Course Title: Science – Grade 2
Board Approval Date: 3/18/12
Credit / Hours: N/A

Course Description:

This course focuses on 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 and inquiry of life, physical and earth sciences.

Course work will focus on:
*How plants and animals grow and change during their life cycles to meet their needs in order to survive.
*How sound and light are forms of energy that affect our daily lives.
*How we can help protect and save Earth's natural resources.

Learning Activities / Modes of Assessment:

Large group instruction
Science inquiry experiments
Small group work
Instructional technology activities
Tests and Quizzes
Checklists / Teacher Observation
Formal and Informal Written Responses

Instructional Resources:

HSP Pennsylvania Science Text (Harcourt Scho0l Publishers) 2009
Science Grade Level Kits
Discovery Learning and Brainpop Jr. Websites
Non-fiction Texts and videos from the library and bookroom
Various posters and maps
Ear Model

Course Pacing Guide

Course: **Science – Grade Two**

Course Unit (Topic)	**Length of Instruction (Days/Periods)**
1. Plants	15 days
2. Animal Communities	30 days
3. Natural Resources	8 days
4. Sound and Light	24 days
DAYS TOTAL	77 Days

Curriculum: CCSD CURRICULUM

Course: Science Grade 02 (3/18/13)

PENNSYLVANIA

Date: February 6, 2013 ET

Topic: Animal communities

Subject(s): Science

Days: 30

Grade(s): 2nd

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.B1. – Important** HEREDITY - Understand that plants and animals closely resemble their parents. **3.1.3.B5. – Important** UNIFYING THEMES - PATTERNS Identify characteristics that appear in both parents and offspring. **3.1.3.C2. – Unranked** ADAPTATION - Describe animal characteristics that are necessary for survival. 4.5.3.D Identify organisms that are dependent on one another in a given ecosystem. Living things have needs and change as they grow. Animals can be grouped by their traits. Different areas have places where animals find the things they need.	Animals grow and change during their life cycles to meet their needs for survival within their environment.	**3.1.3.A2. – Essential** ENERGY FLOW - Describe the basic needs of living things and their dependence on light, food, air, water, and shelter. **3.1.3.A3. – Essential** LIFE CYCLES - 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-4.6 – 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. Classify animals by their traits. Identify needs of animals. Explain animal life cycles. List different kinds of animal habitats and the characteristics of the habitat. Describe some animal food chains and webs.

Curriculum: CCSD CURRICULUM
Course: Science Grade 02 (3/18/13)

PENNSYLVANIA
Date: February 6, 2013 ET

Topic: Natural Resources
Subject(s): Science

Days: 8
Grade(s): 2nd

Know:	Understand:	Do:
4.3.3.A. – Unranked Identify the natural resources used to make various products. People use natural resources to meet their needs (water, air, soil, rock, plants & animals). Pollution harms the Earth. We can help our environment by recycling, conserving and helping to keep our Earth clean. 4.5.3.C. Identify different types of pollution and their sources.	We are all responsible for the Earth.	**4.1.3.E. – Important** Identify changes in the environment over time. Identify natural resources. Describe ways that people harm our environment. Identify ways to help protect our environment.

Curriculum: CCSD CURRICULUM

Course: Science Grade 02 (3/18/13)

PENNSYLVANIA

Date: February 6, 2013 ET

Topic: Plants

Days: 15

Subject(s):

Grade(s):

Know:

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.

3.1.3.B1. – Important
HEREDITY - Understand that plants and animals closely resemble their parents.

3.1.3.B5. – Important
UNIFYING THEMES - PATTERNS Identify characteristics that appear in both parents and offspring.

3.1.3.C1.a – Unranked
NATURAL SELECTION - Recognize that plants survive through adaptations, such as stem growth towards light and root growth downward in response to gravity.

Plants have parts that help them live and grow.

Plants can be grouped by their traits.

Understand:

Plants grow and change during their life cycles to meet their needs.

Do:

3.1.3.A2. – Essential
ENERGY FLOW - Describe the basic needs of living things and their dependence on light, food, air, water, and shelter.

3.1.3.A3. – Essential
LIFE CYCLES - 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-4.6 – 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.

Identify the parts of a plant.

Describe how plants use their different parts to meet their needs

List what a plant needs to grow.

Classify plants according to their characteristics.

Describe the life cycle of a plant.

Topic: Plants
Days: 15
Subject(s):
Grade(s):

Know:	Understand:	Do:
Plants grow and change during their life cycle.		

Curriculum: CCSD CURRICULUM

Course: Science Grade 02 (3/18/13)

PENNSYLVANIA

Date: February 6, 2013 ET

Topic: Sound and Light

Subject(s): Science

Days: 24

Grade(s): 2nd

Know:	Understand:	Do:
Sound and light are forms of energy. Sound travels in waves. Light travels in a straight line.	Sound and light are forms of energy.	**3.2.3.B2.b – Essential** ENERGY STORAGE AND TRANSFORMATIONS: CONSERVATION LAWS - Explore how energy can be found in moving objects, light, sound, and heat. **3.2.3.B6. – Essential** UNIFYING THEMES - ENERGY Recognize that light from the sun is an important source of energy for living and nonliving systems and some source of energy is needed for all organisms to stay alive and grow. **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. **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. Describe how sounds are made. Explain how we hear sounds. Describe how lights travels. Describe what light is made of.

Topic: Sound and Light
Days: 24
Subject(s): Science
Grade(s): 2nd

Know:	Understand:	Do: