Understanding Energy

Lesson 4: Home Energy Survey

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DESCRIPTION: Students will learn how to determine what sources of energy are used in their home. They will determine types of energy used in their home through observation and interviews. This will be documented through a home energy survey sheet that students will take home with them. The class lesson will include a review of the report that they will return after determining home energy sources.

GRADE LEVEL(S): 4th, 5th

SUBJECT AREA(S): Energy, energy audits, energy consumption, conservation, renewable and nonrenewable energy, electricity

ACTIVITY LENGTH: 40 minutes

LEARNING GOAL(S): Students will be able to describe the basic principles of various forms of energy and write a detailed description of one of those forms of energy. This written product will include common uses of this form of energy, costs, and basic advantages and disadvantages of using this form of energy.

NEXT GENERATION SCIENCE STANDARDS:

- 4-ESS3-1. Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

UNIT CONTENT:

- Lesson 1: Energy Sort
- Lesson 2: Brainstorm Energy Sources
- Lesson 3: Energy Basics
- **Lesson 4: Home Energy Survey**
- Lesson 5: Solar Energy Basics
- Lesson 6: Home Energy Use
- Lesson 7: How to Observe and Keep Records
- Lesson 8: Setting Up an Experiment
- Lesson 9: Collecting and Reporting Data, Making Recommendations
- Ongoing Activities: Daily Observations and Record Keeping

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Materials List

- Solar energy spiral notebook (1 per student)
- Home energy survey printouts

Vocabulary

- Electric energy
- Natural gas
- Oil
- Solar energy
- Generator
- Outlets, lights, stove, oven, water heater, furnace, heater, appliances, wood stove

Student Background

- Students will have basic knowledge of energy and how it is used in homes, schools and businesses.
- Students will need to know how to find out the types of energy that are used in their homes. They will be able to determine some energy sources by observation such as the cooking stove but they will also need to interview a parent to determine other sources.

Educator Background

- Teacher should be comfortable with sources and uses of energy

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Lesson Details

Activity Day 1 – Prepare for Research

- Teacher will distribute a home energy survey to students and class will discuss how to best get the information for each question.
- Students will be give one week to complete the survey and return it to class.

Activity Day 2 – Discuss Energy Survey Results

- Students will write about and/or discuss what they learned about their own home's energy use and put it in the context of what they have learned previously from research.
- This is a good opportunity to introduce graphing and calculating survey results to understand the distribution of energy for the household of the class.

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