Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_

Integrated Science 1-2 Forms of Energy Activity

Background Information

What *is* energy? Energy is the ability to do work. An easier way to think of the ability to do work is the ability to change or move matter. The movement of an object or the building of molecules, are both examples of using energy to do work. Where does this energy come from? People often say that energy is “produced” at a nuclear power plant, at a coal-burning power plant, or a wind farm, but is energy really “produced”? Or, is the energy generated transformed from one form of energy to another? While energy can be transformed, it cannot be created or destroyed. It is the constant conversion of energy from one form to another that keeps our universe in a state of change and keeps living organisms alive.

**Energy exists in one of the following forms: electromagnetic (light), nuclear, electrical, thermal, chemical, and mechanical.** In the following activity you will identify different types of energy associated with a variety of objects and you will suggest ways that the type of energy observed can be transformed.

Directions

1. At each station, identify the form(s) of energy associated with the object or process. Record your identification in the following table.
2. Describe at least one way the energy observed can be transformed.

Forms of Energy and Transformations

|  |  |  |  |
| --- | --- | --- | --- |
| Lab Station | Object or Process | Form(s) of Energy  Observed | Example of Energy Transformation |
| 1 | Candy Bar |  |  |
| 2 | Spring |  |  |
| 3 | Candle |  |  |
| 4 | Fan |  |  |
| 5 | Rock and Geiger Counter |  |  |
| 6 | Pendulum |  |  |
| 7 | Lamp |  |  |
| 8 | Calcium chloride in Water |  |  |

Look at the diagram of the coal-burning power plant below and identify as many energy transformations as you can.

