

CARLISLE AREA SCHOOL DISTRICT
Carlisle, PA 17013

ELEMENTARY SCIENCE

GRADE 2

Date of Board Approval: May 21, 2009
Revised Date: January 19, 2012

CARLISLE AREA SCHOOL DISTRICT

PLANNED INSTRUCTION COVER PAGE

Title of Course: Science Subject Area: Science Grade Level: Second
Course Length: (Semester/Year): Year Duration: _____ Frequency: _____
Prerequisites: Not Applicable Credit: Not Applicable Level: Not Applicable

Course Description/Objectives: The district shall provide for attainment of the academic standards per Chapter 4, Section 4.12. Each student shall demonstrate proficiency in the following areas: unifying themes; inquiry and design; biological sciences; physical science, chemistry and physics; earth sciences; technology education; science, technology and human endeavors; watersheds and wetlands, renewable and non-renewable resources; environmental health; agriculture and society; integrated pest management; ecosystems and their interactions; threatened, endangered and extinct species; humans and the environment; and, environmental always and regulations.

Major Text(s)/Resources:

Curriculum Writing Committee: Cindy Birdwell Bonnie Mehls Deb Them Traci Brunner
Michelle Nye Heather Luckenbaugh Yvette Reidy Megan Baitzel Allison Shughart
D. Bailor Karen Lyter Rachel Placek Sherry Mann Kim Walters

Unit: Scientific Inquiry	Subject Area: Science	Grade: 2
PA Academic Standards	Performance Indicators	Assessments
3.2A Identify and use the nature of scientific and technological knowledge.	<ul style="list-style-type: none"> • Distinguish between a scientific fact and an opinion. • Describe observations and explain results. 	
3.2C Recognize and use the elements of scientific inquiry to solve problems.	<ul style="list-style-type: none"> • List questions before an experiment that can be explained through use of scientific investigations. • Understand that scientists use – Like scientific method to find answers to questions 	
3.2C Recognize and use the elements of scientific inquiry to solve problems.	<ul style="list-style-type: none"> • Conduct a class experiment, record observations and, state conclusions, using inquiry skills. 	

Unit: Animals	Subject Area: Science	Grade: 2
PA Academic Standards	Performance Indicators	Assessments
3.1C Illustrate patterns that regularly occur and reoccur in nature.	<ul style="list-style-type: none"> Label the observable patterns of the life cycle of butterflies and frogs. 	
3.1E Recognize change in natural and physical systems.	<ul style="list-style-type: none"> Observe and report the metamorphosis process of the butterfly over time. 	
3.3A Know the similarities and differences of living things.	<ul style="list-style-type: none"> Compare and contrast life processes of reptiles, amphibians (frogs) and arthropods (butterflies) 	
3.3A Know the similarities and differences of living things.	<ul style="list-style-type: none"> Compare and contrast the different characteristics of arthropods, reptiles and amphibians. (e.g., appendages, type of covering, body segments). 	
3.3A Know the similarities and differences of living things.	<ul style="list-style-type: none"> List the basic needs of animals. 	

Unit: Animals	Subject Area: Science	Grade: 2
PA Academic Standards	Performance Indicators	Assessments
4.3A Know that plants, animals and humans are dependent on air and water.	<ul style="list-style-type: none"> Describe why animals need water, air, food and shelter. 	
4.5A Know types of pests.	<ul style="list-style-type: none"> Classify insects as helpful or harmful. 	
4.6A Understand that living things are dependent on nonliving things in the environment for survival.	<ul style="list-style-type: none"> List the basic needs of an animal and explain how its needs are met. 	
4.6A Understand that living things are dependent on nonliving things in the environment for survival.	<ul style="list-style-type: none"> Identify animals with their habitat. 	

Unit: Water	Subject Area: Science	Grade: 2
PA Academic Standards	Performance Indicators	Assessments
3.5A Know basic landforms and Earth history.	<ul style="list-style-type: none"> Describe erosion and what effects water has on basic landforms. 	
3.5D Recognize the earth's different water resources.	<ul style="list-style-type: none"> Report that approximately 70-75% of the earth is covered by water. Classify examples of water in the form of solid, liquid and gas on or near the surface of the earth. 	
3.5D Recognize the earth's different water resources.	<ul style="list-style-type: none"> Explain and illustrate evaporation and condensation. 	
4.1A Identify various types of water environments.	<ul style="list-style-type: none"> Identify a creek, river or stream as moving water. Identify ponds, lakes and swamps as still water. 	
4.6B Understand the concept of cycles.	<ul style="list-style-type: none"> Develop an illustration of the water cycle. Describe the water cycle. Understand the water cycle is a process in which water is constantly changing forms. 	

Unit: Weather	Subject Area: Science	Grade: 2
PA Academic Standards	Performance Indicators	Assessments
3.1A Know that natural and human-made objects are made up of parts.	<ul style="list-style-type: none"> Discuss how weather patterns move west to east across the United States. 	
3.1C Illustrate patterns that regularly occur and reoccur in nature.	<ul style="list-style-type: none"> Predict the weather pattern using observations during a given time period. Understand weather patterns can be observed, measured and described. 	
3.1E Recognize change in natural and physical systems.	<ul style="list-style-type: none"> Describe the change to objects caused by heat, cold and light (evaporation and condensation). 	
3.5C Know basic weather elements.	<ul style="list-style-type: none"> Identify cloud types and create an example for each. (cumulus, cumulonimbus, stratus and cirrus). 	
3.5C Know basic weather elements.	<ul style="list-style-type: none"> Recognize weather patterns from data charts (including temperature, precipitation and graphs of the data.) 	

