

When does a short circuit happen?

What to use:

- 2 batteries
- 2 wires with exposed parts at the middle
- 1 bulb
- 2 battery holders
- 1 bulb holder

What to do:

1. Look at the figure below

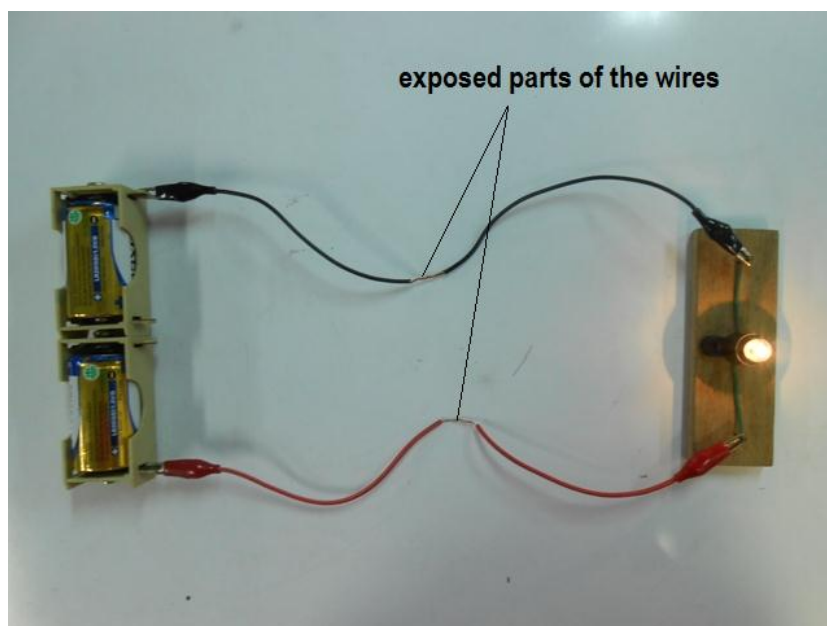


Figure 1

Predict: What will happen when the exposed parts of the wires touch each other?

Write your prediction: _____

2. Touch first the exposed part of the wires before connecting them together.

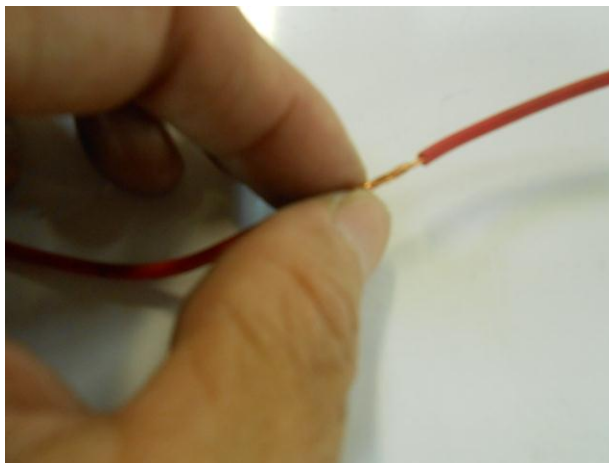


Figure 2

3. Connect the exposed parts together as shown in Figure 3 for 1 minute and observe the circuit

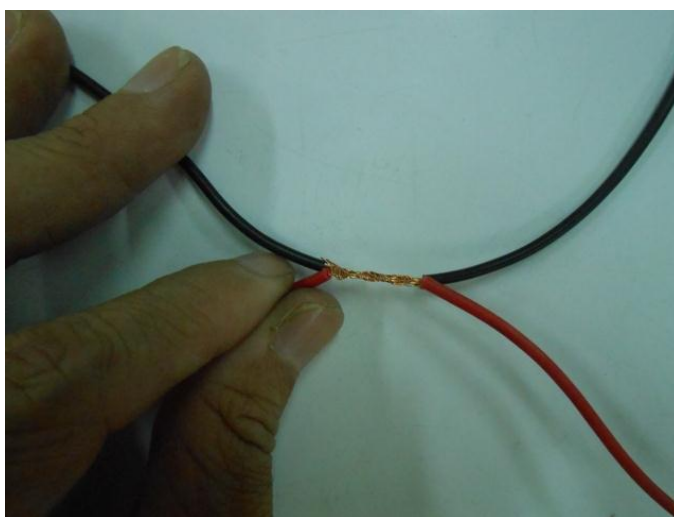


Figure 3

4. Separate the wires from their point of contact and touch again the exposed wires.
 - a. What did you notice after the exposed wires were connected?
What is a possible explanation for this ?
 - b. What do you feel on the exposed wire after they touched each other?
What is a possible explanation for this ?

