



Pine Grove Area  
SCHOOL DISTRICT

Science

6<sup>th</sup> Grade

April 15, 2009

I. PHILOSOPHY

The sixth grade general science course is created to provide students with information on various scientific concepts. Students will further their exploration of these topic areas through cooperative learning, self discovery, and real-world applications. Science should be viewed by our students as intertwined concepts that relate to one another in many given ways. In turn this should provide a guide to find solutions, explain and predict events, hypothesize creative and more productive methods for human society while keeping in mind the effects of scientific activities upon our natural world.

## II. CORE CONCEPTS

1. Scientific Method- Recognize and use the elements of the scientific method to solve problems.
2. Physical Science- Understand the basic topic areas within the physical science field and undergo experiments to discover or enhance physical science principles.
3. Properties of Matter- Identify and describe both physical and chemical properties of matter while using instruments and processes to discover these properties.
4. States of Matter- Describe characteristics of the states of matter and changes that occur in matter between these states.
5. Elements, Compounds, and Mixtures- Comprehend that these are the three basic forms of matter and identify the properties and formation of these forms.
6. Atoms and The Periodic Table- Understand that atoms are the smallest forms of matter that create substances with specific properties. Effectively use the periodic table and understand reasons for its arrangement and functions.
7. Matter in Motion- Investigate the characteristics of motion- direction, distance, speed, acceleration.
8. Forces in Motion- Experiment and analysis of the different forces that create motion of object and the unbalance of these forces that exist with moving objects.
9. PA Resources- Identify various resources found in PA, while analyzing the methods of harvesting, production, and consumer usage of these resources.

### III. COURSE OF STUDY

- A. Course Name: Science
- B. Grade Level: 6th
- C. Length of Course: full year
  - 1. Frequency: daily
  - 2. Duration: 45 minutes
- D. Academic Level: sixth grade
- E. Credits: none
- F. Prerequisites: none
- G. Course Description: This is an introductory course covering several topics adhering to the Pennsylvania State Science Standards. Students will participate in hands-on activities involving cooperative groups both in and out of the basic classroom setting. The following topics will be covered in great detail: Scientific Method, Matter, Elements, Compounds, Mixtures, Atoms, Periodic Table, Motion, and Simple Machines.

IV. CONTENT: 6<sup>th</sup> Grade Science  
 CORE CONCEPT 1: Scientific Method  
 MAJOR OBJECTIVE: Recognize and use the elements of the scientific method to solve problems

CURRICULUM STANDARD:			
PA State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
PA Standard 3.1.7 .E Identify change as a variable in describing natural and physical systems. <ul style="list-style-type: none"> <li>• Describe fundamental science and technology concepts that could solve practical problems.</li> <li>• Explain how ratio is used to describe change</li> </ul>	Teacher will guide students to: <ul style="list-style-type: none"> <li>• Identify and explain the pros and cons of applying scientific, environmental, or technological knowledge to possible solutions to problems</li> <li>• Create an application of ratio to observed changes</li> </ul>	Teacher evaluation of: <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	All possible resources <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

CONTENT: 6<sup>th</sup> Grade Science

CORE CONCEPT 1: Scientific Method

MAJOR OBJECTIVE: Recognize and use the elements of the scientific method to solve problems

CURRICULUM STANDARD:			
PA State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.2.7.A Explain and apply scientific and technological knowledge.</p> <ul style="list-style-type: none"> <li>• Distinguish between a scientific theory and a belief.</li> <li>• Answer “What if” questions based on observation, inference or prior knowledge or experience.</li> <li>• Explain how skepticism about an accepted scientific explanation led to a new understanding.</li> <li>• Explain how new information may change existing theories and practice.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Determine differences between theories and beliefs and provide examples.</li> <li>• Use of prior personal experiences and given observations to answer “What if” questions</li> <li>• Provide examples of scientific explanation and how skepticism of this principle provided further understanding</li> <li>• Provide examples of times when existing theories or scientific practices changed due to new discoveries or new technology.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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**CURRICULUM STANDARD:**

PA State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.2.7.D. Know and use the technological design process to solve problems.</p> <ul style="list-style-type: none"> <li>• Define different types of problems.</li> <li>• Define all aspects of the problem, necessary information and questions that must be answered.</li> <li>• Propose the best solution.</li> <li>• Design and propose alternative methods to achieve solutions.</li> <li>• Apply a solution.</li> <li>• Explain the results, present improvements, identify and infer the impacts of the solution.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• When given a specific technological design, brainstorm and validate various problems that may be present in the process.</li> <li>• Conduct research in order to generate possible solutions to problems.</li> <li>• Create collaboratively the best solution to a given technological design process.</li> <li>• Develop other strategies or devices to achieve success.</li> <li>• Test creations in order to best solve given situations.</li> <li>• Present in written form a conclusion and an interpretation of the entire technological design process.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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CURRICULUM STANDARD:

PA State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.7.7.A Describe the safe and appropriate use of tools, materials and techniques to answer questions and solve problems.</p> <ul style="list-style-type: none"> <li>• Identify uses of tools, machines, materials, information, people, money, energy and time that meet specific design criteria.</li> <li>• Describe safe procedures for using tools and materials.</li> <li>• Assess materials for appropriateness of use.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Use apparatuses to observe measure, move and make things</li> <li>• View and create safety guidelines for use of tools and materials, both within the classroom and outside world applications</li> <li>• Following several technological creations for a given situation, analyze and determine the most efficient tools for use.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

CONTENT: 6<sup>th</sup> Grade Science

CORE CONCEPT 1: Scientific Method

MAJOR OBJECTIVE: Recognize and use the elements of the scientific method to solve problems

**CURRICULUM STANDARD:**

PA State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.7.7.B. Use appropriate instruments and apparatus to study materials.</p> <ul style="list-style-type: none"> <li>• Select appropriate instruments to measure the size, weight, shape and temperature of living and non-living objects.</li> <li>• Apply knowledge of different measurement systems to measure and record objects' properties.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Identify appropriate instruments for a specific task and describe the information the instrument can provide.</li> <li>• Use various systems of measurement during experimental processes while also understanding the benefits and downfalls of these systems. (metric, customary)</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

CONTENT: 6<sup>th</sup> grade science

CORE CONCEPT 2: Physical Science

MAJOR OBJECTIVE: Understand the basic topic areas within the physical science field and undergo experiments to discover or enhance physical science principles

**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.2.7.B Apply process knowledge to make and interpret observations</p> <ul style="list-style-type: none"> <li>• Measure materials using a variety of scales</li> <li>• Describe relationships by making inferences and predictions.</li> <li>• Communicate, use space relationships, define operationally, raise questions, formulate hypotheses, test, and experiment.</li> <li>• Design controlled experiments, recognize variables, and manipulate variables.</li> <li>• Interpret data, formulate models, design models, and produce solutions.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Use various tools and units of measurements in order to determine given materials.</li> <li>• Group various materials due to their observed or perceived characteristics.</li> <li>• Through a variety of testing methods, determine the origin of a variety of unknown substances</li> <li>• Test various materials in given situations of controlled and uncontrolled experimental conditions.</li> <li>• Following completed testing, design methods to present and interpret data to produce answers to given situations.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

CONTENT: 6<sup>th</sup> grade science

CORE CONCEPT 3: Properties of matter

MAJOR OBJECTIVE: Identify and describe both physical and chemical properties of matter while using instruments and processes to discover these properties

CURRICULUM STANDARD:3.4 Physical Science, Chemistry and Physics

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.4.7.A Describe concepts about the structure and properties of matter.</p> <ul style="list-style-type: none"><li>Describe and conduct experiments that identify chemical and physical properties.</li><li>Describe reactants and products of simple chemical reactions.</li></ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"><li>Analyze several items and evaluate their physical properties. Ex. Aluminum, Iron, Water, Sugar, Salt etc.</li><li>Complete experiments to record the ways in which given matter reacts with other matter.</li></ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"><li>Student notebooks</li><li>Group projects</li><li>Partner projects</li><li>Individual projects</li><li>Homework</li><li>Class work</li><li>Teacher observation</li><li>Tests/Quizzes</li><li>Independent activities</li><li>Cooperative activities</li><li>Student Journals</li><li>Teacher demonstration and student observations</li><li>Student demonstrations</li><li>Oral presentations</li><li>Oral questions and answers</li><li>Worksheets</li><li>Concept Maps/graphic organizer</li><li>Diagrams</li><li>Portfolio</li><li>Rubrics</li></ul>	<p>All possible resources</p> <ul style="list-style-type: none"><li>Student textbook</li><li>Instructors textbook</li><li>Textbook resources</li><li>Instructor generated resources</li><li>Internet sites</li><li>Science videos</li><li>Laser disc presentations</li><li>Software programs</li><li>Newspapers and magazines</li><li>Cable in the Classroom</li><li>Lab materials for instructor demonstrations</li><li>Lab materials for student demonstrations</li><li>Lab materials for class activities</li><li>Library</li><li>Student developed resources</li><li>Outside presenters</li><li>Community resources</li></ul>

CONTENT: 6<sup>th</sup> grade science

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**CURRICULUM STANDARD:3.4 Physical Science, Chemistry and Physics**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.4.7.B. Relate energy sources and transfers to heat and temperature.</p> <ul style="list-style-type: none"> <li>• Identify and describe sound changes in moving objects.</li> <li>• Know that the sun is a major source of energy that emits wavelengths of visible light, infrared and ultraviolet radiation.</li> <li>• Explain the conversion of one form of energy to another by applying knowledge of each form of energy.</li> <li>• Explain the parts and functions in an electrical circuit.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Observe moving objects and describe sound changes.</li> <li>• Demonstrate an understanding of the sun’s energy, wavelengths, visible light and ultraviolet radiation.</li> <li>• Explain and apply the conversion of wind energy to electric energy through the use of turbines.</li> <li>• Describe the different types of electrical circuits and parts and the uses of these given circuits and parts.</li> <li>• Participate in the viewing of light images using convex and concave mirrors and lenses</li> <li>• Participate in the examination of several scenarios (jets, thunder) to illustrate how sound and light travel in different speeds, sizes and frequencies.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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CURRICULUM STANDARD:3.4 Physical Science, Chemistry and Physics

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.4.7.C Identify and explain the principles of force and motion</p> <ul style="list-style-type: none"> <li>• Describe the motion of an object based on its position, direction and speed</li> <li>• Classify fluid power systems according to fluid used or mode of power transmission (eg, air, oil)</li> <li>• Explain various motions using models</li> <li>• Explain how convex and concave mirrors and lens change light images.</li> <li>• Explain how sound and light travel in waves of differing speeds, sizes and frequencies.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Use characteristics such as position, direction, and speed to define the motion of an object.</li> <li>• Systemize air and oil fluids and the power systems they create, stressing benefits and pitfalls.</li> <li>• Demonstrate through the use of models various motions, and momentum changes.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

CONTENT: 6<sup>th</sup> grade science

CORE CONCEPT 4: States of matter

MAJOR OBJECTIVE: Describe characteristics of the states of matter and changes that occur in matter between these states

**CURRICULUM STANDARD:**

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<p>PA Standard 3.1.7.D                      Explain scale as a way of relating concepts and ideas to one another by some measure</p> <ul style="list-style-type: none"> <li>• Describe scale as a form of ratio and apply to a life situation.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Create representations of appropriate scale of the particles of matter in the different states of matter.(solid, liquid, gas)</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.2.7.C Identify and use the elements of scientific inquiry to solve problems.</p> <ul style="list-style-type: none"> <li>• Generate questions about objects, organisms and/or events that can be answered through scientific investigations.</li> <li>• Evaluate the appropriateness of questions.</li> <li>• Design an investigation with limited variables to investigate a question.</li> <li>• Conduct a two-part experiment.</li> <li>• Judge the significance of experimental information in answering the question.</li> <li>• Communicate appropriate conclusions from the experiment.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Brainstorm questions relating to states of matter and different everyday materials.</li> <li>• Determine which of these brainstormed questions can be tested.</li> <li>• Form an experiment used to answer questions formulated from previous questioning.</li> <li>• Participate and complete the observations of a two-part experiment.</li> <li>• Validate and confirm that discovered data solves prior questioning.</li> <li>• Analyze and present the finding from the conducted two part experiment.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

CONTENT: 6<sup>th</sup> Grade Science

CORE CONCEPT 5: Elements, Compounds, and Mixture

MAJOR OBJECTIVE: Comprehend that these are the three basic forms of matter and identify the properties and formation of these forms

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.4.7.A Describe concepts about the structure and properties of matter.</p> <ul style="list-style-type: none"> <li>• Identify elements as basic building blocks of matter that cannot be broken down chemically.</li> <li>• Distinguish compounds from mixtures.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Breakdown several items, (including sugar, aluminum, iron, and water) using heat, water, and other sources and validate experimental findings.</li> <li>• Compare and contrast properties that are the same and different between compounds and mixtures.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> </ul>

CONTENT: 6<sup>th</sup> Grade Science

CORE CONCEPT 5: Elements, Compounds, and Mixture

MAJOR OBJECTIVE: Comprehend that these are the three basic forms of matter and identify the properties and formation of these forms

**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.1.7.B Describe the use of models as an application of scientific or technological concepts.</p> <ul style="list-style-type: none"> <li>• Identify and describe different types of models and their functions.</li> <li>• Apply models to predict specific results and observations (eg, population growth, effects of infectious organisms)</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Use models to illustrate simple concepts and compare the models to what they represent.</li> <li>• Use of molecular models to describe the combining of elements.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

CONTENT: 6<sup>th</sup> grade science

CORE CONCEPT 6: Atoms and the Periodic Table

MAJOR OBJECTIVE: Understand that atoms are the smallest forms of matter that create substances with specific properties. Effectively use the periodic table and understand reasons for its arrangement and functions

