Ecosystems and their Interactions
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Identify how ecosystems change over time.
Chapter 2, Lesson 2, Process Skill, SE page 35 Chapter 3, Lesson 3, Video B, SE page 62

4.7. Threatened, Endangered and Extinct Species
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Identify differences in living things. <ul style="list-style-type: none"> 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 is essential for survival. Identify local plants or animals and describe their habitat.
Chapter 1, Lesson 1, Video A, SE page 3; Video B, SE page 4; Video C, SE page 5
Chapter 2, KnowZone, SE pages 36-37; Lesson 3, Video B SE page 40, Video C, SE page 41

4.7. Threatened, Endangered and Extinct Species
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know that adaptations are important for survival. <ul style="list-style-type: none"> 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.
Chapter 2, KnowZone, SE pages 36-37; Lesson 3, Video B, SE page 40; Video C, SE page 41; Critical Thinking, SE page 43; Process Skill, SE page 43

4.7. Threatened, Endangered and Extinct Species
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Define and understand extinction. <ul style="list-style-type: none"> 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.
Chapter 3, Lesson 3, Video C, SE page 63; Critical Thinking, SE page 65
Chapter 4, Lesson 2, Video B, SE page 76; KnowZone, SE pages 80-81

4.8. Humans and the Environment
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Identify the biological requirements of humans. <ul style="list-style-type: none"> Explain why a dynamically changing environment provides for sustainability of living systems. Identify several ways that people use natural resources.
Chapter 3, Lesson 3, Video B, SE page 62
Chapter 4, Lesson 2, Video C, SE page 77; Process Skill, SE page 79; Lesson 3, Video A, SE page 83; Video B, SE page 84; Video C, SE page 85; Critical Thinking, SE page 87; Process Skill, SE page 887
Chapter 5, Lesson 2, Video C, SE page 101

4.8. Humans and the Environment
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know that environmental conditions influence where and how people live. <ul style="list-style-type: none"> Identify how regional natural resources influence what people use. Explain the influence of climate on how and where people live.
Chapter 4, Lesson 2, Video C, SE page 77; Process Skill, SE page 79; Lesson 3, Video A, SE page 83
Chapter 5, Lesson 3, Video B, SE page 106; Video C, SE page 107

4.8. Humans and the Environment
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Explain how human activities may change the environment. <ul style="list-style-type: none"> Identify everyday human activities and how they affect the environment. Identify examples of how human activities within a community affect the natural environment.
Chapter 3, Lesson 3, Video A, SE page 61; Video C, SE page 63; Critical Thinking, SE page 65 Chapter 4, Lesson 3, Video B, SE page 84; Video C, SE page 85; Lesson 2, Video C, SE page 101; Critical Thinking, SE page 103

4.8. Humans and the Environment
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Know the importance of natural resources in the daily life. <ul style="list-style-type: none"> Identify items used in daily life that come from natural resources. Identify ways to conserve our natural resources. Identify major land uses in the community.
Chapter 3, Lesson 3, Video C, SE page 63; Critical Thinking, SE page 65; Process Skill, SE page 65 Chapter 4, Lesson 2, Video C, SE page 77; Process Skill, SE page 79; Lesson 3, Video A, SE page 83; Video B, SE page 84; Video C, SE page 85; Critical Thinking, SE page 87; Process Skill, SE page 87 Chapter 5, Lesson 2, Video C, SE page 101 Chapter 9, Lesson 3, Video A, SE page 193; Video B, SE page 194; Video C, SE page 195

4.9. Environmental Laws and Regulations
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Know that there are laws and regulations for the environment. <ul style="list-style-type: none"> 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.
Chapter 5, Lesson 2, Video C, SE page 101

SRA Snapshots Video Science™: Level B
correlation to
Pennsylvania Academic Standards for Science and Technology
Grade 4

SRA Snapshots Video Science™ consists of four interdependent components. Each level has four program DVDs that provide engaging video lessons. The student edition (**SE**) provides student friendly text that reinforces the concepts introduced in the video. The Teacher's Resource Book (**TRB**) provides support activities in a blackline master format. The Teacher's Guide (**TG**) provides lesson planning, differentiated instruction activities, and answers to all student activities in the Student Edition.

KEY:	
Reference	Program Component
Video	Video lessons on program DVDs
SE	Student Edition
TRB	Teacher's Resource Book
TG	Teacher's Guide

3.1. Unifying Themes of Science

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential 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.

Chapter 2, Lesson 1, Video A, SE page 25; Video B, SE page 26; Video C, SE page 27; Process Skill, SE page 29; Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33; Process Skill, SE page 35; Lesson 3, Video A, SE page 39; Video B, SE page 40; Video C, SE page 41; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48
Chapter 3, Lesson 1, Video A, SE page 47; Video B, SE page 48; Lesson 2, Video A, SE page 55; Video B, SE page 56; Video C, SE page 57; Process Skill, SE page 59; Lesson 3, Video A, SE page 61; Video B, SE page 62; Video C, SE page 63; Critical Thinking, SE page 65
Chapter 4, Lesson 2, Video C, SE page 77
Chapter 5, Lesson 1, Video A, SE page 91; Video B, SE page 92; Lesson 2, Video A, SE page 97; Lesson 3, Video C, SE page 107; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102
Chapter 6, Lesson 1, Video A, SE page 113; Video B, SE page 114; Video C, SE page 115; Lesson 2, Video A, SE page 119; Video C, SE page 121; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120
Chapter 7, Lesson 1, Video C, SE page 137; Lesson 3, Video A, SE page 149; Video B, SE page 150; Video C, SE page 151; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138
Chapter 8, Lesson 1, Video A, SE page 157; Video B, SE page 158; Video C, SE page 157; Lesson 2, Video A, SE page 163; Video B, SE page 164; Video C, SE page 165; Lesson 3, Video C, SE page 173; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156
Chapter 9, Lesson 1, Video C, SE page 181; Lesson 2, Video C, SE page 187; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174

3.1. Unifying Themes of Science
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know models as useful simplifications of objects or processes. <ul style="list-style-type: none"> 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).
Chapter 4, Lesson 1, Process Skill, SE page 73; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84 Chapter 6, Lesson 1, Process Skill, SE page 117 Chapter 8, Lesson 3, Process Skill, SE page 175 Chapter 9, Lesson 2, Process Skill, SE page 189

3.1. Unifying Themes of Science
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Illustrate patterns that regularly occur and reoccur in nature. <ul style="list-style-type: none"> Identify observable patterns (e.g., growth 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).
Chapter 1, Lesson 3, Vide C, SE page 19 Chapter 4, Lesson 2, Video C, SE page 77 Chapter 5, Lesson 1, Video A, SE page 99 Chapter 6, Lesson 1, Video B, SE page 114; Video C, SE page 115 Chapter 7, Lesson 1, Video C, SE page 137

3.1. Unifying Themes of Science
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Know that scale is an important attribute of natural and human made objects, events and phenomena. <ul style="list-style-type: none"> Identify the use of scale as it relates to the measurements of distance, volume and mass. Describe the scale as a ratio (e.g., map scales). Explain the importance of scale in producing models and apply it to a model.
Chapter 3, Lesson 3, Process Skill, SE page 35 Chapter 4, Lesson 1, Process Skill, SE page 73 Chapter 6, Lesson 1, Process Skill, SE page 117 Chapter 7, Lesson 2, Video A, SE page 143 Chapter 8, Lesson 3, Math in Science, SE page 175 Chapter 9, Lesson 2, Process Skill, SE page 189

3.1. Unifying Themes of Science
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>E. Recognize change in natural and physical systems.</p> <ul style="list-style-type: none"> 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.
<p>Chapter 1, Lesson 1, Video C, SE page 19 Chapter 3, Lesson 3, Video A, SE page 61; Video B, SE page 62; Video C, SE page 63 Chapter 4, Lesson 1, Video B, SE page 70; Video C, SE page 71; Lesson 2, Video A, SE page 75; Video C, SE page 77 Chapter 5, Lesson 1, Video A, SE page 91; Lesson 3, Video A, SE page 105; Video C, SE page 107 Chapter 6, Lesson 1, Video B, SE page 114; Video C, SE page 115 Chapter 7, Lesson 1, Video C, SE page 137; Lesson 3, Video B, SE page 150; Video C, SE page 151 Chapter 8, Lesson 1, Video A, SE page 157; Video B, SE page 158; Video C, SE page 159; Lesson 2, Video A, SE page 163; Video B, SE page 164; Video C, SE page 165 Chapter 9, Lesson 1, Video B, SE page 180; Lesson 2, Video A, SE page 185; Lesson 3, Video A, SE page 191; Video B, SE page 192</p>

