

PLANNED COURSE

SUBJECT AREA: Environment and Ecology

GRADE/COURSE: 4

Standard And Strand 4.1 Watersheds and Wetlands

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>A. Identify various types of water environments.</p> <p>B. Explain the difference between moving and still water.</p> <p>C. Identify living things found in water environments.</p>	<p>Identify the lotic system (e.g. creeks, rivers, streams).</p> <p>Identify the lentic system (e.g. ponds, lakes, swamps).</p> <p>Explain why water moves or does not move.</p> <p>Explain types of precipitation.</p> <p>Identify fish, insects and amphibians that are found in fresh water.</p> <p>Identify plants found in fresh water.</p>	<p>Student models</p> <p>Projects</p> <p>Activities</p> <p>Tests</p> <p>Teacher observation</p> <p>Student reports</p> <p>Student demonstrations</p> <p>Student posters</p> <p>Student explanations</p>

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>D. Identify a wetland and the plants and animals found there.</p> <p>E. Recognize the impact of watersheds and wetlands on animals and plants.</p>	<p>Identify different kinds of wetlands.</p> <p>Identify plants and animals found in wetlands.</p> <p>Explain wetlands as habitats for plants and animals.</p> <p>Explain the role of watersheds in everyday life.</p> <p>Identify the role of watersheds and wetlands for plants and animals.</p>	<p>Teacher observations</p> <p>Tests</p> <p>Models</p> <p>Activities</p> <p>Student reports</p> <p>Models</p> <p>*More specific assessments will be designed upon purchase of new science materials.</p>

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>C. Know that some natural resources have limited life spans.</p> <p>D. Identify by products and their use of natural resources.</p>	<p>Identify renewable and non renewable resources used in the local community.</p> <p>Identify various means of conserving natural resources.</p> <p>Know that natural resources have varying life spans.</p> <p>Understand the waste stream.</p> <p>Identify those items that can be recycled and those that cannot.</p> <p>Identify use of reusable products.</p> <p>Identify the use of compost, landfills and incinerators.</p>	<p>Student demonstrations</p> <p>Models</p> <p>Reports</p> <p>Tests</p> <p>Discussion</p> <p>Activities</p> <p>*More specific assessments will be designed upon purchase of new science materials.</p>

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Standard And Strand 4.3 Environmental Health

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
A. Know that plants, animals and humans are dependent on air and water.	Know that all living things need air and water to survive. Describe potentially dangerous pest controls in the home. Identify things that cause sickness when put into the air, water or soil. Identify different areas where health can be affected by air, water or land pollution. Identify actions that can prevent or reduce waste pollution.	Posters Projects Demonstrations Tests Activities *More specific assessments will be designed upon purchase of new science materials.

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>B. Identify how human actions affect environmental health.</p> <p>C. Understand that the elements of natural systems are interdependent.</p>	<p>Identify pollutants.</p> <p>Identify sources of pollution.</p> <p>Identify litter and its effect on the environment.</p> <p>Describe how people can reduce pollution.</p> <p>Identify some of the organisms that live together in an ecosystem.</p> <p>Understand that the components of a system all play a part in a healthy natural system.</p> <p>Identify the effects of a healthy environment on the ecosystem.</p>	<p>Projects</p> <p>Demonstrations</p> <p>Discussions</p> <p>Observations</p> <p>*More specific assessments will be designed upon purchase of new science materials.</p>

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Standard And Strand 4.4 Agriculture and Society

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
A. Know the importance of agriculture to humans. B. Identify the role of the sciences in Pennsylvania agriculture.	Identify people's basic needs. Explain the influence of agriculture on food, clothing, shelter and culture from one area to another. Know how people depend on agriculture. Identify common animals found on Pennsylvania farms. Identify common plants found on Pennsylvania farms. Identify the parts of important agricultural related plants. Identify a fiber product from Pennsylvania farms.	Tests Reports Models Student activities Demonstrations *More specific assessments will be designed upon purchase of new science materials.