**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.4.7.A Describe concepts about the structure and properties of matter.</p> <ul style="list-style-type: none"><li>• Identify elements as basic building blocks of matter that cannot be broken down chemically.</li></ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"><li>• Utilize an online periodic table to identify various elements and their periodic properties</li><li>• Recognize known elements and the atoms that make them.</li><li>• Interpret each elements atom and the properties the element possesses.</li></ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"><li>▪ Student notebooks</li><li>▪ Group projects</li><li>▪ Partner projects</li><li>▪ Individual projects</li><li>▪ Homework</li><li>▪ Class work</li><li>▪ Teacher observation</li><li>▪ Tests/Quizzes</li><li>▪ Independent activities</li><li>▪ Cooperative activities</li><li>▪ Student Journals</li><li>▪ Teacher demonstration and student observations</li><li>▪ Student demonstrations</li><li>▪ Oral presentations</li><li>▪ Oral questions and answers</li><li>▪ Worksheets</li><li>▪ Concept Maps/graphic organizer</li><li>▪ Diagrams</li><li>▪ Portfolio</li><li>▪ Rubrics</li></ul>	<p>All possible resources</p> <ul style="list-style-type: none"><li>▪ Student textbook</li><li>▪ Instructors textbook</li><li>▪ Textbook resources</li><li>▪ Instructor generated resources</li><li>▪ Internet sites</li><li>▪ Science videos</li><li>▪ Laser disc presentations</li><li>▪ Software programs</li><li>▪ Newspapers and magazines</li><li>▪ Cable in the Classroom</li><li>▪ Lab materials for instructor demonstrations</li><li>▪ Lab materials for student demonstrations</li><li>▪ Lab materials for class activities</li><li>▪ Library</li><li>▪ Student developed resources</li><li>▪ Outside presenters</li><li>▪ Community resources</li></ul>

CONTENT: 6<sup>th</sup> grade science

CORE CONCEPT 6: Atoms and the Periodic Table

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**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.2.7.A Explain and apply scientific and technological knowledge.</p> <ul style="list-style-type: none"> <li>• Explain how skepticism and technological knowledge about an accepted scientific explanation can lead to a new understanding.</li> <li>• Explain how new information may change existing theories and practice</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Provide scenarios in which students will view discoverers who refused to accept given scientific principles and continued to produce great scientific findings.</li> <li>• Discover the benefits and downfalls created by the discovery of nuclear fission</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

CONTENT: 6<sup>th</sup> grade science

CORE CONCEPT 7: Matter in Motion

MAJOR OBJECTIVE: Investigate the characteristics of motion-direction, distance, speed, acceleration

**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.4.7.C Identify and explain the principles of force and motion.</p> <ul style="list-style-type: none"> <li>• Describe the motion of an object based on its position, direction and speed.</li> <li>• Explain various motion using models</li> <li>• Explain how sound and light travel in waves of differing speeds, sizes, and frequencies.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Create and conduct experiments in order to determine the speed and velocity of objects using the formula <math>speed = distance / time</math>.</li> <li>• Recall and analyze everyday objects and the types of motion they demonstrate. (ie, amusement park rides, merry-go-rounds, washer and string, bike tires etc.)</li> <li>• Determine and describe differences between light and sound waves.</li> <li>• Observe and analyze the presence of sound waves upon a drum or using internet sound wav files.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

CONTENT: 6<sup>th</sup> grade science

CORE CONCEPT 7: Matter in Motion

MAJOR OBJECTIVE: Investigate the characteristics of motion-direction, distance, speed, acceleration

**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.6.7.C Explain physical technologies of structural design, analysis and engineering, personnel relations, financial affairs, structural production, marketing, research and design.</p> <ul style="list-style-type: none"><li>• Use knowledge of material effectiveness to solve specific construction problems (eg, steel vs. wood bridges)</li></ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"><li>• Compare and contrast the benefits and drawbacks of given construction materials for certain situations.</li></ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"><li>▪ Student notebooks</li><li>▪ Group projects</li><li>▪ Partner projects</li><li>▪ Individual projects</li><li>▪ Homework</li><li>▪ Class work</li><li>▪ Teacher observation</li><li>▪ Tests/Quizzes</li><li>▪ Independent activities</li><li>▪ Cooperative activities</li><li>▪ Student Journals</li><li>▪ Teacher demonstration and student observations</li><li>▪ Student demonstrations</li><li>▪ Oral presentations</li><li>▪ Oral questions and answers</li><li>▪ Worksheets</li><li>▪ Concept Maps/graphic organizer</li><li>▪ Diagrams</li><li>▪ Portfolio</li><li>▪ Rubrics</li></ul>	<p>All possible resources</p> <ul style="list-style-type: none"><li>▪ Student textbook</li><li>▪ Instructors textbook</li><li>▪ Textbook resources</li><li>▪ Instructor generated resources</li><li>▪ Internet sites</li><li>▪ Science videos</li><li>▪ Laser disc presentations</li><li>▪ Software programs</li><li>▪ Newspapers and magazines</li><li>▪ Cable in the Classroom</li><li>▪ Lab materials for instructor demonstrations</li><li>▪ Lab materials for student demonstrations</li><li>▪ Lab materials for class activities</li><li>▪ Library</li><li>▪ Student developed resources</li><li>▪ Outside presenters</li><li>▪ Community resources</li></ul>

CONTENT: 6<sup>th</sup> grade science

CORE CONCEPT 8: Forces of Motion

MAJOR OBJECTIVE: Experimentation with and analysis of the different forces that create motion of object and the unbalance of these forces that exist with moving objects

