

PETERS TOWNSHIP SCHOOL DISTRICT

CORE BODY OF KNOWLEDGE

SCIENCE

GRADE 6

For each of the sections that follow, students may be required to understand, apply, analyze, evaluate or create the particular concepts being taught.

COURSE DESCRIPTION

This course will focus on the environment. We begin the year by introducing the skills of a scientist and incorporate those skills through our many units of study. The students will study the many aspects of the environment and the ever changing surface of the earth.

STUDY SKILLS

- Maintain a science notebook
- Adequately prepare for quizzes and exams through the development of study skills

UNIT THEMES

1. SCIENTIFIC INQUIRY AND DESIGN/STEM

- Identify the characteristics of a scientist.
- Explore renewable energy through solar, wind, and water power STEM activities.

2. BIOLOGICAL SCIENCE

- Identify wildflowers, trees, and leaves.
- Research common pests in Pennsylvania and integrate methods of pest control.

3. ECOLOGY AND ENVIRONMENT

• Populations and Communities

- Differentiate between living and non-living things and the how they interact with their environment.
- Investigate how populations change in size and the factors that limit population growth.
- Explore adaptations of organisms, competition, predation, and the different types of symbiotic relationships.
- Describe changes in communities such as primary and secondary succession.

• Ecosystems and Biomes

- Study how energy flows throughout an ecosystem.
- Explore the water, carbon and oxygen, and nitrogen cycles.
- Compare and contrast the major land biomes of the world.
- Identify the two major aquatic ecosystems on Earth.
- Examine the factors that affect the dispersal of species.

- **Resources and Living Things**
 - Explore different types of environmental issues and how environmental decisions are made.
 - Examine natural resources and how they are important.
 - Investigate the factors that affect the rate of human population growth over time.
 - Explore the ways that forest and fisheries are managed.
 - Explain the value of biodiversity, the factors that affect it, and the human activities that threaten it.
- **Land, Air, and Water Resources**
 - Explain how people use the land and describe why soil management is important.
 - Name methods of solid and hazardous waste disposal and identify ways that people can reduce solid waste problems.
 - Examine causes and solutions to air pollution.
 - Identify major sources of water pollution and methods for reducing it.
 - Explore the ocean's living and nonliving resources and identify sources of ocean pollution.
- **Energy Resources**
 - Identify the three major fossil fuels and explain why they are nonrenewable resources.
 - Compare renewable sources of energy.
 - Investigate ways to conserve energy.

4. EARTH SCIENCE

- **Mapping Earth's Surface**
 - Compare the major types of landforms
 - Identify how maps and globes represent earth's surface and how it is measured
 - Explain how computers, satellite images and photographs are used for mapping
 - Describe how elevation, relief, and slope are shown on topographic maps and how to read them
- **Weathering and Soil Formation**
 - Examine the causes of mechanical and chemical weathering of rocks.
 - Describe how soil is formed.
 - Explain why soil conservation is important.
- **Erosion and Deposition**
 - Compare the different types of mass movement.
 - Describe how water erosion is responsible for shaping Earth's land surface.
 - Explain how glaciers formed and eroded the land.
 - Describe the ways that waves shape a coast and create landforms.
 - Identify the process by which wind causes erosion.
- **A Trip Through Geologic Time**
 - Identify and describe the different types of fossils.
 - Describe several ways that scientists determine the relative age of rocks.
 - Examine the process of radioactive decay.
 - Describe how and why the geologic time scale is used to show Earth's history.
 - Explain how the early Earth developed.

- Summarize the major events in the Eras of Earth's history.

MATERIALS (and Supplemental materials used in course):

- Textbook: Pearson Interactive Science- Ecology and the Environment, 2011 and Earth's Surface, 2011

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