

Human Series Circuit

In this activity, you will model a series circuit. Each student will be a component of the circuit.

Materials

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|---------------------------|--------------------------|
| 2 small red cards | 1 card labelled "switch" |
| 4 – 2 m ropes | 3 cards labelled "bulb" |
| 1 card labelled "battery" | |

What to Do

1. Model the circuit given to your group. For example, if the circuit has a battery, wires, switch, and a bulb:
 - Student 1 is the battery and holds the end of the rope in one hand.
 - Student 2 is the switch and holds the other end of the rope in one hand.
 - Student 2 holds the end of another rope in the other hand. The end of this rope is connected to Student 3, the bulb.
 - Student 3 holds the end of another rope in the other hand. The end of this rope goes back to Student 1.
 - To show that the circuit is complete, Student 3, the bulb, also holds a red card.
2. Model each circuit described below. Have your teacher check your model.
 - a) Series circuit 1: 2 bulbs with switch before first bulb
 - b) Series circuit 2: 2 bulbs with switch between first and second bulb
 - c) Series circuit 3: 3 bulbs with switch between second bulb and battery

What Did You Find Out?

3. How did you know that the circuit was complete?

4. How do your results compare with those of other groups?

5. Does the location of the switch make a difference to the circuit?

YES NO Explain.

6. How would you change this activity to show the effects of adding sources to a series circuit?
