Sandwich Battery

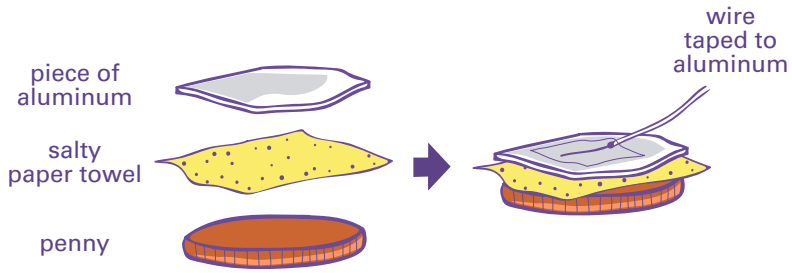
WHAT DOES IT FEEL LIKE TO BE PART OF A WEAK ELECTRIC CIRCUIT?

When an electrolyte is put in contact with two electrodes, there is a chemical reaction that creates electricity inside this "sandwich."

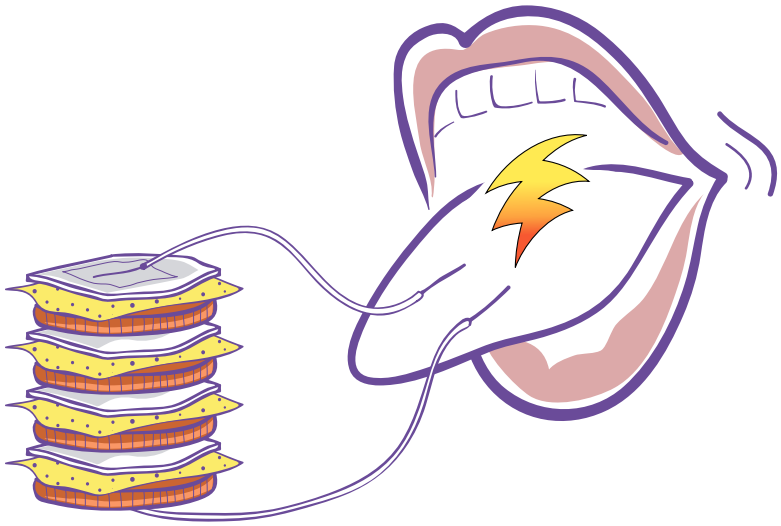
See what it feels like when electricity is generated!

TRY THIS

1. Place a piece of salty paper towel between a penny and a piece of aluminum to make a sandwich.
2. Tape the bare end of one wire to the aluminum.



3. Make three more sandwiches and stack them beneath the first penny with the wire taped to it.
4. Tape the bare end of the second wire to the bottom of your sandwich.
5. Take the free end of each wire and touch both ends lightly to your tongue.



THINGS YOU NEED

- Two 12-inch pieces of wire
- Cellophane tape
- 4 copper coins
- 4 pieces of aluminum (cut from an aluminum can)
- Paper towels soaked in salty water

POWER WORDS

Circuit is the path the electricity takes. For example, the path from the power plant to your house is a circuit.

Conductor is a material whose electrons are free to move around and allow electricity to pass through it. Copper, aluminum and water are all excellent conductors.

Electrode is a conductor through which electric current enters or leaves an electric device. Most electrodes are made of metal. A battery has two electrodes, one positively charged and one negatively charged. Electrodes collect the current and permit it to be drawn out of the battery.

Electrolyte is a solution that is able to conduct electric current. Electrolytes contain charged particles, or ions, which allow a free flow of current from one terminal through a solution to the other terminal.

WHAT DO YOU THINK?

What if you touched the wires to a dry part of your body, like your arm, instead of the tongue? Would electricity still be created?

What is the electrolyte in this experiment?

What are the electrodes?

Why do the instructions specify salty water? What does the salt do?

What happens if you add more sandwiches?