3.2. Inquiry and Design
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>A. Identify and use the nature of scientific and technological knowledge.</p> <ul style="list-style-type: none"> 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.
<p>Chapter 1, Lesson 1, Process Skill, SE page 7; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 Chapter 2, Lesson 2, Process Skill, SE page 35; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48 Chapter 3, Lesson 1, Process Skill, SE page 51; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66 Chapter 4, Lesson 3, Process Skill, SE page 85; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84 Chapter 5, Lesson 1, Process Skill, SE page 95; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102 Chapter 6, Lesson 2, Process Skill, SE page 123; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120 Chapter 7, Lesson 1, Process Skill, SE page 139; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138 Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156 Chapter 9, Lesson 1, Process Skill, SE page 183; Lesson 3, Process Skill, SE page 195; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174</p>

3.2. Inquiry and Design
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>B. Describe objects in the world using the five senses.</p> <ul style="list-style-type: none"> Recognize observational descriptors from each of the five senses (e.g., see-blue, feel-rough). Use observations to develop a descriptive vocabulary.
<p>Chapter 1, Lesson 1, Process Skill, SE page 7; Lesson 2, Process Skill, SE page 13; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 Chapter 2, Lesson 1, Process Skill, SE page 29; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48 Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66 Chapter 5, Lesson 1, Process Skill, SE page 95; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102 Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120 Chapter 7, Lesson 2, Process Skill, SE page 147; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138 Chapter 8, Lesson 3, Process Skill, SE page 175; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156</p>

3.2. Inquiry and Design
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Recognize and use the elements of scientific inquiry to solve problems. <ul style="list-style-type: none"> • Generate questions about objects, organisms, and/or events that can be answered through scientific investigations. • Design an experiment. • Conduct an experiment. • State a conclusion that is consistent with the information.
Chapter 1, Lesson 1, Process Skill, SE page 7; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 Chapter 2, Lesson 3, Process Skill, SE page 43; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48 Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66 Chapter 4, Lesson 2, Process Skill, SE page 79; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84 Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102 Chapter 6, Lesson 3, Process Skill, SE page 131; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120 Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138 Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156 Chapter 9, Lesson 1, Process Skill, SE page 183; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174

3.2. Inquiry and Design
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Recognize and use the technological design process to solve problems. <ul style="list-style-type: none"> • 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.
Chapter 6, Lesson 1 Process Skill, SE page 117 Chapter 9, Lesson 2 Process Skill, SE page 189; ; LabTime Hands-On Activity, TRB pages 159-161, TG page 174

3.3. Biological Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Know the similarities and differences of living things. <ul style="list-style-type: none"> • 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, types of covering, body segments) and that similarities and differences are related to environmental habitat. • Describe basic needs of plants and animals.
Chapter 1, Lesson 3, Video C, SE page 19 Chapter 2, Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33; KnowZone, SE pages 36-37; Lesson 3, Video A, SE page 39; Video B, SE page 40; Video C, SE page 41; Critical Thinking, SE page 43; Process Skill, SE page 43

3.3. Biological Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know that living things are made up of parts that have specific functions. <ul style="list-style-type: none"> • Identify examples of unicellular and multicellular organisms. • Determine how different parts of living things work together to make the organism function.
Chapter 1, Lesson 1, Video A, SE page 3; KnowZone, SE pages 14-15; Lesson 3, Video B, SE page 18; Video C, SE page 19

3.3. Biological Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Know that characteristics are inherited and, thus, offspring closely resemble their parents. <ul style="list-style-type: none"> 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.
Chapter 1, Lesson 2, Video C, SE page 11; Lesson 3, Video C, SE page 19

3.3. Biological Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Identify changes in living things over time. <ul style="list-style-type: none"> Compare extinct life forms with living organisms.
Chapter 1, Lesson 1, Video C, SE page 5; Critical Thinking, SE page 7; Process Skill, SE page 7
Chapter 4, Lesson 2, Video B, SE page 76

3.4. Physical Science, Chemistry, and Physics
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Recognize basic concepts about the structure and properties of matter. <ul style="list-style-type: none"> Describe properties of matter (e.g., hardness, reactions to simple chemical tests). Know that combining two or more substances can make new materials with different properties. Know different material characteristics (e.g., texture, state of matter, solubility).
Chapter 7, Lesson 1, Video B, SE page 136; Video C, SE page 137; Critical Thinking, SE page 139; Process Skill, SE page 139; Lesson 3, Video B, SE page 150; Video C, SE page 151; Critical Thinking, SE page 153

3.4. Physical Science, Chemistry, and Physics
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know basic energy types, sources, and conversions. <ul style="list-style-type: none"> Identify energy forms and examples (e.g., sunlight, heat, stored, motion). Know the concept of the flow of energy by measuring flow through an object or system. Describe static electricity in terms of attraction, repulsion and sparks. Apply knowledge of the basic electrical circuits to design and construct simple direct current circuits. Classify materials as conductors and nonconductors. Know and demonstrate the basic properties of heat by producing it in a variety of ways. Know the characteristics of light (e.g., reflection, refraction, absorption) and use them to produce heat, color, or a virtual image.
Chapter 18, Lesson 2, Video A, SE page 163; Video B, SE page 164; Video C, SE page 165; Critical Thinking, SE page 167; Lesson 3, Video A, SE page 171; Video B, SE page 172; Critical Thinking, SE page 175; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156
Chapter 9, Lesson 1, Video A, SE page 179; Video B, SE page 180; Video C, SE page 181; Critical Thinking, SE page 183; Process Skill, SE page 183; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174

3.4. Physical Science, Chemistry, and Physics
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>C. Observe and describe different types of force and motion.</p> <ul style="list-style-type: none"> • Identify characteristics of sound (pitch, loudness and echoes). • Recognize forces that attract or repel other objects and demonstrate them. • Describe various types of motion. • 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).
<p>Chapter 8, Lesson 1, Video A, SE page 157; Video B, SE page 158; Video C, SE page 159; Process Skill, SE page 161; Lesson 3, Video A, SE page 171; Video B, SE page 172; Critical Thinking, SE page 175; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156</p> <p>Chapter 9, Lesson 2, Video A, SE page 185; Video B, SE page 186; Writing in Science, SE page 189; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174</p>

3.4. Physical Science, Chemistry, and Physics
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>D. Describe the composition and structure of the universe and the earth's place in it.</p> <ul style="list-style-type: none"> • 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.
<p>Chapter 6, Lesson 1, Video B, SE page 114; Video C, SE page 115; Process Skill, SE page 117; Lesson 2, Video A, SE page 119; Video B, SE page 120; Video C, SE page 121</p>

3.5. Earth Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>A. Know basic landforms and earth history.</p> <ul style="list-style-type: none"> • 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).
<p>Chapter 4, Lesson 1, Video B, SE page 70; Video C, SE page 71; Lesson 2, Video A, SE page 75; Video B, SE page 76; Video C, SE page 77; Critical Thinking, SE page 79</p>

3.5. Earth Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>B. Know types and uses of earth materials.</p> <ul style="list-style-type: none"> • Identify uses of various earth materials (e.g., buildings, highways, fuels, growing plants). • Identify and sort earth materials according to a classification key (e.g., soil/rock type).
<p>Chapter 4, Lesson 3, Video A, SE page 81; Video B, SE page 82; Video C, SE page 83; Critical Thinking, SE page 85; KnowZone, SE pages 86-87; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84</p> <p>Chapter 5, Lesson 1, Video C, SE page 93</p> <p>Chapter 9, Lesson 3, Video A, SE page 191; Video B, SE page 192; Critical Thinking, SE page 195</p>

