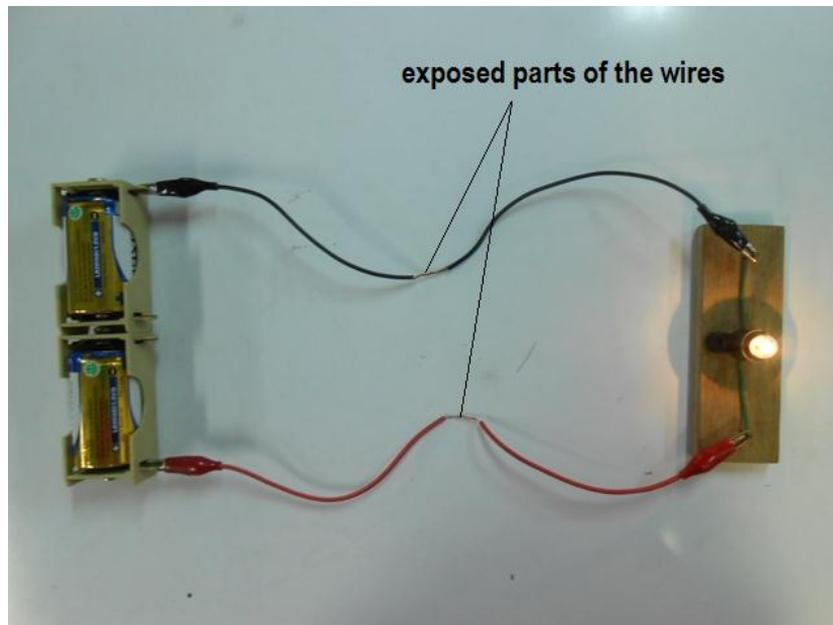


Teacher's Guide

When does a short circuit happen?

1. After distributing the worksheet, tell the class to study the picture of a simple circuit as shown:



2. Ask the class, "What will happen if the exposed parts of the wire touch each other?" Get their responses and write them on the board. At this point, the setups are not yet distributed to the class.
3. After recording their responses, distribute the setups and tell them to make a simple circuit like the one shown in the picture. Tell the class to read first the instructions in the worksheet before doing the activity.
4. Tell the students that they should feel first the exposed parts of the wire before they bring them together. Remind them to feel the wire again immediately after they are separated from each other.
5. Discuss their answers afterwards. To discuss Figure 4 and Figure 5, a big diagram of these figures can be posted on the board. One of the groups can draw their answer on it.

Answers to questions:

a. The light went out

Possible reasons:

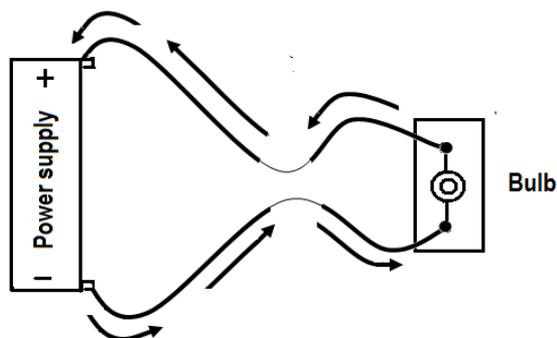
- The current flowed to the exposed wires and did not pass through the bulb. (Affirm this response)
- There is no more current in the circuit
- The current stopped flowing

b. The exposed wires feel warmer/hotter.

Expected explanation

The current flowed to the exposed wires without passing through the bulb. The current flowed in this manner because the resistance is much lower. As a result the current becomes higher and made the wires hotter.

If tracing the flow of electrons, it will flow from negative to positive.



The current will take the path where the wires touch each other without passing through the bulb