**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.4.7.B Relate energy sources and transfers to heat and temperature.</p> <ul style="list-style-type: none"> <li>• Explain the conversion of one form of energy to another by applying knowledge of each form of energy.</li> <li>• Classify fluid power systems according to fluid used or mode of transmission</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Use toy trucks or other objects to describe the transformation of momentum between objects.</li> <li>• Discuss the loss of motion to unseen forces such as friction and air resistance.</li> <li>• Understand the fluid system used in an automobile's brakes.</li> <li>• Discover the propulsion methods of other items such as rockets and airplanes.</li> <li>• Model various propulsion methods in a classroom lab activity.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

CONTENT: 6<sup>th</sup> grade science

CORE CONCEPT 8: Forces of Motion

MAJOR OBJECTIVE: Experimentation with and analysis of the different forces that create motion of object and the unbalance of these forces that exist with moving objects

**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.1.7C. Identify patterns as repeated processes or recurring elements in science and technology</p> <ul style="list-style-type: none"> <li>• Identify repeating structure patterns.</li> <li>• Identify and describe patterns that occur in physical systems (e.g., construction, manufacturing, transportation), informational systems and biochemical-related systems.</li> </ul>	<p>Teacher will guide students to</p> <ul style="list-style-type: none"> <li>• Recognize structure patterns in concept areas throughout the scholastic year.</li> <li>• Through analysis of physical systems, recognize and interpret patterns that are present.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

CONTENT: 6<sup>th</sup> grade science  
 CORE CONCEPT 9: PA Resources

MAJOR OBJECTIVE: Identify various resources found in PA, while analyzing the methods of harvesting, production, and consumer usage of these resources.

**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.1.7 A.            Explain the parts of a simple system and their relationship to each other.</p> <ul style="list-style-type: none"> <li>• Describe a system as a group of related parts that work together to achieve a desired result (e.g., digestive system).</li> <li>• Explain the importance of order in a system.</li> <li>• Distinguish between system inputs, system processes and system outputs.</li> <li>• Distinguish between open loop and closed loop systems.</li> <li>• Apply systems analysis to solve problems.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Analyze the parts of a system and the ways it contributes to the creation of a working unit</li> <li>• Describe how a system is related to the importance of order in the same system.</li> <li>• Compare and contrast inputs, processes, and outputs in a system.</li> <li>• Utilize examples of open and closed systems in a compare and contrast activity.</li> <li>• Develop an experiment involving system analysis to solve problems.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

CONTENT: 6<sup>th</sup> grade science

CORE CONCEPT 9: PA Resources

MAJOR OBJECTIVE: Identify various resources found in PA, while analyzing the methods of harvesting, production, and consumer usage of these resources.

**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.1.7 B Describe the use of models as an application of scientific or technological concepts.</p> <ul style="list-style-type: none"> <li>• Apply models to predict specific results and observations (e.g., population growth, effects of infectious organisms).</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Use models to foreshadow experimental results and scientific observation.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

CONTENT: 6<sup>th</sup> grade science  
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**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.2.7.A            Know that raw materials come from natural resources.</p> <ul style="list-style-type: none"> <li>• Identify resources used to provide humans with energy, food, housing and water.</li> <li>• Explain how plants and animals may be classified as natural resources.</li> <li>• Compare means of growing or acquiring food.</li> <li>• Identify fiber and other raw materials used in clothing and shelter production.</li> <li>• Identify types of minerals and fossil fuels used by humans.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• List and examine the resources used to provide humans with energy, food, housing and water.</li> <li>• Discuss and investigate the different PA plants and animals that are natural resources.</li> <li>• Analyze the different methods to grow and harvest food.</li> <li>• Understand clothing and shelter production and the different raw materials that are used.</li> <li>• List the several types of fossil fuels and minerals used by humans</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

CONTENT: 6<sup>th</sup> grade science

CORE CONCEPT 9: PA Resources

MAJOR OBJECTIVE: Identify various resources found in PA, while analyzing the methods of harvesting, production, and consumer usage of these resources.

**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.2.7.B Examine the renewability of resources.</p> <ul style="list-style-type: none"> <li>• Identify renewable resources and describe their uses.</li> <li>• Identify nonrenewable resources and describe their uses.</li> <li>• Compare finished products to their original raw material.</li> <li>• Identify the waste derived from the use of renewable and nonrenewable resources.</li> <li>• Determine how consumption may impact the availability of resources.</li> <li>• Compare the time spans of renewability for fossil fuels and alternative fuels.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Discover PA’s renewable natural resources and the ways we currently (or will) use them. (trees, water, wind, etc)</li> <li>• Discover PA’s nonrenewable resources and the ways we currently (or will) use them. (natural gas, coal, shale oil etc)</li> <li>• Recognize natural resources used to make given finished products.</li> <li>• Determine waste products created by the use of PA’s natural resources.</li> <li>• Understand the limited resources found in PA and the result of the use of these resources.</li> <li>• Discover the time periods to form fossil fuels and new alternative fuels. Furthermore, comparing these time spans and the effect resource usage will have.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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CORE CONCEPT 9: PA Resources