Unit: Weather	Subject Area: Science	Grade: 2
PA Academic Standards	Performance Indicators	Assessments
3.7B Select appropriate instruments to study materials.	<ul style="list-style-type: none"> • Develop a graph to record temperature and rain. • Read a thermometer and rain gauge. 	
3.7B Select appropriate instruments to study materials.	<ul style="list-style-type: none"> • Select appropriate instruments for specific weather measurements. (Thermometer, rain gauge, weather vane, anemometer and barometer) 	
4.1B Explain the differences between moving and still water.	<ul style="list-style-type: none"> • List types of precipitation. (rain, snow, sleet, hail, drizzle, thunder and lightning) • List extreme weather (tornadoes, hurricanes, blizzards, floods) 	

Unit: Environment	Subject Area: Science	Grade: 2
PA Academic Standards	Performance Indicators	Assessments
3.2D Recognize and use the technological design process to solve problems.	<ul style="list-style-type: none"> Recognize and give examples of basic pollution problems. List possible solutions to pollution problems. 	
3.2D Recognize and use the technological design process to solve problems.	<ul style="list-style-type: none"> Create a solution for a pollution problem. Describe the solution and identify its impacts. 	
4.2C Know that some natural resources have limited life spans.	<ul style="list-style-type: none"> List or display various means of conserving natural resources (reduce, reuse, recycle). 	
4.2D Identify by-products and their use of natural resources.	<ul style="list-style-type: none"> Identify items that can be recycled and those that cannot. Give examples of reusable products. 	
4.3B Identify how human actions affect environmental health.	<ul style="list-style-type: none"> Define pollutants. Identify sources of pollution. Identify litter and its effect on the environment. 	

Unit: Environment	Subject Area: Science	Grade: 2
PA Academic Standards	Performance Indicators	Assessments
4.3B Identify how human actions affect environmental health.	<ul style="list-style-type: none"> Understand that pollution harms our environment and can be prevented. 	

Unit: Environment	Subject Area: Science	Grade: 2
PA Academic Standards	Performance Indicators	Assessments
4.3A Know that plants, animals and humans are dependent on air and water.	<ul style="list-style-type: none"> Describe how people can reduce pollution. 	

Unit: Agriculture	Subject Area: Science	Grade: 2
PA Academic Standards	Performance Indicators	Assessments
3.1A Know that natural and human-made objects are made up of parts.	<ul style="list-style-type: none"> • Restate the process of how milk gets from the cow to the table. 	
3.6A Know that biotechnologies relate to propagating, growing, maintaining, adapting, treating and converting.	<ul style="list-style-type: none"> • Give examples of agricultural and industrial production processes that involve plants and animals. (milk-cow to table/ crops field-table) 	
4.2B Identify products derived from natural resources.	<ul style="list-style-type: none"> • Give examples of products made from trees. • Classify by-products of plants and animals. 	
4.4A Know the importance of agriculture to humans.	<ul style="list-style-type: none"> • Discuss people's basic needs. • Define agriculture as – the science and business of cultivating soil, producing crops and raising livestock; example farming. 	
4.4A Know the importance of agriculture to humans.	<ul style="list-style-type: none"> • Compare and contrast the different uses of agriculture on food, clothing, shelter and culture from one area to another. (e.g., Amish vs. us) 	

Unit: Agriculture	Subject Area: Science	Grade: 2
PA Academic Standards	Performance Indicators	Assessments
4.4A Know the importance of agriculture to humans.	<ul style="list-style-type: none"> • Discuss how people depend on agriculture. • Understand that we depend on agriculture to meet our basic needs. 	
4.4C Know that food and fiber originate from plants and animals.	<ul style="list-style-type: none"> • Arrange the steps of the journey of a local agricultural product from production to the consumer. (milk-cow to table) 	
4.5A Know types of pests.	<ul style="list-style-type: none"> • Discuss why certain insects are helpful or harmful to crops. 	

Unit: Properties of Matter	Subject Area: Science	Grade: 2
PA Academic Standards	Performance Indicators	Assessments
3.4 A Recognize basic concepts about the structure and properties of matter.	<ul style="list-style-type: none"> Give examples of properties of matter (e.g., shapes, size, color, texture, state). 	
3.4 A Recognize basic concepts about the structure and properties of matter.	<ul style="list-style-type: none"> Conduct a class experiment to show that matter can be mixed to form a new product. Recognize that matter can be mixed with little or no change and record results. 	
3.4 A Recognize basic concepts about the structure and properties of matter.	<ul style="list-style-type: none"> Conduct a class experiment to show that matter can be mixed with little or no change. Recognize that matter can be mixed to form a new product and record results. 	

Adaptations/Modifications for Students with I.E.P.s

Adaptations or modifications to this planned course will allow exceptional students to earn credits toward graduation or develop skills necessary to make a transition from the school environment to community life and employment. The I.E.P. team has determined that modifications to this planned course will meet the student's I.E.P. needs.

Adaptations/Modifications may include but are not limited to:

INSTRUCTION CONTENT

- Modification of instructional content and/or instructional approaches
- Modification or deletion of some of the essential elements

SETTING

- Preferential seating

METHODS

- Additional clarification of content
- Occasional need for one to one instruction
- Minor adjustments or pacing according to the student's rate of mastery
- Written work is difficult, use verbal/oral approaches
- Modifications of assignments/testing
- Reasonable extensions of time for task/project completion
- Assignment sheet/notebook
- Modified/adjusted mastery rates
- Modified/adjusted grading criteria
- Retesting opportunities

MATERIALS

- Supplemental texts and materials
- Large print materials for visually impaired students
- Outlines and/or study sheets
- Carbonless notebook paper
- Manipulative learning materials
- Alternatives to writing (tape recorder/calculator)