Blackhawk School District

CURRICULUM

Course Title:	**Science Lab**
Grade Level(s):	**Fourth**
Length of Period:	**40 min per day per quarter taught**
Faculty Author(s):	**Brady Okon**
Date:	**January 2014**

SCIENCE MISSION:
The goal of science education is to develop within students an understanding of the world around us by fostering curiosity, developing inquiry skills, and creating an excitement for learning science.

COURSE DESCRIPTION: The 4th Grade science Lab provides a diverse setting in both indoor and outdoor classrooms where children can participate in hands-on activities in local environmental education. Students focus on building their inquiry skill and incorporating the scientific method.

4th Grade Science Lab Curriculum Overview

Description: The third grade students will deepen their understanding of scientific concepts through inquiry based instruction. They will explore structures of life, earth materials, measurement, sound, and weather.

1st Quarter

- **Scientific Method**
  - Microscopes
  - Taking Notes
- **Flower Parts and Functions Unit**
  - Flower Investigations
  - Pollination and Fruit production
  - Community Connections
- **Animal Adaptations Unit Part 1**
  - Health and the Environment
  - Inherited Traits

2nd Quarter:

- **Animal Adaptations Unit Part 2**
  - Physical Adaptations
  - Behavior Adaptations
- **Matter and Its Changes**
  - Matter
  - Changes in Matter
- **Magnet & Electricity Foss Kit Part 1**
  - Investigation 1-The Force
  - Investigation 2-Making Connections

3rd Quarter:

- **Magnet & Electricity Foss Kit Part 2**
  - Investigation 3-Advanced Connections
  - Investigation 4-Current Attractions
- **Water Foss Kit**
  - Water as a Resource
  - Watersheds
  - Investigation 4-Water Works
- **Space Unit Introduction**

4thQuarter:

- **Ideas & Inventions Foss Kit**
  - Investigation-3 Color Writing
  - Investigation-4 Reflections
- **Forces, Work, And Machines**
  - Ideas & Inventions expansion pack
  - Simple Machine Introduction
- **Life Around Us Unit**
  - People adapt to many habitats
  - Agriculture

The following outline provides a general overview of the course content, not a chronological timetable. The days denoted for each area provide an idea for the overall time spent working with a given topic throughout the school year.

Course Outline 1st Quarter	PA Core Standards	Approx. Pacing	Assessment Options	Suggested Resources
Scientific Method Identify and explain the application of scientific, environmental, or technological knowledge to possible solutions to problems. Processes, Procedures, and Tools of Scientific Investigations Identify appropriate instruments for a specific task and describe the information the instrument can provide.	**S4.A.2.1.1:** Generate questions about objects, organisms, or events that can be answered through scientific investigations. **S4.A.1.1.1:** Distinguish between a scientific fact and an opinion, providing clear explanations that connect observations and results (e.g., a scientific fact can be supported by making observations).	2 class periods		
Flower Parts and Functions Use models to illustrate simple concepts and compare the models to what they represent. Identify and make observations about patterns that regularly occur and reoccur in nature.	**S4.B.1.1.3:** Describe basic needs of plants and animals (e.g., air, water, food). **S4.B.1.1.4:** Describe how different parts of a living thing work together to provide what the organism needs (e.g., parts of plants: roots, stems, leaves).	3 class periods		

Animal Adaptations Unit Part 1 Identify and explain how adaptations help organisms to survive. Identify that characteristics are inherited and, thus, offspring closely resemble their parents.	**S4.B.1.1.5:** Describe the life cycles of different organisms (e.g., moth, grasshopper, frog, seed-producing plant).	2 class periods		

Course Outline 2nd Quarter	PA Core Standards	Approx. Pacing	Assessment Options	Suggested Resources
Animal Adaptations Unit Part 2 Identify and explain how adaptations help organisms to survive. Identify and describe living and nonliving things in the environment and their interaction. Describe, explain, and predict change in natural or human-made systems and the possible effects of those changes on the environment.	**S4.A.1.1.2:** Identify and describe examples of common technological changes past to present in the community (e.g., energy production, transportation, communications, agriculture, packaging materials) that have either positive or negative impacts on society or the environment.	3 class periods 2 class periods		Magnet and Electricity FOSS Kit Part 1
Matter and Its Changes Identify and describe different types of force and motion resulting from these forces, or the effect of the interaction between force and motion. Recognize basic energy types and sources, or describe how energy can be changed from one form to another.		3 class periods		

Course Outline 3rd Quarter	PA Core Standards	Approx. Pacing	Assessment Options	Suggested Resources
Magnets and Electricity	**S4.A.1.1.1:** Distinguish between a scientific fact and an opinion, providing clear explanations that connect observations and results (e.g., a scientific fact can be supported by making observations). **S4.A.1.1.2:** Identify and describe examples of common technological changes past to present in the community (e.g., energy production, transportation, communications, agriculture, packaging materials) that have either positive or negative impacts on society or the environment.	2 class periods 4 class periods		Magnet and Electricity FOSS Kit Part 2 Water FOSS Kit
Space Unit Introduction Identify the types and uses of Earth's resources. Describe Earth's relationship to the Sun and the Moon.		1 class period		

Course Outline 4th Quarter	PA Core Standards	Approx. Pacing	Assessment Options	Suggested Resources
Forces, Work, and Machines Identify and describe different types of force and motion resulting from these forces, or the effect of the interaction between force and motion. **Life Around Us** Describe, explain, and predict change in natural or human-made systems and the possible effects of those changes on the environment. Describe basic landforms in Pennsylvania. Identify systems and describe relationships among parts of a familiar	**S4.A.3.2.1:** Identify what different models represent (e.g., maps show physical features, directions, distances; globes represent Earth; drawings of watersheds depict terrain; dioramas show ecosystems; concept maps show relationships of ideas).	3 class periods 2 class periods 3 class periods	Design and describe an investigation (a fair test) to test one variable.	Ideas and Inventions FOSS Kit