

# Circuitry

## Activity 2—ENERGY STICK & CONDUCTIVITY

### Materials Needed:

- Energy Stick (provided in kit)
- other people
- variety of items to test by touch

### What To Do:

1. **Open up the Energy Stick package, but try not to tear the packaging (it has fun activities to try, along with helpful information).** Notice the metal ends on the Energy Stick. What happens if you touch them at the same time?
2. **Put your hands on each end of the stick and see what happens.** You just made a human circuit!



3. **Try it with someone else.** Each person grabs one end of the stick. Now touch your free hands together. What happened? Was it the same as when you touched both ends yourself? How complex can you make your circuit (or, how many people can you have touching and still have it light up?)
4. **Find a metal spoon (or other utensil) to add to your circuit.** The Energy Stick package uses a spoon as an example. With a partner, each put a hand on one end of the Energy Stick. Now, with your free hands, touch the metal spoon at the same time. Does the Energy Stick light up?
5. **Find other objects and substances to try touching. You can use the Conductivity Worksheet as you pick new objects to try out.** Write down what you're touching, and your guess for whether it will light up the Energy Stick. Then, touch the object following the same process as above, and write down your results (whether the Energy Stick lights up or not).

## **STEAM Connections**

In the earlier Simple Circuit activity, you learned about how circuits work. The Energy Stick is picking up the electricity in your body. Your arms act as the wires in this circuit, your hands are like the clips on the alligator clips, and the metal parts on the Energy Stick are like the terminals on a battery. Notice that there is a positive (+) and a negative (-) sign on either end.

This activity lets you safely test the *conductivity* of different objects. When you touched a metal spoon at the same time as another person, you closed the circuit. The spoon lets the electricity flow through it because the metal *conducts* electricity. If you tried the same experiment with a rubber band, or certain types of plastic, the Energy Stick wouldn't light up because those items are *insulators*: they don't conduct electricity, so they interrupt the circuit.