3.5. Earth Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Know basic weather elements. <ul style="list-style-type: none"> Identify cloud types. Identify weather patterns from data charts (including temperature, wind direction and speed, precipitation) and graphs of the data. Explain how the different seasons affect plants, animals, food availability and daily human life.
Chapter 5, Lesson 1, Video B, SE page 92; Critical Thinking, SE page 95; Process Skill, SE page 95; Lesson 2, Video B, SE page 98; Video C, SE page 99; Process Skill, SE page 101; Lesson 3, Video C, SE page 107; Critical Thinking, SE page 109; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102

3.5. Earth Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Recognize the earth's different water resources. <ul style="list-style-type: none"> Know that approximately three-fourths of the earth is covered by water. Identify and describe types of fresh and salt-water 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).
Chapter 5, Lesson 1, Video A, SE page 91; Video B, SE page 92; Video C, SE page 93; Critical Thinking, SE page 95

3.6. Technology Education
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Know that biotechnologies relate to propagating, growing, maintaining, adapting, treating and converting. <ul style="list-style-type: none"> 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 designs. Describe how biotechnology has impacted various aspects of daily life (e.g., health care, agriculture, waste treatment).
Chapter 5, KnowZone, SE pages 102-103
Chapter 7, KnowZone, SE pages 140-141

3.6. Technology Education
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know that information technologies involve encoding, transmitting, receiving, storing, retrieving, and decoding. <ul style="list-style-type: none"> 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.
Chapter 2, Lesson 2, Process Skill, SE page 35
Chapter 3, Lesson 2, Process Skill, SE page 59
Chapter 6, Lesson 2, Process Skill, SE page 101

3.6. Technology Education
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>C. Know physical technologies of structural design, analysis and engineering, finance, production, marketing, research and design.</p> <ul style="list-style-type: none"> • 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). • Identify waste and pollution resulting from a manufacturing enterprise. • Explain and demonstrate the concept of manufacturing (e.g., assemble a set of papers or ball point pens sequentially, mass produce an object). • Identify transportation technologies of propelling, structuring, suspending, guiding, controlling and supporting. • Identify and experiment with simple machine used in transportation systems. • Explain how improved transportation systems have changed society.
<p>Chapter 2, Lesson 3, Video C, SE page 41; Critical Thinking, SE page 43; Process Skill, SE page 43 Chapter 3, Lesson 2, Critical Thinking, SE page 59; Lesson 3, Video C, SE page 63; Process Skill, SE page 65</p>

3.7. Technological Devices
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>A. Explore the use of basic tools, simple materials and techniques to safely solve problems.</p> <ul style="list-style-type: none"> • 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.
<p>Chapter 5, Lesson 2, Video C, SE page 99 Chapter 6, Lesson 3, Video A, SE page 125 Chapter 7, KnowZone, SE pages 140-141; Lesson 3, Video A, SE page 143; Video B, SE page 144; Video C, SE page 145 Chapter 8, Lesson 2, Video C, SE page 165; KnowZone, SE page 168-169; Lesson 3, Video C, SE page 173; Critical Thinking, SE page 175 Chapter 9, Lesson 2, Video B, SE page 188; Video C, SE page 189; Process Skill, SE page 189; KnowZone, SE pages 196-197</p>

3.7. Technological Devices
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>B. Select appropriate instruments to study materials.</p> <ul style="list-style-type: none"> • Develop simple skills to measure, record, cut and fasten. • Explain appropriate instrument selection for specific tasks.
<p>Chapter 7, Lesson 2, Video A, SE page 143; Video B, SE page 144; Video C, SE page 145; Critical Thinking, SE page 147; Process Skill, SE page 147 Chapter 8, Lesson 3, video C, SE page 173 Chapter 9, Lesson 2, Process Skill, SE page 189 The Metric System, SE pages 200-201</p>

3.7. Technological Devices
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Identify basic computer operations and concepts. <ul style="list-style-type: none"> Identify the major parts necessary for a computer to input and output data. Explain and demonstrate the basic use of input and output devices (e.g., keyboard, monitor, printer, mouse). Explain and demonstrate the use of external and internal storage devices (e.g., disk drive, CD drive).
Chapter 9, Lesson 1, Critical Thinking, SE page 183

3.7. Technological Devices
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Use basic computer software. <ul style="list-style-type: none"> Apply operating system skills to perform basic computer skills. Apply basic word processing skills. Identify and use simple graphic and presentation graphic materials generated by the computer. Apply specific instructional software.
Chapter 1, KnowZone, SE pages 14-15 Chapter 2, KnowZone, SE pages 36-37 Chapter 3, KnowZone, SE pages 52-53 Chapter 4, KnowZone, SE pages 86-87 Chapter 5, KnowZone, SE pages 102-103 Chapter 6, KnowZone, SE pages 130-131 Chapter 7, KnowZone, SE pages 140-141 Chapter 8, KnowZone, SE pages 168-169 Chapter 9, KnowZone, SE pages 196-197

3.7. Technological Devices
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
E. Identify basic computer communication systems. <ul style="list-style-type: none"> Apply a web browser. Apply basic electronic mail functions. Use on-line searches to answer age appropriate questions.
Chapter 1, KnowZone, SE pages 14-15 Chapter 2, Lesson 2, Process Skill, SE page 43; KnowZone, SE pages 36-37 Chapter 3, KnowZone, SE pages 52-53 Chapter 4, KnowZone, SE pages 86-87 Chapter 5, Lesson 3, Process Skill, SE page 109; KnowZone, SE pages 102-103 Chapter 6, Lesson 3, Math in Science, SE page 129; KnowZone, SE pages 130-131 Chapter 7, KnowZone, SE pages 140-141 Chapter 8, KnowZone, SE pages 168-169 Chapter 9, KnowZone, SE pages 196-197

3.8. Science, Technology, and Human Endeavors
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>A. Know that people select, create and use science and technology and that they are limited by social and physical restraints.</p> <ul style="list-style-type: none"> 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.
<p>Chapter 3, Lesson 2, Video C, SE page 57; Lesson 3, Video C, SE page 63; Process Skill, SE page 65 Chapter 6, Lesson 3, Video A, SE page 125; Video B, SE page 126; Video C, SE page 127; Critical Thinking, SE page 129; KnowZone, SE pages 130-131 Chapter 7, KnowZone, SE pages 140-141 Chapter 8, Lesson 2, Video C, SE page 165; KnowZone, SE page 168-169</p>

3.8. Science, Technology, and Human Endeavors
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>B. Know how human ingenuity and technological resources satisfy specific human needs and improve the quality of life.</p> <ul style="list-style-type: none"> 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.
<p>Chapter 4, Lesson 2, Video B, SE page 82; Video C, SE page 83 Chapter 5, Lesson 1, Video C, SE page 93 Chapter 6, Lesson 3, Video A, SE page 125; Video B, SE page 126; Video C, SE page 127; Critical Thinking, SE page 129; KnowZone, SE page 130-131 Chapter 7, KnowZone, SE pages 140-141 Chapter 8, KnowZone, SE pages 168-169</p>

3.8. Science, Technology, and Human Endeavors
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>C. Know the pros and cons of possible solutions to scientific and technological problems in society.</p> <ul style="list-style-type: none"> 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.
<p>Chapter 2, Lesson 3, Video C, SE page 41 Chapter 3, Lesson 2, Video C, SE page 57; Critical Thinking, SE page 59; Process Skill, SE page 59; Lesson 3, Video C, SE page 63; Process Skill, SE page 65 Chapter 5, KnowZone, SE pages 102-103 Chapter 7, KnowZone, SE pages 140-14 Chapter 8, Lesson 2, Video C, SE page 165; KnowZone, SE pages 168-169</p>

4.1. Watersheds and Wetlands
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>A. Identify various types of water environments.</p> <ul style="list-style-type: none"> Identify the lotic system (e.g., creeks, rivers, streams). Identify the lentic system (e.g., ponds, lakes, swamps).
Chapter 3, Lesson 2, Video A, SE page 55; Process Skill, SE page 59

4.1. Watersheds and Wetlands
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Explain the differences between moving and still water. <ul style="list-style-type: none"> • Explain why water moves or does not move. • Identify types of precipitation.
Chapter 5, Lesson 1, Video A, SE page 91; Video C, SE page 93

4.1. Watersheds and Wetlands
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Identify living things found in water environments. <ul style="list-style-type: none"> • Identify fish, insects and amphibians that are found in fresh water. • Identify plants found in fresh water.
Chapter 2, Lesson 1, Video C, SE page 27 Chapter 3, Lesson 2, Process Skill, SE page 59