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CURRICULUM STANDARD:			
State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.2.7.C Explain natural resource distribution.</p> <ul style="list-style-type: none"> <li>• Distinguish between readily available and less accessible resources.</li> <li>• Identify the locations of different concentrations of fossil fuels and mineral resources.</li> <li>• Analyze the effects of management practices on air, land and water in forestry, agriculture, fisheries, wildlife, mining and food and fiber production that is unique to different climates.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• List several resources and label them as available or less accessible while discussing reasons for their labels.</li> <li>• Discover and discuss the geographically local fossil fuels and mineral resources.</li> <li>• Compare and contrast the consequences of different management practices on our PA's valuable natural resources.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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CORE CONCEPT 9: PA Resources

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**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.2.7.D Describe the role of recycling and waste management.</p> <ul style="list-style-type: none"> <li>• Identify materials that can be recycled in the community.</li> <li>• Explain the process of closing the loop in recycling.</li> <li>• Compare the decomposition rates of different organic materials.</li> <li>• Describe methods that could be used to reuse materials for new products.</li> <li>• Evaluate the costs and benefits of disposable products.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Pinpoint the waste materials in our households and local community that could be recycled</li> <li>• Clarify the recycling process and stress the closing of the loop in recycling.</li> <li>• Identify the organic materials and paralleling their decomposition rates.</li> <li>• Depict the ways to produce innovative products from already used resources.</li> <li>• Compare and contrast the positives of disposable items.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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 CORE CONCEPT 9: PA Resources

MAJOR OBJECTIVE: Identify various resources found in PA, while analyzing the methods of harvesting, production, and consumer usage of these resources.

CURRICULUM STANDARD:			
State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
PA Standard 4.3.7.C Explain biological diversity. <ul style="list-style-type: none"> <li>• Explain the complex, interactive relationships among members of an ecosystem.</li> <li>• Explain how diversity affects ecological integrity of the natural resources.</li> </ul>	Teacher will guide students to: <ul style="list-style-type: none"> <li>• Identify and describe the various members within an ecosystem and the ways they interact for the benefit of the system.</li> <li>• Expand upon the impact of biodiversity on the value of natural resources</li> </ul>	Teacher evaluation of: <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	All possible resources <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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CORE CONCEPT 9: PA Resources

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State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.3.7.A Describe the similarities and differences that characterize diverse living things.</p> <ul style="list-style-type: none"> <li>• Describe how the structures of living things help them function in unique ways.</li> <li>• Explain how to use a dichotomous key to identify plants and animals.</li> <li>• Account for adaptations among organisms that live in a particular environment.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Analyze the different adaptations created by plants and animals for species survival.</li> <li>• Distinguish difference between coniferous and deciduous trees through use of a dichotomous key.</li> <li>• Rationalize the reasons for given adaptations within specific environments with certain conditions.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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 CORE CONCEPT 9: PA Resources

