



Activity One: Energy Matching

Understanding that light bulbs use electricity, and that compact fluorescent bulbs use less electricity than standard bulbs, is important for meaningfully participating in the Junior Energy campaign. Your students may be just beginning to build an understanding of energy and how it works in the world around us. In this activity, they'll match different common items to the types of energy they use to work. If you prefer, you can also conduct a scavenger hunt that will help them identify different sources of energy for common items. Through a discussion, you can focus on light bulbs and the electricity they use.

OBJECTIVES:

After participating in this activity, students will be able to:

- explain that some things use energy to operate
- identify several different forms of energy (such as batteries, electricity, and gasoline)
- explain that light bulbs use electricity to operate

TIME: One hour

MATERIALS:

- one copy of "Energy Scavenger Hunt" for each student, OR
- one copy of "Energy Matching" sheet for each student and three copies
- of the "Types of Energy" sheet for each student
- battery-operated toy
- non-electrical toy, such as a toy car

GETTING READY:

Decide if you prefer to have the students conduct an energy scavenger hunt or the in-class energy-matching activity and make copies for the appropriate activity.



THE ACTIVITY :

Begin the activity by setting out a toy that's not battery operated, such as a toy car. Move the toy and play with it. Ask the students what's making this toy move. Explain that you're providing the energy this toy needs to work.

Next, set out a battery-operated toy and turn it on. Ask the students what's making the toy work. Explain that batteries are giving the toy energy to work. Toys use energy to work; some toys use our energy to work, and some toys use batteries.

Explain that there are many different ways that things get energy to work, and different things use different kinds of energy. In this activity, you'll be looking for examples of different kinds of energy that the things around us use.

Option One: Scavenger Hunt

Things that use energy are all around us every day. Challenge your students to either go home or, if possible, to explore the school finding examples of things that use different forms of energy. Give each student (or group of students if you can explore the school in small groups) an "Energy Scavenger Hunt" sheet and explain that it's their job to find as many examples of things that use each type of energy as they can. If they find many examples of one type of energy user (things that use electricity, for example, are very abundant around most homes and schools) they can stop after they've found five.

Option Two: Energy Matching

If you prefer to stay in the classroom, you can use the "Energy Matching" sheet to help your students make the connection between everyday objects and the type of energy they use.

Give each student one copy of the "Energy Matching" sheets and quickly review the items on the sheet, being sure that the students recognize all of the objects.



Explain that all of these objects use different kinds of energy to work.

Hand out three copies of the “Types of Energy” sheet (you can either cut out the types of energy before class or ask the students to cut the squares). Explain that these are some different types of energy that many things around us use. Ask the students to match the energy types to the everyday objects on the “Energy Matching” sheet.

Discuss the objects and the types of energy they use. Ask the students if they can think of other examples of things that use each type of energy. Ask the students if there are things on this list, or other things they can think of, that use more than one type of energy. For example, the cell phone uses a battery, but most people use electricity to charge the battery. The television uses electricity, but the remote control that operates it is usually powered by a battery. Some students may also be familiar with hybrid cars, which operate using both a battery and gasoline.

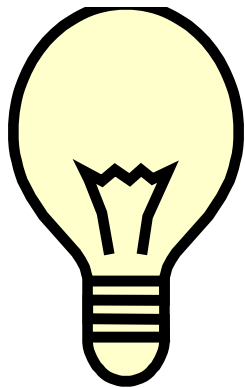
You can also discuss things the students may be familiar with that are different from what’s pictured here. For example, depending on where you live, buses and trains could be powered with electricity instead of gasoline. Or, students may have seen bicycles or skateboards fitted with small motors powered by gasoline.

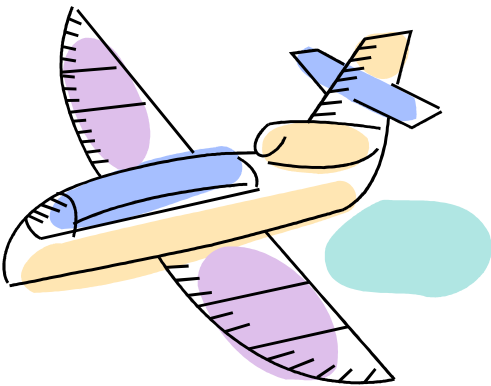
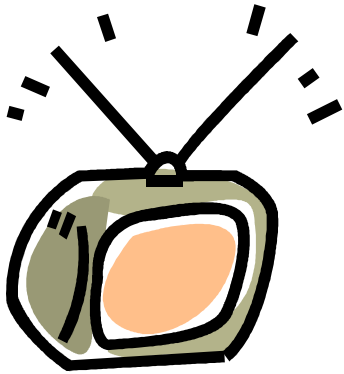
Wrap up the activity by returning to the example of a light bulb. You can count the number of lights in your classroom, and ask students to take note of the light bulbs around their house. Explain that a lot of the electricity we use is used for light bulbs.

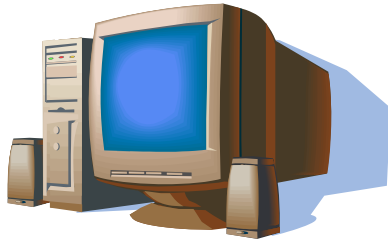
If possible, you can show students one standard bulb and one compact fluorescent bulb. Explain that both bulbs use electricity to produce light, but in activity two, they’ll find out about one important difference between the bulbs.



Energy Matching











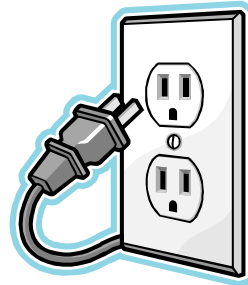
People



Gasoline



Batteries



Electricity



Energy Scavenger Hunt

How many things can you find that use each of these forms of energy?

Things Powered by Batteries	Things Powered by Gasoline



Things Powered by Electricity	Things Powered by People

