



e-SMARTkids



EXPERIMENT TIPS

Electricity and water

This basic experiment appears in the section *How electricity can hurt you*.

Materials

Students will need a circuit set up like the one shown in the illustration on the experiment worksheet, using a glass pint or quart jar, 2 nails, 2 pieces of tape, salt, and water.

Safety first

- Students should be supervised by an adult while doing this experiment.
- A teacher or another adult should be responsible for stripping insulation from wires.
- Explain to students that anything can conduct electricity when wet. Remind students that they can mix water and electricity safely in this experiment because the voltage is so minimal (1.5 V per D-cell battery).

Objective

Students will demonstrate that water is a conductor of electricity.

Getting it across

Be sure students add plenty of salt to the water. Then have them predict, experiment, and note their observations. Share results.

Questions and answers

Ask students why they think the salt is needed. (Students will need to add a lot of salt to their water in order for electric current to flow. The voltage of the battery is so low that additional particles must be added to make the water MORE conductive. It is the impurities in water that make it a good conductor. Pure water will not conduct electricity. However, pure water is only found in the laboratory. That's why there is so much emphasis on the conductivity of water as regards electrical safety.)