

Safety:

Instruments:

- two insulated wires
- six copper coins
- tape
- a felt pen
- a saucer
- paper towels
- scissors
- aluminum foil
- headphones

Chemicals:

- warm salt water

Experiment:

- Draw six circles on both the paper and the aluminum foil using the coins as tracing patterns. Cut all twelve circles out. Tape a coin to one end of a wire and a foil circle to the second wire.
- Place the foil circle (with the wire) on the saucer. Dip a paper circle in warm salt water and then use it to cover the foil circle. Add a coin to the stack. Repeat these steps until a whole tower of foil-paper-coin is built. Finally, place the last coin (connected to the wire) on top. Your battery is ready. Tie one end of the battery wires to the post of a set of headphones and put the headphones on. Rub the other wire over the very end of the headphone post. What do you hear?

Advice for the teacher:

The pupils will hear crackling and popping in their headphones.

They should learn that a mixture of aluminum, salt and copper can produce electricity, if they are connected correctly. Each battery contains chemicals which carry out this function.

This experiment teaches students the basics of building a battery. Under the "skin" of a battery there are layers of carefully-arranged chemicals, which react with one another as soon as the circuit is closed. After a while, these chemicals are used up and the battery cannot produce an electric current any longer (becomes a "dead" battery).