4.1. Watersheds and Wetlands
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Identify a wetland and the plants and animals found there. <ul style="list-style-type: none"> • Identify different types of wetlands. • Identify plants and animals found in wetlands. • Explain wetlands as habitats for plants and animals.
Chapter 2, Lesson 1, Video C, SE page 27 Chapter 3, Lesson 2, Process Skill, SE page 59

4.1. Watersheds and Wetlands
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
E. Recognize the impact of watersheds and wetlands on animals and plants. <ul style="list-style-type: none"> • Explain the role of watersheds in everyday life. • Identify the role of watersheds and wetlands for plants and animals.
Chapter 3, Lesson 2, Process Skill, SE page 59

4.2. Renewable and Nonrenewable Resources
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Identify needs of people. <ul style="list-style-type: none"> • 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.
Chapter 4, Lesson 3, Video A, SE page 81; Video B, SE page 82; Video C, SE page 83; Critical Thinking, SE page 85; KnowZone, SE pages 86-87 Chapter 5, Lesson 1, Video C, SE page 93 Chapter 9, Lesson 3, Video A, SE page 191; Video B, SE page 192

4.2. Renewable and Nonrenewable Resources
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Identify products derived from natural resources. <ul style="list-style-type: none"> Identify products made from trees. Identify by-products of plants and animals. Identify sources of manmade products (e.g., plastics, metal, aluminum, fabrics, paper, cardboard).
Chapter 9, Lesson 3, video A, SE page 191; Video B, SE page 192; Critical Thinking, SE page 195; Process Skill, SE page 195

4.2. Renewable and Nonrenewable Resources
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Know that some natural resources have limited life spans. <ul style="list-style-type: none"> 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.
Chapter 3, Lesson 3, Video C, SE page 63; Critical Thinking, SE page 65 Chapter 4, Lesson 3, Video A, SE page 81; Video B, SE page 82; Video C, SE page 83; Critical Thinking, SE pages 86-87 Chapter 5, Lesson 1, Video C, SE page 93 Chapter 9, Lesson 3, Video A, SE page 191; Video C, SE page 193; Critical Thinking, SE page 195; Process Skill, SE page 195; KnowZone, SE pages 196-197

4.2. Renewable and Nonrenewable Resources
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Identify by-products and their use of natural resources. <ul style="list-style-type: none"> Understand the waste stream. Identify those items that can be recycled and those that can not. Identify use of reusable products. Identify the use of compost, landfills, and incinerators.
See Level A: Chapter 5, Lesson 2, Video C, SE page 101 See also Level C: Chapter 3, Lesson 3, Video C, SE page 63

4.3. Environmental Health
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Know that plants, animals, and humans are dependent on air and water. <ul style="list-style-type: none"> Know that all living things need air and water to survive. Describe potentially dangerous pest controls used in the home. Identify things that cause sickness when put into air, water or soil. Identify different areas where health can be affected by air, water or land pollution.
Chapter 1, Lesson 3, Video B, SE page 18 Chapter 3, Lesson 3, Video C, SE page 63 Chapter 5, Lesson 1, Video C, SE page 93

4.3. Environmental Health
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know how human actions affect environmental health. <ul style="list-style-type: none"> • Identify pollutants. • Identify sources of pollution. • Identify litter and its effect on the environment. • Describe how people can reduce pollution.
Chapter 3, Lesson 3, Video C, SE page 63; Process Skill, SE page 65; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66
Chapter 5, KnowZone, SE pages 102-103

4.3. Environmental Health
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Understand that the elements of natural systems are interdependent. <ul style="list-style-type: none"> • Identify some of the organisms that live together in an ecosystem. • Understand that the components of a system all play a part in the healthy natural system. • Identify the effects of a healthy environment on the ecosystem.
Chapter 2, Lesson 1, Video A, SE page 25; Video B, SE page 26; Video C, SE page 27; Lesson 3, Video A, SE page 39; Video B, SE page 40; Video C, SE page 41; Critical Thinking, SE Page 43; Process Skill, SE page 43
Chapter 3, Lesson 1, Video A, SE page 47; Video B, SE page 48; Lesson 2, Video A, SE page 55; Video B, SE page 56; Video C, SE page 57; Lesson 3, Video A, SE page 61; Video B, SE page 62

4.4. Agriculture and Society
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Know the importance of agriculture to humans. <ul style="list-style-type: none"> • 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.
This concept is not covered at this level.

4.4. Agriculture and Society
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Identify the role of the sciences in Pennsylvania agriculture. <ul style="list-style-type: none"> • 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.
This concept is not covered at this level.

4.4. Agriculture and Society
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Know that food and fiber originate from plants and animals. <ul style="list-style-type: none"> Define and identify food and fiber. Identify what plants and animals need to grow, Identify agricultural products that are local and regional. Identify an agricultural product based on its origin. Describe several products and tell their origins. Describe the journey of a local agricultural product from production to consumer.
This concept is not covered at this level.

4.4. Agriculture and Society
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Identify technology and energy use associated with agriculture. <ul style="list-style-type: none"> Identify 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.
This concept is not covered at this level.

4.5. Integrated Pest Management
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Know types of pests. <ul style="list-style-type: none"> Identify classification of pests. Identify and categorize pests. Know how pests fit into a food chain.
This concept is not covered at this level.

4.5. Integrated Pest Management
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Explain pest control. <ul style="list-style-type: none"> Know reasons why people control pests. Identify different methods for controlling specific pests in the home, school, and community. Identify chemical labels (e.g., caution, poison, warning).
This concept is not covered at this level.

4.5. Integrated Pest Management
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Understand society's need for integrated pest management. <ul style="list-style-type: none"> Identify integrated pest management practices in the home. Identify integrated pest management practices outside the home.
This concept is not covered at this level.

4.6. Ecosystems and their Interactions
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>A. Understand that living things are dependent on nonliving things in the environment for survival.</p> <ul style="list-style-type: none"> Identify and categorize living and nonliving things. Describe the basic needs of an organism. Identify basic needs of a plants and an animal and explain how their needs are met. Identify plants and animals with their habitat and food services. 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. Identify a local ecosystem and its living and nonliving components. Identify a simple ecosystem and its living and nonliving components. Identify common soil textures. Identify animals that live underground.
<p>Chapter 1, Lesson 1, Video A, SE page 3 Chapter 2, Lesson 3, Video A, SE page 39; Video B, SE page 40; Video C, SE page 41; Critical Thinking, SE page 43; Process Skill, SE page 43 Chapter 3, Lesson 1, Video A, SE page 47; Video B, SE page 48; Video C, SE page 49; Lesson 2, Video A, SE page 55; Video B, SE page 56; Video C, SE page 57; Process Skill, SE page 59</p>

4.6. Ecosystems and their Interactions
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>B. Understand the concept of cycles.</p> <ul style="list-style-type: none"> Explain the water cycle. Explain the carbon dioxide/oxygen cycle (photosynthesis).
<p>Chapter 2, Lesson 2, Video A, SE page 31 Chapter 5, Lesson 1, Video A, SE page 91; Critical Thinking, SE page 95</p>

4.6. Ecosystems and their Interactions
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>C. Identify how ecosystems change over time.</p>
<p>Chapter 2, Lesson 1, Video B, SE page 26; Lesson 2, Critical Thinking, SE page 35; Lesson 3, Video C, SE page 41 Chapter 3, Lesson 1, Process Skill, SE page 51; Lesson 2, Video C, SE page 57; Critical Thinking, SE page 59; Lesson 3, Video A, SE page 61; Video B, SE page 62; Video C, SE page 63; Critical Thinking, SE page 65</p>

4.7. Threatened, Endangered and Extinct Species
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>A. Identify differences in living things.</p> <ul style="list-style-type: none"> 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 is essential for survival. Identify local plants or animals and describe their habitat.
<p>Chapter 1, Lesson 3, Video C, SE page 19 Chapter 2, Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33; KnowZone, SE pages 36-37 Chapter 5, Lesson 1, Video C, SE page 93; Lesson 2, Video A, SE page 97</p>

