Lighting a Light Bulb

Electricity All Around Us
Activity
Grade Level: 5-8

Main Objectives

Learners will design and construct circuits that operate lights and other electrical devices.

Learning Outcomes

By the end of this activity, learners will:

- Arrange materials to construct a circuit
- Understand the components of a circuit

Length of Activity

1.5 hours

Materials List

Internet-enabled device
Lighting a Light Bulb Backgrounder
Lighting a Light Bulb Learner Worksheet
Battery (1.5 V)
Wire
Small bulb
Tape
Wire strippers

Before you begin:

Read the Lighting a Light Bulb Backgrounder to find some useful tips on how to get your light bulb to light up. Then use the materials listed above to create a closed circuit and light up your light bulb. Record information on your worksheet and do the activity.

Visit Brain pop! for video clips of electricity and how it works.

Activity

Step 1:

a. Review the information provided in the Lighting a Light Bulb Backgrounder.

Step 2:

a. Explain to the learners that they will be using materials to light up a light bulb. Instruct the learners that there needs to be a connection at the metal tip and at the metal contact of the bulb for it to light up.
b. In small groups or individually, have the learners try to make the light bulb light up and complete the worksheet.

Tips and Extensions

- To ensure the success in the experiment, test the batteries and use only well-charged batteries.
- Be aware of the voltage needed to light up a light bulb. Check to see if the light bulbs being used can be used with the batteries chosen.
- Use wire strippers to expose the end of the wire by removing any insulating materials. Copper wire is coated with a thin amount of lacquer, which can be taken off by brushing the wire with sandpaper.
- Use a solar cell, alligator clips, a motor and propeller. Attach the alligator clips to the solar cell and then to the motor with the propeller.

- Place the cell under a direct light source to produce enough energy to make the motor spin the propeller.

Comprehension

- Can you trace the path of the current?
- Is there more than one way to make the light bulb light up?
- Did you or your group try different things? What worked? What did not? Why do you think that happened?