

Make Your Own Battery

Fourth Grade

Activity: 18

Time: 1 Class Period

General Description

Students will build components of a battery and test what materials work best.

Objectives

Students will build a battery using specific directions.

Students will describe the interaction of components within a battery.

Students will test different materials to determine which work best.

Arizona State Standards

SC04 S1C2 PO5 Record data in an organized and appropriate format (e.g., t-chart, table, list, written log)

SC04 S1C4 PO3 Communicate with other groups or individuals to compare the results of a common investigation

SC04 S3C2 PO3 Design and construct a technological solution to a common problem or need using common materials

SC04 S2C2 PO2 Describe the interaction of components in a system (e.g., flashlight, radio)

SC04 S5C3 PO1 Demonstrate that electricity flowing in circuits can produce light, heat, sound, and magnetic effects

W04 S3C2 PO1 Record information (e.g. observation, notes, lists, charts, map labels, and legends) related to the topic

Teacher Information

Batteries are an energy source you can carry around with you. A battery changes chemical energy into electrical energy, or electricity. Electricity can then be changed into light, heat, motion, or sound energy.

Materials (per group)

Two pieces of wire

Six copper pennies

Tape

Pen

Saucer

Scissors

Sheet of aluminum foil

Warm salt water

Headphones

Notebook paper or science journals

Procedures/Exploration

1. Draw and cut six paper and six foil circles. Use the pennies to make the circles.
2. Tape one wire to a coin and the other wire to a foil circle.
3. Dip a paper circle in the warm salt water.
4. Put the wire with the foil circle in the saucer. Then put a wet paper circle and a coin on top. The wire goes under the foil.
5. Repeat step 4, building layers of foil, wet paper, and coins. The coin with the wire goes on top. You have made a battery.
6. Wrap the end of one wire to the stem of the headphone plug.
7. Put on the headphones. Scrape the wire against the plug.
8. Record and discuss your results.