4.7. Threatened, Endangered and Extinct Species
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know that adaptations are important for survival. <ul style="list-style-type: none"> • 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.
Chapter 1, Lesson 2, Video A, SE page 9; Video B, SE page 10; Video C, SE page 11; Critical Thinking, SE page 13; Process Skill, SE page 13; KnowZone, SE pages 14-15; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30
Chapter 3, Lesson 2, Video A, SE page 55; Video B, SE page 56

4.7. Threatened, Endangered and Extinct Species
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Define and understand extinction. <ul style="list-style-type: none"> • 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.
Chapter 1, Lesson 1, Video C, SE page 5; Critical Thinking, SE page 7; Process Skill, SE page 7

4.8. Humans and the Environment
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Identify the biological requirements of humans. <ul style="list-style-type: none"> • Explain why a dynamically changing environment provides for sustainability of living systems. • Identify several ways that people use natural resources.
Chapter 3, Lesson 3, Video C, SE page 63
Chapter 4, Lesson 3, Video B, SE page 82; Video C, SE page 83; KnowZone, SE pages 86-87
Chapter 5, Lesson 1, Video C, SE page 93
Chapter 8, Lesson 3, Video B, SE page 172
Chapter 9, Lesson 3, Video A, SE page 191; Video B, SE page 192; Process Skill, SE page 195

4.8. Humans and the Environment
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know that environmental conditions influence where and how people live. <ul style="list-style-type: none"> • Identify how regional natural resources influence what people use. • Explain the influence of climate on how and where people live.
Chapter 4, KnowZone, SE pages 86-87
Chapter 5, Lesson 3, Video A, SE page 105; Video B, SE page 106

4.8. Humans and the Environment
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Explain how human activities may change the environment. <ul style="list-style-type: none"> • Identify everyday human activities and how they affect the environment. • Identify examples of how human activities within a community affect the natural environment.
Chapter 1, Lesson 1, Video C, SE page 5
Chapter 2, Lesson 1, Video B, SE page 26; Critical Thinking, SE page 29; Lesson 3, Video C, SE page 41; Critical Thinking, SE page 43; Process Skill, SE page 43
Chapter 3, Lesson 2, Video C, SE page 57; Critical Thinking, SE page 59; Lesson 3, Video C, SE page 63; Critical Thinking, SE page 65; Process Skill, SE page 65; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66
Chapter 5, KnowZone, SE pages 102-103

4.8. Humans and the Environment
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Know the importance of natural resources in the daily life. <ul style="list-style-type: none"> Identify items used in daily life that come from natural resources. Identify ways to conserve our natural resources. Identify major land uses in the community.
Chapter 4, Lesson 3, Video B, SE page 82; Video C, SE page 83; Critical Thinking, SE page 85; KnowZone, SE pages 86-87 Chapter 5, Lesson 1, Video C, SE page 93 Chapter 9, Lesson 3, Video A, SE page 191; Video B, SE page 192; KnowZone, SE pages 196-197

4.9. Environmental Laws and Regulations
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Know that there are laws and regulations for the environment. <ul style="list-style-type: none"> 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.
See Level A: Chapter 5, Lesson 2, Video C, SE page 101 See also Level C: Chapter 3, Lesson 3, Video C, SE page 63

SRA Snapshots Video Science™: Level C
correlation to
Pennsylvania Academic Standards for Science and Technology
Grade 5

SRA Snapshots Video Science™ consists of four interdependent components. Each level has four program DVDs that provide engaging video lessons. The student edition (**SE**) provides student friendly text that reinforces the concepts introduced in the video. The Teacher's Resource Book (**TRB**) provides support activities in a blackline master format. The Teacher's Guide (**TG**) provides lesson planning, differentiated instruction activities, and answers to all student activities in the Student Edition.

KEY:

Reference	Program Component
Video	Video lessons on program DVDs
SE	Student Edition
TRB	Teacher's Resource Book
TG	Teacher's Guide

3.1. Unifying Themes of Science

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential 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.

Chapter 1, Lesson 1, Process Skill, SE page 7

Chapter 2, Lesson 1, Video B, SE page 26; Process Skill, SE page 29; Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33; Process Skill, SE page 35

Chapter 3, Lesson 3, Video A, SE page 61; Video B, SE page 62

Chapter 4, Lesson 2, Video C, SE page 77; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84

Chapter 5, Lesson 1, Video A, SE page 91; Video B, SE page 92; Video C, SE page 93; Lesson 2, Video B, SE page 100; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102

Chapter 6, Lesson 1, Video A, SE page 113; Video B, SE page 114; Video C, SE page 115; Lesson 2, Video A, SE page 119; Video B, SE page 120; Video C, SE page 121; Lesson 3, Video A, SE page 127; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120

Chapter 7, Lesson 1, video C, SE page 137; Lesson 2, Video A, SE page 144; Video C, SE page 145; Lesson 3, Video A, SE page 149; Video B, SE page 150; Video C, SE page 151

Chapter 8, Lesson 3, Video B, SE page 172; Video C, SE page 173

Chapter 9, Lesson 1, Video A, SE page 179; Video B, SE page 180; Video C, SE page 181; Lesson 2, Video A, SE page 187; Video B, SE page 188; Video C, SE page 189; Lesson 3, Video A, SE page 193; Video B, SE page 194; Video C, SE page 195

3.1. Unifying Themes of Science
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know models as useful simplifications of objects or processes. <ul style="list-style-type: none"> 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).
Chapter 1, Lesson 1, Process Skill, SE page 7 Chapter 4, Lesson 3, Process Skill, SE page 87 Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102 Chapter 9, Lesson 1, Process Skill, SE page 183

3.1. Unifying Themes of Science
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Illustrate patterns that regularly occur and reoccur in nature. <ul style="list-style-type: none"> Identify observable patterns (e.g., growth 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).
Chapter 2, Lesson 2, Video A, SE page 31 Chapter 3, Lesson 1, Video C, SE page 49 Chapter 5, Lesson 2, Video B, SE page 98 Chapter 6, Lesson 2, Video A, SE page 121; Video B, SE page 122; Video C, SE page 123

3.1. Unifying Themes of Science
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Know that scale is an important attribute of natural and human made objects, events and phenomena. <ul style="list-style-type: none"> Identify the use of scale as it relates to the measurements of distance, volume and mass. Describe the scale as a ratio (e.g., map scales). Explain the importance of scale in producing models and apply it to a model.
Chapter 1, Lesson 1, Process Skill, SE page 7 Chapter 6, KnowZone, SE pages 118-119; Lesson 2, Video A, SE page 121; Video B, SE page 122; Video C, SE page 123 Chapter 9, Lesson 2, Video A, SE page 187; Video B, SE page 188; Video C, SE page 189; Process Skill, SE page 191

3.1. Unifying Themes of Science
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
E. Recognize change in natural and physical systems. <ul style="list-style-type: none"> 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.
Chapter 2, Lesson 2, Video A, SE page 31 Chapter 3, Lesson 3, Video A, SE page 61 Chapter 4, Lesson 2, Video A, SE page 77; Video B, SE page 78; Video C, SE page 79 Chapter 5, Lesson 1, Video A, SE page 91; Video B, SE page 92 Chapter 7, Lesson 2, Video C, SE page 145; Lesson 3, Video A, SE page 149 Chapter 8, Lesson 2, Video B, SE page 164

3.2. Inquiry and Design
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>A. Identify and use the nature of scientific and technological knowledge.</p> <ul style="list-style-type: none"> 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.
<p>Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48 Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66 Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84 Chapter 5, Lesson 2, Process Skill, SE page 101; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102 Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120 Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138 Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156 Chapter 9, Lesson 2, Process Skill, SE page 191; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174</p>

3.2. Inquiry and Design
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>B. Describe objects in the world using the five senses.</p> <ul style="list-style-type: none"> Recognize observational descriptors from each of the five senses (e.g., see-blue, feel-rough). Use observations to develop a descriptive vocabulary.
<p>Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48 Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66 Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84 Chapter 5, Lesson 2, Process Skill, SE page 101; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102 Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120 Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138 Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156 Chapter 9, Lesson 2, Process Skill, SE page 191; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174</p>

