

Life Science Focus

Guiding Question: How do matter and energy flow through Ecosystems?

Content Standards:

All organisms depend on the living and nonliving features of the environment for survival.

When the environment changes, some organisms survive and reproduce, and others die or move to the new locations.

Benchmark/Expected Performance

Unit

Materials

Field trips/
Outdoor Ed

Students will:

1. Explain that some source of energy is needed for all organisms to stay alive and grow 2. Employ different ways to classify organisms into groups using a variety of common features. 3. Identify anatomical and behavioral adaptations that allow organisms to survive in specific environments. 4. Describe how animals, directly or indirectly, depend on plants to provide the food and energy they need in order to grow and survive. 5. Describe how natural phenomena and some human activities may cause changes to habitats and their inhabitants.	Biomes/Ecosystems Research Project Endangered Species	DEP Resource Materials	Allyn Brook
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Physical Science Focus

Guiding Question:

What is the role of energy in our world?

Content Standards:

Electrical and magnetic energy can be transferred and transformed.

Electricity in circuits can be transformed into light, heat, sound and magnetic effects.

Magnets can make objects move without direct contact between the object and the magnet.

Benchmark/Expected Performance

Unit

Materials

Field trips/
Outdoor Ed

Students will:

1. Describe various forms of energy such as light, heat, electrical, chemical, kinetic, and cite examples of the change of one form into another 2. Observe that energy can be transported through conduction 3. Observe examples of static electricity 4. Construct simple circuits 5. Distinguish between conductors and non-conductors 6. Know that electrical circuits require a complete loop through which the electrical current can pass 7. Know that electricity in circuits can produce light, heat, sound, and magnetic effects	Electricity and Magnetism	Circuits and Pathways Magnetism and Electricity	Northeast Utilities presentation
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8. Explain how simple electrical circuits can be used to determine what materials conduct electricity. 9. Describe the properties of magnets, and how they can be used to identify and separate mixtures of solid materials.			
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Earth/Space Focus

Guiding Question:

How do materials cycle through the Earth's systems?

Content Standards:

Earth materials have different physical and chemical properties.

Rocks and minerals have properties that may be identified through observation and testing; these properties help determine how the earth materials are used.

Benchmark/Expected Performance	Unit	Materials	Field trips/ Outdoor Ed
<i>Students will:</i>			
1. Recognize that change is a constant process 2. Recognize that the environment provides evidence of changes in the Earth's surface 3. Describe how waves, wind, water, and ice shape and reshape the Earth's land surface by eroding rock and soil in some areas and depositing them in other areas 4. Know the effect of forces such as erosion and weathering on the Earth's surface 5. Explain that soil is made partly from weathered rock, partly from plant and animal remains, and also contains living organisms	Changes in the Earth's Surface	Reading the Environment (Insights)	Case Quarry Graham Cracker Tectonics

6. Describe the formation and change of rocks (rock cycle) 7. Identify types of rocks (metamorphic, igneous, sedimentary) 8. Recognize that the movement of heat and materials within the Earth causes earthquakes and volcanic eruptions 9. Describe how landforms can change as a result of geological activities such as volcanic eruptions, earthquakes, floods, etc. 10. Recognize that some changes in the Earth's surface such as earthquakes and volcanic eruptions are abrupt, while others happen very slowly 11. Describe the formation and movement of glaciers 12. Identify ways in which evidence of ancient life has been preserved 13. Describe the physical properties of rocks and relate them to their potential uses. 14. Relate the properties of rocks to the possible environmental conditions during their formation.			
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