

Simple Circuit

Find out if household items are conductors or insulators of electricity.

What you need:

D cell battery
Low voltage light bulb (Christmas light or flashlight bulb)
Common ordinary items made of metal, plastic, or fabric
3 - 6 inch strips of insulated wire

What to do

1. Connect one end of the battery to the bottom of the light bulb using a single wire.
2. Connect another wire to the other end of the battery (but not to the light bulb).
3. Connect the last wire to the side of the light bulb.
4. There should be two ends of wire not connected to anything!
5. Place a household item of your choosing between the ends of the wires not connected to anything.
6. Touch the wires to opposite ends of the item.
7. If the bulb lights up, you have found a conductor.
8. If the bulb does not light up, you have discovered an insulator.

What to ask

- Why do some items light up and others do not?
- Was there anything similar about the items that lit up?
- What about those that did not light up?
- Were you surprised by any of your results?
- Does the light bulb burn brighter for some of the conductors?

Did you know?

Electricity must have a path to flow through. The objects electricity can flow through are known as conductors. Objects electricity can not flow through are known as insulators. Did you know that your body is a conductor? That is why it is dangerous to touch electrical wires without insulators; the electricity could flow through and harm you.

What's next?

- Can you find materials that have some parts that are conductors and other parts that are insulators? Are some conductors better than others? If so, how can you tell?



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