3.2. Inquiry and Design
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>C. Recognize and use the elements of scientific inquiry to solve problems.</p> <ul style="list-style-type: none"> Generate questions about objects, organisms, and/or events that can be answered through scientific investigations. Design an experiment. Conduct an experiment. State a conclusion that is consistent with the information.
<p>Chapter 1, Lesson 2, Process Skill, SE page 13; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48 Chapter 3, Lesson 1, Process Skill, SE page 51; Lesson 3, Process Skill, SE page 65; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66 Chapter 4, Lesson 2, Process Skill, 81; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84 Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102 Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120 Chapter 7, Lesson 1, Process Skill, SE page 139; Lesson 2, Process Skill, SE page 147; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138 Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156 Chapter 9, Lesson 3, Process Skill, SE page 197; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174</p>

3.2. Inquiry and Design
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Recognize and use the technological design process to solve problems. <ul style="list-style-type: none"> 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.
Chapter 9 LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174

3.3. Biological Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Know the similarities and differences of living things. <ul style="list-style-type: none"> 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, types of covering, body segments) and that similarities and differences are related to environmental habitat. Describe basic needs of plants and animals.
Chapter 1, Lesson 1, Video B, SE page 4
Chapter 2, Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33; KnowZone, SE pages 36-37

3.3. Biological Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know that living things are made up of parts that have specific functions. <ul style="list-style-type: none"> Identify examples of unicellular and multicellular organisms. Determine how different parts of living things work together to make the organism function.
Chapter 1, Lesson 1, Video A, SE page 3; Video B, SE page 4; Video C, SE page 5; Critical Thinking, SE page 7; Lesson 2, Video A, SE page 9; Video B, SE page 10; Video C, SE page 11; Critical Thinking, SE page 13; Process Skill, SE page 13; Lesson 3, Video A, SE page 15; Video B, SE page 16; Video C, SE page 17; Critical Thinking, SE page 19; Process Skill, SE page 19; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30

3.3. Biological Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Know that characteristics are inherited and, thus, offspring closely resemble their parents. <ul style="list-style-type: none"> 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.
Chapter 2, Lesson 2, Video B, SE page 32; Video C, SE page 33

3.3. Biological Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Identify changes in living things over time. <ul style="list-style-type: none"> Compare extinct life forms with living organisms.
Chapter 2, Lesson 1, Video C, SE page 27

3.4. Physical Science, Chemistry, and Physics
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Recognize basic concepts about the structure and properties of matter. <ul style="list-style-type: none"> Describe properties of matter (e.g., hardness, reactions to simple chemical tests). Know that combining two or more substances can make new materials with different properties. Know different material characteristics (e.g., texture, state of matter, solubility).
Chapter 7, Lesson 1, Video A, SE page 135; Video B, SE page 136; Video C, SE page 137; Critical Thinking, SE page 139; Process Skill, SE page 139; KnowZone, SE page 140-141; Lesson 2, Video A, SE page 143; Critical Thinking, SE page 147; Lesson 3, Video A, SE page 149; Video B, SE page 150; Video C, SE page 151; Critical Thinking, SE page 153; Process Skill, SE page 153

3.4. Physical Science, Chemistry, and Physics
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know basic energy types, sources, and conversions. <ul style="list-style-type: none"> Identify energy forms and examples (e.g., sunlight, heat, stored, motion). Know the concept of the flow of energy by measuring flow through an object or system. Describe static electricity in terms of attraction, repulsion and sparks. Apply knowledge of the basic electrical circuits to design and construct simple direct current circuits. Classify materials as conductors and nonconductors. Know and demonstrate the basic properties of heat by producing it in a variety of ways. Know the characteristics of light (e.g., reflection, refraction, absorption) and use them to produce heat, color, or a virtual image.
Chapter 8, Lesson 1, Video A, SE page 157; Video B, SE page 158; Critical Thinking, SE page 161; Process Skill, SE page 161; Lesson 2, Video A, SE page 163; Video B, SE page 164; Video C, SE page 165; Critical Thinking, SE page 167; Process Skill, SE page 167; Lesson 3, Video A, SE page 171; Video B, SE page 172; Video C, SE page 173; Critical Thinking, SE page 175; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156

3.4. Physical Science, Chemistry, and Physics
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Observe and describe different types of force and motion. <ul style="list-style-type: none"> Identify characteristics of sound (pitch, loudness and echoes). Recognize forces that attract or repel other objects and demonstrate them. Describe various types of motion. 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).
Chapter 19, Lesson 1, Video A, SE page 179; Video B, SE page 180; Video C, SE page 181; Critical Thinking, SE page 183; Process Skill, SE page 183; KnowZone, SE pages 184-185; Lesson 2, Video A, SE page 187; Video B, SE page 188; Video C, SE page 189; Critical Thinking, SE page 191; Process Skill, SE page 191; Lesson 3, Video A, SE page 193; Video B, SE page 194; Video C, SE page 195; Critical Thinking, SE page 197; Process Skill, SE page 197

3.4. Physical Science, Chemistry, and Physics
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Describe the composition and structure of the universe and the earth's place in it. <ul style="list-style-type: none"> 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.
Chapter 6, Lesson 1, Video A, SE page 113; Video B, SE page 114; Video C, SE page 115; Critical Thinking, SE page 117; Process Skill, SE page 117; KnowZone, SE pages 118-119; Lesson 2, Video A, SE page 121; Video B, SE page 122; Video C, SE page 123; Critical Thinking, SE page 125; Process Skill, SE page 125

3.5. Earth Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Know basic landforms and earth history. <ul style="list-style-type: none"> 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).
Chapter 4, Lesson 1, Video B, SE page 70; Video C, SE page 71; Critical Thinking, SE page 73; KnowZone, SE pages 74-75; Lesson 2, Video A, SE page 77; Video B, SE page 78; Video C, SE page 79; Critical Thinking, SE page 81; Process Skill, SE page 81; Lesson 3, Video C, SE page 85; Process Skill, SE page 87; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84

3.5. Earth Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know types and uses of earth materials. <ul style="list-style-type: none"> Identify uses of various earth materials (e.g., buildings, highways, fuels, growing plants). Identify and sort earth materials according to a classification key (e.g., soil/rock type).
Chapter 3, Lesson 3, Video C, SE page 63 Chapter 4, Lesson 3, Video A, SE page 83; Video B, SE page 84; Video C, SE page 85; Critical Thinking, SE page 87 Chapter 8, Lesson 1, Video C, SE page 159 Chapter 8, Lesson 3, Video C, SE page 173

3.5. Earth Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Know basic weather elements. <ul style="list-style-type: none"> Identify cloud types. Identify weather patterns from data charts (including temperature, wind direction and speed, precipitation) and graphs of the data. Explain how the different seasons affect plants, animals, food availability and daily human life.
Chapter 5, Lesson 3, Video A, SE page 103; Video B, SE page 104; Video C, SE page 105; Critical Thinking, SE page 107; Process Skill, SE page 107

3.5. Earth Sciences
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Recognize the earth's different water resources. <ul style="list-style-type: none"> • Know that approximately three-fourths of the earth is covered by water. • Identify and describe types of fresh and salt-water 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).
Chapter 3, Lesson 2, Video A, SE page 55
Chapter 4, Lesson 1, Video A, SE page 69
Chapter 5, Lesson 2, Video A, SE page 97; Video B, SE page 98; Video C, SE page 99; Process Skill, SE page 101

3.6. Technology Education
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Know that biotechnologies relate to propagating, growing, maintaining, adapting, treating and converting. <ul style="list-style-type: none"> • 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 designs. • Describe how biotechnology has impacted various aspects of daily life (e.g., health care, agriculture, waste treatment).
Chapter 5, Lesson 2, Video A, SE page 103

3.6. Technology Education
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know that information technologies involve encoding, transmitting, receiving, storing, retrieving, and decoding. <ul style="list-style-type: none"> • 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.
This concept is not covered at this level.

