

## **Lesson 5 What conducts electricity? Building a burglar alarm**

**Objectives:** Students learn that some materials conduct electricity and that some do not.

Students learn to think about how to solve a circuit design problem.

**Materials:** Batteries, aluminum foil, cardboard, tape, stranded electrical wire, buzzers, knife switches, small lamps in sockets, various materials to test for conducting electricity.

**Sponge:** Students answer the following question in their journals: What materials will electricity flow through?

### **Initial**

**Discussion:** Talk about what students think will conduct electricity. Talk about electricity and the human body.

**Project:** Test various materials to see what conducts electricity.

Students draw a table in their journals. Start filling it out as a group. Students find materials around them and add to table so that they have a list of 10 items.

What conducts electricity?  
Material      Conducts electricity?

Pose the problem: Can you make a burglar alarm that will sound when someone steps in a specific spot on the floor? For each group, provide 1 battery, 1 buzzer, electrical wire, cardboard, aluminum foil.

**Vocabulary:** Conductor – a material that allows electricity to be transmitted

### **Final**

**Discussion:** What materials conduct electricity?

Students show off their burglar alarms.

### **Home**

**Connection:** Start thinking about how you would create an alarm that goes off when a box or door is opened. Talk with family about how you might do it.