



STUDENT GUIDE

Exploring Circuits and Electricity

Part I: Circuits

1. Look at the materials your group was given and think of an investigation question you could explore. Your investigation should include a switch and could show how to light up the bulbs, or make the buzzer sound.
2. Record your question and complete each section on your *Student Journal*.
3. Use your materials and design a circuit that answers your investigation question.
4. Draw and label a diagram of your circuit and trace the path that electricity flowed.

Part II: Conductors and Insulators

1. After you have a complete circuit working, explore using different materials such as foil and cotton in your circuit.
2. Test each material to see if they allow the electricity to flow through the circuit as a conductor or if they are insulators. List each material you test under the correct heading in the table.
3. Practice using the switch to control the flow of electricity. Draw a diagram of an open and closed circuit.
4. Challenge: Can you find a way to make the lights get brighter? Try and test a variety of ways and draw your circuit on the back of the *Student Journal*.