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**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.3.7.C            Know that every organism has a set of genetic instructions that determines its inherited traits.</p> <ul style="list-style-type: none"> <li>• Identify and explain inheritable characteristics.</li> <li>• Identify that the gene is the basic unit of inheritance.</li> <li>• Identify basic patterns of inheritance (e.g., dominance, recessive, co-dominance).</li> <li>• Describe how traits are inherited.</li> <li>• Distinguish how different living things reproduce (e.g., vegetative budding, sexual).</li> <li>• recognize that mutations can alter a gene.</li> <li>• Describe how selective breeding, natural selection and genetic technologies can change genetic makeup of organisms.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Discover the inheritable characteristics and interpretation of these characteristics.</li> <li>• Understand the concept of inheritance and the basis of this is the genetic unit.</li> <li>• Distinguish patterns within dominant, recessive, and co dominant traits.</li> <li>• Describe the passing on of traits from one generation to the next.</li> <li>• Differentiate reproduction methods of living things.</li> <li>• Understand and sample of different mutations and genetic alterations.</li> <li>• Represent the concepts of natural selection, and genetic technology in relationship to the development of organisms over time.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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<p>PA Standard 3.3.7.B            Describe the cell as the basic structural and functional unit of living things.</p> <ul style="list-style-type: none"> <li>• Identify the levels of organization from cell to organism.</li> <li>• Compare life processes at the organism level with life processes at the cell level.</li> <li>• Explain that cells and organisms have particular structures that underlie their functions.</li> <li>• Describe and distinguish among cell cycles, reproductive cycles and life cycles.</li> <li>• Explain disease effects on structures or functions of an organism.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Depict and illustrate the development of a living organism from its basic units (cells) up to its fully function state of a living organism.</li> <li>• Describe and distinguish osmosis, diffusion, cell respiration, and waste elimination with in cells and similar process at the organism level.</li> <li>• Identify and illustrate the parts of the cell and define the jobs of these parts within the cell.</li> <li>• Understand the similarities and differences between given cycles (reproductive, life, and cell)</li> <li>• Construe that the improper working of structures within an organism are often the result of disease.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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<p>PA Standard 3.5.7.D            Explain the behavior and impact of the earth's water systems.</p> <ul style="list-style-type: none"> <li>• Explain the water cycle using the processes of evaporation and condensation.</li> <li>• Describe factors that affect evaporation and condensation.</li> <li>• Distinguish salt from fresh water (e.g., density, electrical conduction).</li> <li>• Compare the effect of water type (e.g., polluted, fresh, salt water) and the life contained in them.</li> <li>• Identify ocean and shoreline features, (e.g., bays, inlets, spit, tidal marshes)</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Utilize the terms condensation, evaporation, precipitation, and transpiration to illustrate the water cycle.</li> <li>• Analyze evaporation and condensation and the conditions that affect both.</li> <li>• Compare the physical properties of fresh and salt water.</li> <li>• Conduct experimental sampling of the biodiversity found in various water types.</li> <li>• View the Chesapeake Bay Estuary and locate and describe various shoreline features.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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<p>PA Standard 4.4.7.A            Explain society's standard of living in relation to agriculture.</p> <ul style="list-style-type: none"> <li>• Compare and contrast agricultural changes that have been made to meet society's needs.</li> <li>• Compare and contrast how animals and plants affect agricultural systems.</li> <li>• Compare several technological advancements and their effect(s) on the historical growth of agriculture.</li> <li>• Compare different environmental conditions related to agricultural production, cost and quality of the product.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Determine the value of agriculture in relation to the advancement of mankind.</li> <li>• Identify various local plants and animals the impact the growing or production of agricultural products.</li> <li>• Create a timeline demonstrating different agricultural machines and methods.</li> <li>• Analyze local produce prices and created fictional scenarios and the affect upon economical prices.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.4.7.B Investigate how agricultural science has recognized the various soil types found in Pennsylvania.</p> <ul style="list-style-type: none"> <li>• Explain the importance of particle sizes in different soil types.</li> <li>• Determine how water has influenced the development of Pennsylvania soil types.</li> <li>• Investigate how soil types have influenced the plant types used on Pennsylvania farms.</li> <li>• Analyze how soil types and geographic regions have impacted the profitability of Pennsylvania farms.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Interpret the value of clay, sand, silt, and gravel in soil.</li> <li>• Understand the role of water in the formation of various PA soil types.</li> <li>• Find the correlation between produce and feed grown in PA and the soil found here.</li> <li>• Identify the factors that have created agriculture as one of our leading industries in PA.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

CONTENT: 6<sup>th</sup> grade science

CORE CONCEPT 9: PA Resources

MAJOR OBJECTIVE: Identify various resources found in PA, while analyzing the methods of harvesting, production, and consumer usage of these resources.

**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.4.7.C            Explain agricultural systems' use of natural and human resources.</p> <ul style="list-style-type: none"> <li>• Analyze the needs of plants and animals as they relate to climate and soil conditions.</li> <li>• Identify the plants and animals that can be raised in the area and explain why.</li> <li>• Identify natural resources necessary for agricultural systems.</li> <li>• Compare the need for crop production to the need for animal production.</li> <li>• Define issues associated with food and fiber production.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Use PA soil survey to determine types of plants and animals that thrive in given soils.</li> <li>• Analyze and interpret reasons given plants and animals thrive in our local agricultural geographical area.</li> <li>• Understand different agricultural systems and the resources required to sustain that system.</li> <li>• Distinguish importance of crop production vs. animal production and their relationship with one another.</li> <li>• Interpret residual effects of the production of food and fiber.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

CONTENT: 6<sup>th</sup> grade science  
 CORE CONCEPT 9: PA Resources

MAJOR OBJECTIVE: Identify various resources found in PA, while analyzing the methods of harvesting, production, and consumer usage of these resources.

**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.4.7.D            Explain the improvement of agricultural production through technology.</p> <ul style="list-style-type: none"> <li>• Compare the technologies that have advanced agricultural production.</li> <li>• Explain how energy sources have changed to meet agricultural technology</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• View agriculture as a economical industry and analyze technological changes that have advanced this business.</li> <li>• Describe the changes that have occurred in agricultural technology and sources of energy needed to complete these industries processes.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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CORE CONCEPT 9: PA Resources

MAJOR OBJECTIVE: Identify various resources found in PA, while analyzing the methods of harvesting, production, and consumer usage of these resources.