5. Trace the path of current in the circuit before the two exposed parts of the wire were made to touch. Use arrows to show the path in Figure 4.

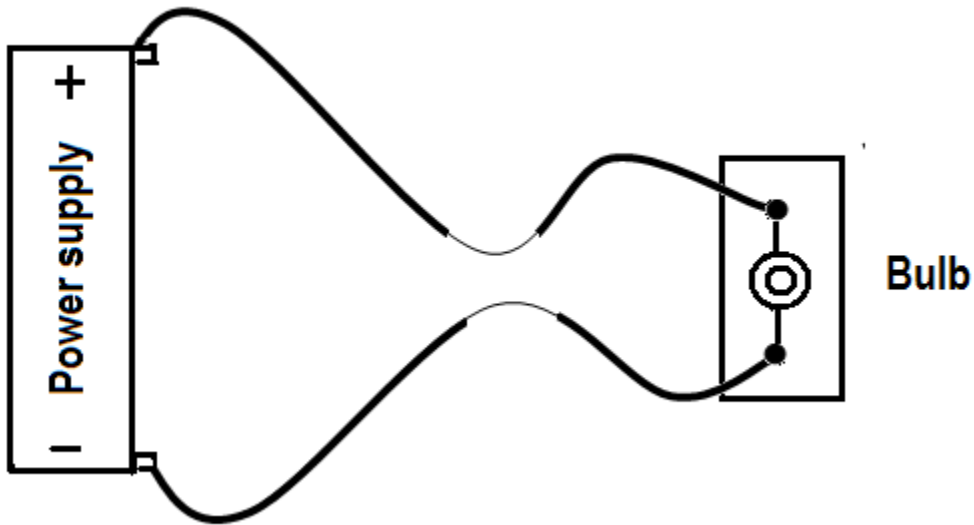


Figure 4

6. Trace the path of current in the circuit after the exposed parts of the wire touch each other. Use arrows to show the path in the illustration below (Figure 5).

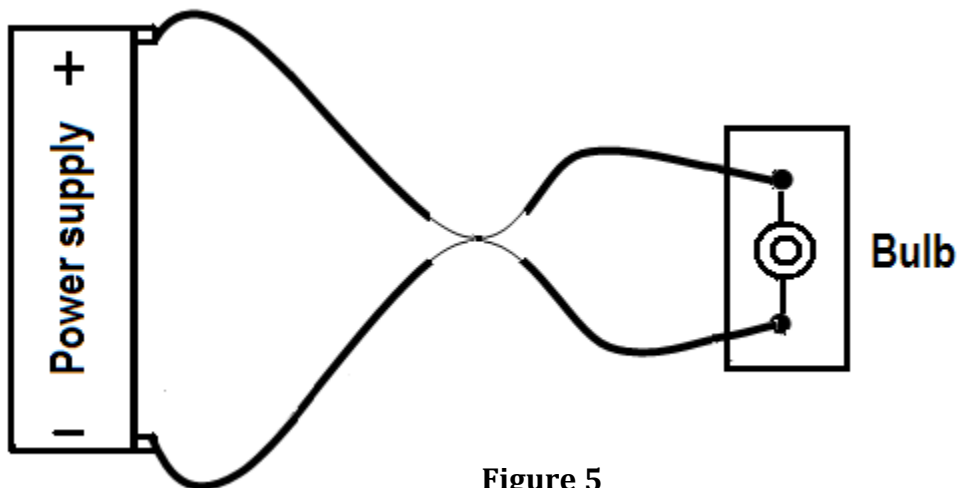


Figure 5