

Let's Learn about energy sources

Title: Let's Learn About Energy Sources

Level: Intermediate

Time: 1-2 days

KERA Goals: 2.3, 2.4, 2.5, 2.6

Objective:

Energy sources can be classified in many different ways. The students will identify at least four energy sources through sensory experiences.

Materials:

Coal (Charcoal)

Oil

Water

Wood

Food

Electrical appliances

Drawing paper

Magazines

Barbecue Grill

Pinwheel

Fan

Plants

Felt tip markers

Art supplies

Kerosene lamp or camping lantern

Containers to hold fuel sources

Set of Energy Source flashcards for each student

Activity:

1. Tell the students that they will explore some things that supply us with energy. Ask "why do we need energy?" List their responses on chalkboard.
2. Have students observe and talk about various energy sources, using the appropriate senses of touch, smell and sight. Have samples of the following energy sources readily available.

Coal

Oil (can)

Falling water (faucet)

Wood

Food (apple)

Wind (fan, outdoor wing)

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Discuss the energy sources. Explain that they are samples of things people use as sources of power to run machines, heat buildings and to provide food.

3. Demonstrate that energy may be released from various energy sources. Ask the students to make observations. Remind the students that the energy released will take the form of heat, light, sound, electricity or movement.

A. Coal. Set up a barbecue or hibachi outdoors if possible, ignite the coal, and when it is burning, have students observe its appearance.

B. Oil. If your school has an oil furnace, ask the custodian to take the children on tour of the furnace room. Some students may also live in homes heated by oil furnaces and might make limited observations under parental supervision.

C. Kerosene. Bring a camping lantern or lamp to class and show how it works. Observe forms in which energy is released.

D. Sunlight.

(1) Introduce the term "solar energy" and how people can use it.

(2) Grow plants in containers; put several in a dark place for at least a week (watering as needed). Keep

the rest in good lighting conditions. After sprouting, compare the two sets of plants. Discuss the need of plants for light energy.

E. Food (nutrition). After eating lunch, point out that food gives us energy to be active. Without adequate food we would be less active and eventually may become weak or sick.

F. Wind. Using a fan or the wind, observe the turning of a pinwheel. Relate that in this case moving air is the energy source-- one also used to move a sailboat.

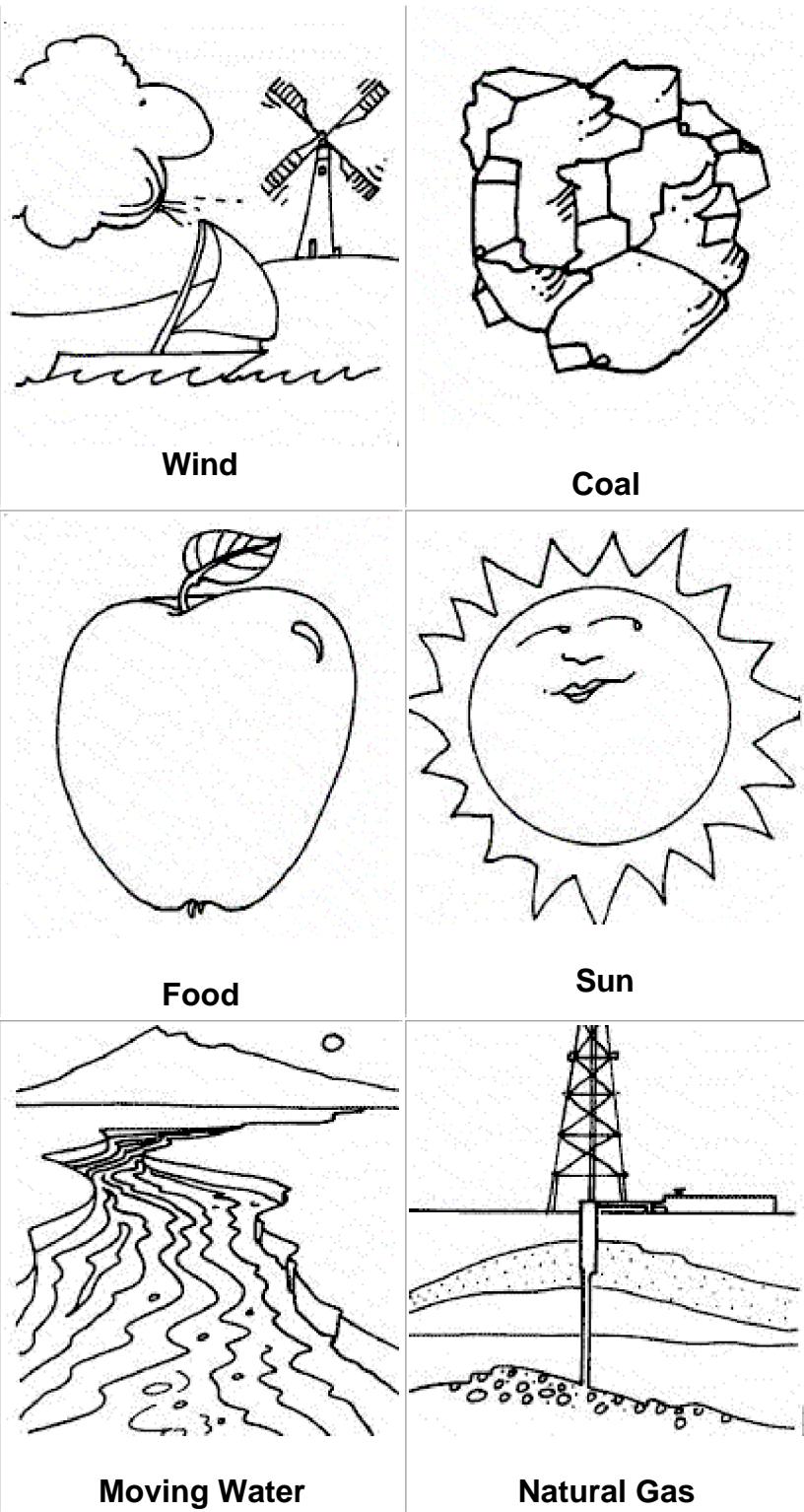
G. Wood. Using a barbecue grill, burn some wood. Discuss the energy released from the wood. What happens to the wood? What wastes are created? (ash, smoke) Explain that any time a fuel is burned, wastes are created.

H. Electricity. Using a wall outlet, demonstrate to students the heat released from an iron or hot plate, light from light bulbs, and the motion of beater in a food (hand) mixer. Use a flashlight or a toy to demonstrate energy from batteries. Inform students that electricity is a form of energy.

4. Reproduce and cut energy source flashcards. Have students color the energy source flashcards. Suggest a series of activities and have students hold up the energy source flashcard that shows the kind of energy needed for the activity. (Example: flowers growing-- sun energy)

Energy Source Flashcards:

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