3.6. Technology Education
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>C. Know physical technologies of structural design, analysis and engineering, finance, production, marketing, research and design.</p> <ul style="list-style-type: none"> • 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). • Identify waste and pollution resulting from a manufacturing enterprise. • Explain and demonstrate the concept of manufacturing (e.g., assemble a set of papers or ball point pens sequentially, mass produce an object). • Identify transportation technologies of propelling, structuring, suspending, guiding, controlling and supporting. • Identify and experiment with simple machine used in transportation systems. • Explain how improved transportation systems have changed society. <p>Chapter 6, Lesson 3, Video B, SE page 128; Video C, SE page 129 Chapter 8, Lesson 2, Video A, SE page 163; Lesson 3, Video B, SE page 172; Critical Thinking, SE page 175; Process Skill, SE page 175</p>

3.7. Technological Devices
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>A. Explore the use of basic tools, simple materials and techniques to safely solve problems.</p> <ul style="list-style-type: none"> • 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. <p>Chapter 1, Lesson 1, Video A, SE page 3 Chapter 5, Lesson 3, Process Skill, SE page 107 Chapter 8, Lesson 2, Video C, SE page 165</p>

3.7. Technological Devices
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>B. Select appropriate instruments to study materials.</p> <ul style="list-style-type: none"> • Develop simple skills to measure, record, cut and fasten. • Explain appropriate instrument selection for specific tasks. <p>Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 Chapter 5, Lesson 3, Process Skill, SE page 107; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102 Chapter 7, Lesson 2, Video B, SE page 144; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138 Chapter 8, Lesson 2, process Skill, Se page 165; KnowZone, SE pages 168-169; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156 Chapter 9, Lesson 2, Process Skill, SE page 191 The Metric System, SE pages 200-201</p>

3.7. Technological Devices
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Identify basic computer operations and concepts. <ul style="list-style-type: none"> Identify the major parts necessary for a computer to input and output data. Explain and demonstrate the basic use of input and output devices (e.g., keyboard, monitor, printer, mouse). Explain and demonstrate the use of external and internal storage devices (e.g., disk drive, CD drive).
Chapter 1, KnowZone, SE pages 20-21 Chapter 2, KnowZone, SE pages 36-37 Chapter 3, KnowZone, SE pages 58-59 Chapter 4, KnowZone, SE pages 74-75 Chapter 5, KnowZone, SE pages 108-109 Chapter 6, KnowZone, SE pages 118-119 Chapter 7, KnowZone, SE pages 140-141 Chapter 8, KnowZone, SE pages 168-169 Chapter 9, KnowZone, SE pages 184-185

3.7. Technological Devices
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Use basic computer software. <ul style="list-style-type: none"> Apply operating system skills to perform basic computer skills. Apply basic word processing skills. Identify and use simple graphic and presentation graphic materials generated by the computer. Apply specific instructional software.
Chapter 1, KnowZone, SE pages 20-21 Chapter 2, KnowZone, SE pages 36-37 Chapter 3, KnowZone, SE pages 58-59 Chapter 4, KnowZone, SE pages 74-75 Chapter 5, KnowZone, SE pages 108-109 Chapter 6, KnowZone, SE pages 118-119 Chapter 7, KnowZone, SE pages 140-141 Chapter 8, KnowZone, SE pages 168-169 Chapter 9, KnowZone, SE pages 184-185

3.7. Technological Devices
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
E. Identify basic computer communication systems. <ul style="list-style-type: none"> Apply a web browser. Apply basic electronic mail functions. Use on-line searches to answer age appropriate questions.
Chapter 1, Lesson 2, Process Skill, SE page 29; KnowZone, SE pages 20-21 Chapter 2, KnowZone, SE pages 36-37 Chapter 3, KnowZone, SE pages 58-59 Chapter 4, KnowZone, SE pages 74-75 Chapter 5, KnowZone, SE pages 108-109 Chapter 6, KnowZone, SE pages 118-119 Chapter 7, KnowZone, SE pages 140-141 Chapter 8, KnowZone, SE pages 168-169 Chapter 9, KnowZone, SE pages 184-185

3.8. Science, Technology, and Human Endeavors
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Know that people select, create and use science and technology and that they are limited by social and physical restraints. <ul style="list-style-type: none"> 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.
Chapter 8, Lesson 3, Critical Thinking, SE page 175; Process Skill, SE page 175

3.8. Science, Technology, and Human Endeavors
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know how human ingenuity and technological resources satisfy specific human needs and improve the quality of life. <ul style="list-style-type: none"> 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.
Chapter 3, Lesson 3, Video C, SE page 63 Chapter 4, Lesson 3, Video B, SE page 84; Video C, SE page 85; Critical Thinking, SE page 87 Chapter 5, Lesson 2, Video C, SE page 99 Chapter 8, Lesson 1, Video C, SE page 159; Lesson 2, Critical Thinking, SE page 167; Lesson 3, Video C, SE page 173; Critical Thinking, SE page 175; Process Skill, SE page 175

3.8. Science, Technology, and Human Endeavors
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Know the pros and cons of possible solutions to scientific and technological problems in society. <ul style="list-style-type: none"> 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.
Chapter 5, Lesson 3, Video A, SE page 103; Critical Thinking, SE page 107 Chapter 6, Lesson 3, Video B, SE page 128; Video C, SE page 129

4.1. Watersheds and Wetlands
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Identify various types of water environments. <ul style="list-style-type: none"> Identify the lotic system (e.g., creeks, rivers, streams). Identify the lentic system (e.g., ponds, lakes, swamps).
Chapter 3, Lesson 2, Video A, SE page 53 Chapter 4, Lesson 1, Video A, SE page 69

4.1. Watersheds and Wetlands
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Explain the differences between moving and still water. <ul style="list-style-type: none"> Explain why water moves or does not move. Identify types of precipitation.
Chapter 5, Lesson 2, Video A, SE page 97; Video B, SE page 98; Process Skill, SE page 101

4.1. Watersheds and Wetlands
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Identify living things found in water environments. <ul style="list-style-type: none"> Identify fish, insects and amphibians that are found in fresh water. Identify plants found in fresh water.
Chapter 3, Lesson 2, Video A, SE page 53

4.1. Watersheds and Wetlands
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Identify a wetland and the plants and animals found there. <ul style="list-style-type: none"> Identify different types of wetlands. Identify plants and animals found in wetlands. Explain wetlands as habitats for plants and animals.
See Level B: Chapter 2, Lesson 1, Video C, SE page 27 Chapter 3, Lesson 2, Process Skill, SE page 59

4.1. Watersheds and Wetlands
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
E. Recognize the impact of watersheds and wetlands on animals and plants. <ul style="list-style-type: none"> Explain the role of watersheds in everyday life. Identify the role of watersheds and wetlands for plants and animals.
Chapter 5, Lesson 2, Video A, SE page 97

4.2. Renewable and Nonrenewable Resources
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Identify needs of people. <ul style="list-style-type: none"> 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.
Chapter 3, Lesson 1, Video C, SE page 49; Writing in Science, SE page 51 Chapter 4, Lesson 3, Video B, SE page 84; Video C, SE page 85; Critical Thinking, SE page 87 Chapter 5, Lesson 2, Video B, SE page 98; Video C, SE page 99; Process Skill, SE page 101 Chapter 8, Lesson 1, Video C, SE page 159; Lesson 3, Video C, SE page 173

4.2. Renewable and Nonrenewable Resources
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Identify products derived from natural resources. <ul style="list-style-type: none"> Identify products made from trees. Identify by-products of plants and animals. Identify sources of manmade products (e.g., plastics, metal, aluminum, fabrics, paper, cardboard).
Chapter 4, Lesson 3, Video C, SE page 85

4.2. Renewable and Nonrenewable Resources
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>C. Know that some natural resources have limited life spans.</p> <ul style="list-style-type: none"> 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.
<p>Chapter 3, Lesson 1, Video C, SE page 49; Lesson 3, Video C, SE page 63; Critical Thinking, SE page 65 Chapter 4, Lesson 3, Video C, SE page 85; Critical Thinking, SE page 87 Chapter 5, Lesson 2, Video C, SE page 99 Chapter 8, Lesson 1, Video C, SE page 159; Lesson 3, Video C, SE page 173; Critical Thinking, SE page 175</p>

4.2. Renewable and Nonrenewable Resources
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>D. Identify by-products and their use of natural resources.</p> <ul style="list-style-type: none"> Understand the waste stream. Identify those items that can be recycled and those that can not. Identify use of reusable products. Identify the use of compost, landfills, and incinerators.
Chapter 3, Lesson 3, Video C, SE page 63