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>C. Know that food and fiber originate from plants and animals.</p> <p>D. Identify technology and energy use associated with agriculture.</p>	<p>Define and identify food and fiber.</p> <p>Identify what plants and animals need to grow.</p> <p>Identify agricultural products that are local and regional.</p> <p>Describe the journey of a local agricultural product from production to the consumer.</p> <p>Identify the various tools and machinery necessary for farming.</p> <p>Identify the types of energy used in producing food and fiber.</p> <p>Identify tools and machinery used in the production of agricultural products.</p>	<p>Class discussion.</p> <p>Student reports</p> <p>Teacher observation</p> <p>Tests</p> <p>Discussions</p> <p>Reports</p> <p>Models</p> <p>*More specific assessments will be designed upon purchase of new science materials.</p>

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Standard And Strand 4.5 Integrated Pest Management

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>A. Know types of pests.</p> <p>B. Explain pest control.</p> <p>C. Understand society’s need for integrated pest management.</p>	<p>Identify classification of pests.</p> <p>Identify and categorize pests.</p> <p>Know how pests fit into the food chain.</p> <p>Know reasons why people control pests.</p> <p>Identify different methods for controlling specific pests in the home, school and community.</p> <p>Identify chemical labels (e.g. caution, poison, warning).</p> <p>Identify pest management practices in the home.</p> <p>Identify integrated pest management practices outside the home.</p>	<p>Teacher observation</p> <p>Class discussions</p> <p>Class work</p> <p>Student performance</p> <p>Discussions</p> <p>Reports</p> <p>*More specific assessments will be designed upon purchase of new science materials.</p>

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Standard And Strand 4.6 Ecosystems and Their Interactions

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
A. Understand that living things are dependent on nonliving things in the environment for survival.	Identify and categorize living and nonliving things. Describe the basic needs of an organism. Identify basic needs of a plant and an animal and explains how their needs are met. Identify plants and animals with their habitat and food sources. Identify environmental variables that affect plant growth. Describe how animals interact with plants to meet their needs for shelter. Describe how certain insects interact with soil for their needs.	Student demonstrations Reports Projects Tests *More specific assessments will be designed upon purchase of new science materials.

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>B. Understand the concept of cycles.</p> <p>C. Identify how ecosystems change over time.</p>	<p>Understand the components of a food chain.</p> <p>Identify a local ecosystem and its living and nonliving components.</p> <p>Identify a simple ecosystem and its living and non living components.</p> <p>Identify common soil textures.</p> <p>Identify animals that live underground.</p> <p>Explain the water cycle.</p> <p>Explain the carbon dioxide/oxygen cycle (photosyntheses).</p> <p>Describe how ecosystems change.</p>	<p>Teacher observation</p> <p>Student discussions</p> <p>Projects</p> <p>*More specific assessments will be designed upon purchase of new science materials.</p>

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Standard And Strand 4.7 Threatened, Endangered and Extinct Species

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>A. Identify differences in living things.</p> <p>B. Know that adaptations are important for survival.</p>	<p>Explain why plants and animals are different colors, sizes and shapes and how these differences relate to their survival.</p> <p>Identify characteristics that living things inherit from their parents.</p> <p>Explain why each of the four elements in a habitat is essential for survival.</p> <p>Identify local plants or animals and describe their habitat.</p> <p>Explain how specific adaptations can help a living organism to survive.</p> <p>Explain what happens to a living thing when its food, water, shelter or living space is changed.</p>	<p>Student demonstrations</p> <p>Reports</p> <p>Student discussion</p> <p>Teacher observation</p> <p>*More specific assessments will be designed upon purchase of new science materials.</p>

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
C. Define and understand extinction.	<p>Identify plants and animals that are extinct.</p> <p>Explain why some plants and animals are extinct.</p> <p>Know that there are local and state laws regarding plants and animals.</p>	<p>Teacher observations</p> <p>Class discussions</p> <p>Projects</p> <p>*More specific assessments will be designed upon purchase of new science materials.</p>

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Standard And Strand 4.8 Humans and Environment

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
A. Identify the biological requirements of humans. B. Know that environmental conditions influence where and how people live. C. Explain how human activity may change the environment.	Explain how a dynamically changing environment provides sustainability of living systems. Identify several ways that people use natural resources. Identify how regional natural resources influence what people use. Identify everyday human activities and how they affect the environment. Identify examples of how human activities within a community affect the natural resources	Classroom discussions Tests Teacher observation Student reports *More specific assessments will be designed upon purchase of new science materials.

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
D. Know the importance of natural resources in daily life.	<p>Identify items used in daily life that come from natural resources.</p> <p>Identify ways to conserve our natural resources.</p> <p>Identify major land uses in the community.</p>	<p>Class discussions</p> <p>Teacher observations</p>

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Standard And Strand 4.9 Environmental Laws and Regulations

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
A. Know that there are laws and regulations for the environment.	Identify local and state laws and regulations regarding the environment. Explain how the recycling law impacts the school and home. Identify and describe the role of a local or state agency that deals with environmental laws and regulations.	Student discussions Projects Reports *More specific assessments will be designed upon purchase of new science materials.