Course Title: Science – Grade 1
Board Approval Date: 3/18/12
Credit / Hours: NA

Course Description:

This course focuses on laying the foundation toward mastery of the PA Academic Standards for Science and Technology, as well as Environment and Ecology. As students progress through this course they will participate in a systematic study of how weather affects our daily lives and is made up of different components, that matter is everything that surrounds us, including ourselves, and that all living things have needs and must depend on and interact with resources and their environment in order to survive in an ecosystem.

Coursework will focus on:

- daily weather, measuring weather, the water cycle
- properties of the three common states of matter and their physical changes
- ecosystems, plants and animals.

Learning Activities / Modes of Assessment:

Large group instruction
Guided Inquiry
Small group work
Lab Journals / Write-ups
Tests and Quizzes
Checklists/Teacher Observation

Instructional Resources:

HSP Pennsylvania Science (Harcourt, 2009)
Applicable literature
BrainPop, Jr.
Discovery Education

Course Pacing Guide

Course: **Science – Grade One**

Course Unit (Topic)	**Length of Instruction (Days/Periods)**
1. Weather	30 days
2. Matter	30 days
3. Ecosystems	30 days
DAYS TOTAL	90 Days

Curriculum: CCSD CURRICULUM

Course: Science Grade 01 (3/18/13)

PENNSYLVANIA

Date: February 6, 2013 ET

Topic: Ecosystems

Subject(s): Science

Days: 30

Grade(s): 1st

Know:	Understand:	Do:
3.1.3.A1. – Essential COMMON CHARACTERISTICS OF LIFE - Describe characteristics of living things that help to identify and classify them. **3.1.3.A5. – Essential** FORM AND FUNCTION - Identify the structures in plants that are responsible for food production, support, water transport, reproduction, growth, and protection. Plants need air, sunlight, water, and nutrients. Animals need food, water, and shelter. An ecosystem is a community of living and nonliving things.	All living things have needs and must depend on and interact with resources and their environment in order to survive.	**3.1.3.A2. – Essential** Describe the basic needs of living things and their dependence on light, food, air, water, and shelter. **3.1.3.A3. – Essential** Illustrate how plants and animals go through predictable life cycles that include birth, growth, development, reproduction, and death. **SI.K-4.2 – Essential** Ask questions about objects, organisms, and events. **SI.K-4.3 – Essential** Understand that all scientific investigations involve asking and answering questions and comparing the answer with what is already known. **SI.K-4.4 – Essential** Plan and conduct a simple investigation and understand that different questions require different kinds of investigations. **SI.K-4.5 – Essential** Use simple equipment (tools and other technologies) to gather data and understand that this allows scientists to collect more information than relying only on their senses to gather information. Identify living and nonliving things. (3.1.3.A1) Label plant parts. (3.1.3.A5) Classify animals. (3.1.3.A1) Observe and record changes in seeds. (SI.K-4.2, SI.K-4.3, SI.K-4.4, SI.K-4.5) 3.1.3.A1. - Describe characteristics of living things that help to identify and classify them. 3.1.3.A5. - Identify the structures in plants that are responsible for food production, support, water transport, reproduction, growth, and protection.

Curriculum: CCSD CURRICULUM
Course: Science Grade 01 (3/18/13)

PENNSYLVANIA
Date: February 6, 2013 ET

Topic: Matter
Subject(s): Science

Days: 30
Grade(s): 1st

Know:	Understand:	Do:
3.2.3.B4.b – Unranked ELECTRICAL AND MAGNETIC ENERGY - Identify and classify objects and materials as magnetic or nonmagnetic. Matter can be a solid, liquid or a gas. Matter can change from one state to another. A solid can be magnetic or nonmagnetic.	Matter is everything that surrounds us including ourselves.	**3.2.3.A1.a – Essential** PROPERTIES OF MATTER - Differentiate between properties of objects such as size, shape, and weight and properties of materials that make up the objects such as color, texture, and hardness. **SI.K-4.6 – Essential** Use data/evidence to construct explanations and understand that scientists develop explanations based on their evidence and compare them with their current scientific knowledge. **SI.K-4.2 – Essential** Ask questions about objects, organisms, and events. **SI.K-4.3 – Essential** Understand that all scientific investigations involve asking and answering questions and comparing the answer with what is already known. Classify an object as a solid, liquid or gas. (3.2.3.A1.a, 3.2.3.A2, 3.2.3.A4, 3.2.3.A5, 3.2.3.A3) Classify objects as magnetic or nonmagnetic. (3.2.3.B4.b) Use the scientific inquiry skills. (SI.K-4.2, SI.K-4.6) 3.2.3.A2. - STRUCTURE OF MATTER - Recognize that all objects and materials in the world are made of matter. 3.2.3.A5. - UNIFYING THEMES - CONSTANCY AND CHANGE Recognize that everything is made of matter. 3.2.3.A4. - REACTIONS - Use basic reactions to demonstrate observable changes in properties of matter (e.g., burning, cooking). 3.2.3.B4.b - ELECTRICAL AND MAGNETIC ENERGY - Identify and classify objects and materials as magnetic or nonmagnetic. 3.2.3.A3. - MATTER & ENERGY - Demonstrate how heating and cooling may cause changes in the properties of materials including phase changes.

Curriculum: CCSD CURRICULUM
Course: Science Grade 01 (3/18/13)

PENNSYLVANIA
Date: February 6, 2013 ET

Topic: Weather
Subject(s): Science

Days: 30
Grade(s): 1st

Know:	Understand:	Do:
3.3.5.A4. – Important WATER - Explain the basic components of the water cycle. Weather can be different from day to day. There are different types of precipitation. The water cycle creates different types of precipitation. Temperature helps determine types of precipitation. You can measure weather in many ways	We can observe, measure and describe the weather.	**SI.K-4.2 – Essential** Ask questions about objects, organisms, and events. **SI.K-4.3 – Essential** Understand that all scientific investigations involve asking and answering questions and comparing the answer with what is already known. **SI.K-4.5 – Essential** Use simple equipment (tools and other technologies) to gather data and understand that this allows scientists to collect more information than relying only on their senses to gather information. Compare and contrast warm and cold weather. (3.3.3.A5) Identify patterns between temperature and weather. (3.3.3.A5, 3.3.3.A4, SI.K-4.5) Label basic parts of the water cycle- precipitation, evaporation, condensation. (3.3.5.A4) Classify pictures of different types of precipitation. (3.3.3.A4, 3.3.3.A5) Describe differnt types of weather tools. (SI-K.4.5, 3.3.3.A5) 3.3.3.A5. - WEATHER AND CLIMATE - Explain how air temperature, moisture, wind speed and direction, and precipitation make up the weather in a particular place and time. 3.3.3.A4. - WATER - Connect the various forms of precipitation to the weather in a particular place and time. 3.3.5.A4. - WATER - Explain the basic components of the water cycle.