4.3. Environmental Health
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>A. Know that plants, animals, and humans are dependent on air and water.</p> <ul style="list-style-type: none"> Know that all living things need air and water to survive. Describe potentially dangerous pest controls used in the home. Identify things that cause sickness when put into air, water or soil. Identify different areas where health can be affected by air, water or and pollution.
<p>Chapter 3, Lesson 1, Video C, SE page 49; Lesson 3, video B, SE page 62 Chapter 5, Lesson 1, Video C, SE page 93; Critical Thinking, SE page 95; Writing in Science, SE page 95; Lesson 2, Video C, SE page 99; Critical Thinking, SE page 101; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102</p> <p>Chapter 7, Lesson 3, Video B, SE page 150 Chapter 8, Lesson 1, Video C, SE page 159</p>

4.3. Environmental Health
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
<p>B. Know how human actions affect environmental health.</p> <ul style="list-style-type: none"> Identify pollutants. Identify sources of pollution. Identify litter and its effect on the environment. Describe how people can reduce pollution.
<p>Chapter 3, Lesson 3, Video B, SE page 63 Chapter 5, Lesson 1, Video C, SE page 93; Critical Thinking, SE page 95; Writing in Science, SE page 95; Lesson 2, Video C, SE page 99; Critical Thinking, SE page 101; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102 Chapter 7, Lesson 3, Video B, SE page 150 Chapter 8, Lesson 1, Video C, SE page 159</p>

4.3. Environmental Health
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Understand that the elements of natural systems are interdependent. <ul style="list-style-type: none"> Identify some of the organisms that live together in an ecosystem. Understand that the components of a system all play a part in the healthy natural system. Identify the effects of a healthy environment on the ecosystem.
Chapter 2, Lesson 3, Video A, SE page 39; Video B, SE page 40; Video C, SE page 41; Critical Thinking, SE page 43 Chapter 3, Lesson 1, Video A, SE page 47; Video B, SE page 48; Critical Thinking, SE page 51; Process Skill, SE page 51; Lesson 2, Video A, SE page 53; Video B, SE page 54; Video C, SE page 55; Critical Thinking, SE page 57; KnowZone, SE pages 58-59

4.4. Agriculture and Society
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Know the importance of agriculture to humans. <ul style="list-style-type: none"> 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.
This concept is not covered at this level.

4.4. Agriculture and Society
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Identify the role of the sciences in Pennsylvania agriculture. <ul style="list-style-type: none"> 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.
This concept is not covered at this level.

4.4. Agriculture and Society
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Know that food and fiber originate from plants and animals. <ul style="list-style-type: none"> Define and identify food and fiber. Identify what plants and animals need to grow, Identify agricultural products that are local and regional. Identify an agricultural product based on its origin. Describe several products and tell their origins. Describe the journey of a local agricultural product from production to consumer.
Chapter 3, Lesson 1, Video A, SE page 49

4.4. Agriculture and Society
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Identify technology and energy use associated with agriculture. <ul style="list-style-type: none"> Identify 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.
This concept is not covered at this level.

4.5. Integrated Pest Management
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Know types of pests. <ul style="list-style-type: none"> Identify classification of pests. Identify and categorize pests. Know how pests fit into a food chain.
This concept is not covered at this level.

4.5. Integrated Pest Management
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Explain pest control. <ul style="list-style-type: none"> Know reasons why people control pests. Identify different methods for controlling specific pests in the home, school, and community. Identify chemical labels (e.g., caution, poison, warning).
This concept is not covered at this level.

4.5. Integrated Pest Management
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Understand society's need for integrated pest management. <ul style="list-style-type: none"> Identify integrated pest management practices in the home. Identify integrated pest management practices outside the home.
This concept is not covered at this level.

4.6. Ecosystems and their Interactions
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Understand that living things are dependent on nonliving things in the environment for survival. <ul style="list-style-type: none"> Identify and categorize living and nonliving things. Describe the basic needs of an organism. Identify basic needs of a plants and an animal and explain how their needs are met. Identify plants and animals with their habitat and food services. 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. Identify a local ecosystem and its living and nonliving components. Identify a simple ecosystem and its living and nonliving components. Identify common soil textures. Identify animals that live underground.
Chapter 2, Lesson 3, Video A, SE page 39; Video B, SE page 40; Video C, SE page 41; Critical Thinking, SE page 43 Chapter 3, Lesson 1, Video A, SE page 47; Video B, SE page 48; Lesson 2, Video A, SE page 53; Video B, SE page 54; Video C, SE page 55; Critical Thinking, SE page 57; Process Skill, SE page 57 Chapter 4, Lesson 3, Video C, SE page 85

4.6. Ecosystems and their Interactions
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Understand the concept of cycles. <ul style="list-style-type: none"> Explain the water cycle. Explain the carbon dioxide/oxygen cycle (photosynthesis).
Chapter 3, Lesson 1, Video C, SE page 49; Lesson 3, Video C, SE page 63
Chapter 5, Lesson 2, Video B, SE page 98

4.6. Ecosystems and their Interactions
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Identify how ecosystems change over time.
Chapter 3, Lesson 3, Video A, SE page 61; Video B, SE page 62; Critical Thinking, SE page 65

4.7. Threatened, Endangered and Extinct Species
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Identify differences in living things. <ul style="list-style-type: none"> 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 is essential for survival. Identify local plants or animals and describe their habitat.
Chapter 2, Lesson 1, Video A, SE page 25; Video B, SE page 26; Critical Thinking, SE page 29; Process Skill, SE page 29; Lesson 2, Video B, SE page 32; Video C, SE page 33; Critical Thinking, SE page 35; KnowZone, SE pages 36-37
Chapter 3, Lesson 1, Video C, SE page 49; Lesson 2, Video A, SE page 53; Video B, SE page 54; Video C, SE page 55; KnowZone, SE pages 58-59

4.7. Threatened, Endangered and Extinct Species
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know that adaptations are important for survival. <ul style="list-style-type: none"> 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.
Chapter 2, Lesson 2, Video B, SE page 32; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48

4.7. Threatened, Endangered and Extinct Species
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Define and understand extinction. <ul style="list-style-type: none"> 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.
Chapter 2, Lesson 1, Video C, SE page 27

4.8. Humans and the Environment
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Identify the biological requirements of humans. <ul style="list-style-type: none"> Explain why a dynamically changing environment provides for sustainability of living systems. Identify several ways that people use natural resources.
Chapter 3, Lesson 3, Critical Thinking, SE page 65 Chapter 4, Lesson 3, Video C, SE page 85 Chapter 5, Lesson 1, Video C, SE page 93; Lesson 2, Video C, SE page 99 Chapter 8, Lesson 1, Video C, SE page 159; Lesson 3, Video C, SE page 173

4.8. Humans and the Environment
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
B. Know that environmental conditions influence where and how people live. <ul style="list-style-type: none"> Identify how regional natural resources influence what people use. Explain the influence of climate on how and where people live.
Chapter 3, Lesson 3, Process Skill, SE page 65 Chapter 4, Lesson 3, Video C, SE page 85

4.8. Humans and the Environment
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
C. Explain how human activities may change the environment. <ul style="list-style-type: none"> Identify everyday human activities and how they affect the environment. Identify examples of how human activities within a community affect the natural environment.
Chapter 3, Lesson 3, Video B, SE page 62 Chapter 4, Lesson 3, Video C, SE page 85 Chapter 5, Lesson 1, Video C, SE page 93; Critical Thinking, SE page 95; Lesson 2, Video C, SE page 99; Critical Thinking, SE page 101 Chapter 7, Lesson 3, Video B, SE page 150 Chapter 8, Lesson 1, Video C, SE page 159

4.8. Humans and the Environment
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
D. Know the importance of natural resources in the daily life. <ul style="list-style-type: none"> Identify items used in daily life that come from natural resources. Identify ways to conserve our natural resources. Identify major land uses in the community.
Chapter 3, Lesson 3, Video C, E page 63; Process Skill, SE page 65 Chapter 4, Lesson 3, Video C, SE page 85 Chapter 8, Lesson 1, Video C, SE page 159

4.9. Environmental Laws and Regulations
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential to acquire the knowledge and skills needed to...
A. Know that there are laws and regulations for the environment. <ul style="list-style-type: none"> 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.
Chapter 3, Lesson 3, Video C, SE page 63