**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.8.7.A Describe how the development of civilization relates to the environment.</p> <ul style="list-style-type: none"> <li>• Explain how people use natural resources in their environment.</li> <li>• Locate and identify natural resources in different parts of the world.</li> <li>• Compare and contrast how people use natural resources throughout the world.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Self-evaluate the use of local natural resources and predict ways other geographical locations use their resources.</li> <li>• Research and present information on different geographical locations and their resources.</li> <li>• Compare and Contrast different environmental climates and locations and the use of resources within them by inhabitants.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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CORE CONCEPT 9: PA Resources

MAJOR OBJECTIVE: Identify various resources found in PA, while analyzing the methods of harvesting, production, and consumer usage of these resources.

**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.8.7.B Explain how people use natural resources.</p> <ul style="list-style-type: none"> <li>• Describe how natural resources are used for survival.</li> <li>• Explain how natural resources and technological changes have affected the development of civilizations.</li> <li>• Explain how climate and extreme weather events (e.g., drought, flood) influence people's lives.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Demonstrate survival techniques and the resources needed in order to achieve success.</li> <li>• View past civilization and understand the key technological advancements that spurred civilizations and the problems they erased.</li> <li>• Evaluate the environmental, economical, and social results of extreme weather while discovering downfalls and benefits that arise.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.8.7.C Explain how human activities may affect local, regional and national environments.</p> <ul style="list-style-type: none"> <li>• Describe what effect consumption and related generation of wastes have on the environment.</li> <li>• Explain how a particular human activity has changed the local area over the years.</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Depict the future of the world or environment with continued resource use and waste development.</li> <li>• Research native local environment and contrasting human changes that have produced present environmental characteristics.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.8.7.D            Explain the importance of maintaining the natural resources at the local, state and national levels.</p> <ul style="list-style-type: none"> <li>• Explain how human activities and natural events have affected ecosystems.</li> <li>• Explain how conservation practices have influenced ecosystems.</li> <li>• Define the roles of Pennsylvania agencies that deal with natural resources</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Analyze different selected ecosystems and the natural events and human influences that have created them.</li> <li>• Discover the beneficial ways agencies have promoted conservation and its effect on ecosystems.</li> <li>• Identify PA’s natural resources and investigate the agencies responsible for protection of these resources.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

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**CURRICULUM STANDARD:**

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.9.7.A            Explain the role of environmental laws and regulations.</p> <ul style="list-style-type: none"> <li>• Identify and explain environmental laws and regulations (e.g., Clean Air Act, Clean Water Act, Recycling and Waste Reduction Act, Act 26 on Agricultural Education).</li> <li>• Explain the role of local and state agencies in enforcing environmental laws and regulations (e.g., Department of Environmental Protection, Department of Agriculture, Game Commission).</li> </ul>	<p>Teacher will guide students to:</p> <ul style="list-style-type: none"> <li>• Become acquainted with examples of environmental protections that impact our local natural resources and the reasons for these protections.</li> <li>• Investigate government agencies responsible for enforcement of existing laws and regulations pertaining to our natural resources.</li> </ul>	<p>Teacher evaluation of:</p> <ul style="list-style-type: none"> <li>▪ Student notebooks</li> <li>▪ Group projects</li> <li>▪ Partner projects</li> <li>▪ Individual projects</li> <li>▪ Homework</li> <li>▪ Class work</li> <li>▪ Teacher observation</li> <li>▪ Tests/Quizzes</li> <li>▪ Independent activities</li> <li>▪ Cooperative activities</li> <li>▪ Student Journals</li> <li>▪ Teacher demonstration and student observations</li> <li>▪ Student demonstrations</li> <li>▪ Oral presentations</li> <li>▪ Oral questions and answers</li> <li>▪ Worksheets</li> <li>▪ Concept Maps/graphic organizer</li> <li>▪ Diagrams</li> <li>▪ Portfolio</li> <li>▪ Rubrics</li> </ul>	<p>All possible resources</p> <ul style="list-style-type: none"> <li>▪ Student textbook</li> <li>▪ Instructors textbook</li> <li>▪ Textbook resources</li> <li>▪ Instructor generated resources</li> <li>▪ Internet sites</li> <li>▪ Science videos</li> <li>▪ Laser disc presentations</li> <li>▪ Software programs</li> <li>▪ Newspapers and magazines</li> <li>▪ Cable in the Classroom</li> <li>▪ Lab materials for instructor demonstrations</li> <li>▪ Lab materials for student demonstrations</li> <li>▪ Lab materials for class activities</li> <li>▪ Library</li> <li>▪ Student developed resources</li> <li>▪ Outside presenters</li> <li>▪ Community resources</li> </ul>

V. EXPECTED LEVELS OF ACHIEVEMENT

A. Students are expected to reach the sixth grade level of achievement in science. These skills include all of those noted in the specific content area of this curriculum.

B. Grading system for all sixth grade science classes is as follows:

Grading Scale	
A	90-100
B	80-89
C	70-79
D	60-69
F	0-59

C. Each student's grade will be determined at the conclusion of each marking period. Progress reports will be issued for students scoring below 70% at the mid-way point of each marking period.