

ENERGY

Teacher Discussion Guide

LEVELS

Grades 4-5

SUBJECTS

Language Arts

Math

Science

Social Studies

Visual Arts

CONCEPTS

People use ingenuity and innovation to make the best use of available resources.

To sustain the availability and use of important resources, people practice conservation.

Human consumption patterns affect the availability of resources.

To meet the needs of an expanding human population, societies practice resource management and employ technology.

SKILLS

Analyzing

Categorizing

Classifying

Comparing

Contrasting

Data Gathering

Discussing

Interpreting

Organizing Information

Representing

Researching

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OVERVIEW

When you turn on the television, tie your shoelace or drive to the store – you’re using energy. Energy is everywhere in nature – in the light of the sun, in wind, in falling water and erupting volcanoes. Without energy, there is no life.

DISCUSSION AND STUDY TOPICS

The study of energy can be used in the context of many different areas of learning. Here are some suggestions:

Science

- **Resources.** Energy is produced from a variety of different resources. What is the difference between a renewable and a non-renewable resource? What are some examples of each? What kind of resources are used to generate energy at your school, in your community? Are they renewable or non-renewable? (*research project, class activity, class presentation*)
- **Energy generation.** What are the byproducts of producing energy from different resources? What happens to these byproducts? How do these byproducts affect the cost of energy generation? (*research project, class presentation, class experiment*)

Math

- **Economics.** What are the costs involved in generating energy? Are some forms of energy more expensive than others? Why? Have students calculate the cost of generating energy in their community. Are there other alternatives? Have students monitor their electric meters at home to measure energy use. Using their family’s electricity bill, have students calculate the cost of a day’s worth of energy. Are there ways to conserve energy at home? (*research project, class activity, essay topic*)

Social Studies

- **Then and now.** How have people generated energy/power throughout history? How have attitudes toward energy/power generation changed over time? Have students interview their parents and grandparents to find out whether or not things have changed. (*research project, essay topic, class presentation*)
- **Energy around the world.** Do different parts of the world use different energy sources? Why? Have student groups research particular regions, countries or cultures to determine energy sources and uses. (*research project, art project, class presentation, class discussion*)

Language Arts

- **Alternative energy.** How do you use energy every day? How would you accomplish the same tasks if you lived 200 years ago? (*essay topic, short story, play, video project*)

In addition to providing beauty and recreation, forests supply raw materials to help meet society’s needs for housing, paper, containers and thousands of other products used by consumers every day. As one of the country’s leading forest products providers, Georgia-Pacific Corporation has a long-term interest in and commitment to the health of our nation’s forests.

Educational in Nature® is a series of environmental education curriculum supplements designed to foster understanding and environmental awareness for your students.

ENERGY

Activity Sheet

CROSSWORD PUZZLE

Can you complete this puzzle using the information about energy you have learned?

Clues

1. Energy from the sun.
2. Byproduct of burning wood.
3. Energy from water.
4. Type of energy “trapped” in an atom.
5. Type of energy meaning “earth heat.”
6. From the Greek word elektron.
7. Boiling water produces _____.
8. Coal, oil and natural gas are examples of _____ fuels.
9. Earth’s heat-trapping mechanism. (*two words*)
10. Stored energy.
11. “Blowing in the _____.”
12. Organic material used as fuel.
13. Energy in motion.
14. Power source for many industrial facilities.

