

Inquiry Activity

Energy Conversion

****This activity is a modification of an activity called "Station Breaks" from a CD titled *Get Smart About Energy* produced by the US Department of Energy****

Purpose: The students will be able to ...

- Identify the presence of different forms of energy associated with different objects and mechanisms.
- Observe how different objects and mechanisms convert energy from one form to another.
- Explain the process of energy conversion exhibited by different objects and mechanisms.
- Understand that energy cannot be created or destroyed only converted from one form to another.

Standards Addressed: (Indiana State Standards)

- 6.3.17 Recognize and describe that energy is a property of many objects and is associated with heat, light, electricity, mechanical motion, and sound.
- 6.3.23 Explain that electrical circuits provide a means of transferring electrical energy from sources such as generators to devices in which heat, light, and chemical changes are produced.
- 7.3.15 Describe how electrical energy can be produced from a variety of energy sources and can be transformed into almost any other form of energy, such as light or heat.
- 8.3.13 Explain that energy cannot be created or destroyed but only changed from one form into another.
- 8.3.15 Identify different forms of energy that exist in nature.

Introduction:

Energy can be defined in many different ways: the ability to do work, the ability to change the properties of a material, or simply the ability to do "something". Energy is a fundamental property of all material and can be extremely useful. Energy in its various forms is responsible for powering our vehicles, heating our houses, providing light to see, growing plants, and is responsible for our very survival. The biggest source of energy is simply the sun. It is often easier for students to recognize specific physical examples of energy in its various forms rather than to understand an abstract concept. This activity allows students to experience the conversion between seven different forms of energy: light, thermal, chemical, sound, kinetic, elastic, and electrical energy. Your students should know about the seven different forms of energy and be able to identify some examples of each prior to starting the activity. This