

# What are Electric Circuits, Conductors, and Insulators?

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UNIT 7 LESSON 2



# Question of the day:

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Erica looked at a group of objects and classified them as electrical conductors or insulators. She made the table below to show her results.

Object	Classification
Glass bead	Insulator
Plastic plate	insulator
Aluminum foil	conductor
Silver bracelet	Conductor
Wooden craft stick	Conductor

How many objects are not classified correctly?



# Question of the day:

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The plastic coating was stripped off the end of the piece of wire shown below.



Why must the plastic be removed before this wire is used in an electrical circuit?

- A. so the wire can be bent and fit into the circuit
- B. to prevent the circuit from becoming overloaded
- C. because the plastic makes the wire too thick to use in a circuit
- D. so that electric current can pass between the copper wire and other parts of the circuit

# It's Shocking

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Insulator – a material that resists the flow of electric charges

good insulators examples: glass, ceramics, quartz, dry wood, air, plastics, rubber

Conductor – a material that readily allows electric charges to pass through it

good conductor examples: silver, gold, aluminum, iron, bronze, mercury, copper



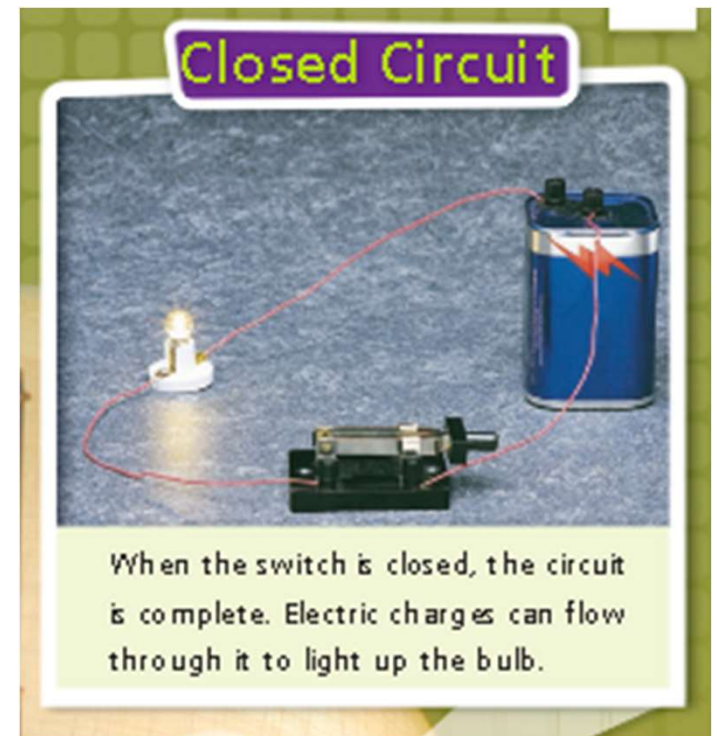
# A Path to Follow

A circuit is a path along which electric charges can flow.

- In order for the electrical device to work, the circuit makes form and complete a loop.

## Closed Circuit

- Completes and forms a loop
- No breaks in the path
- Charges flow



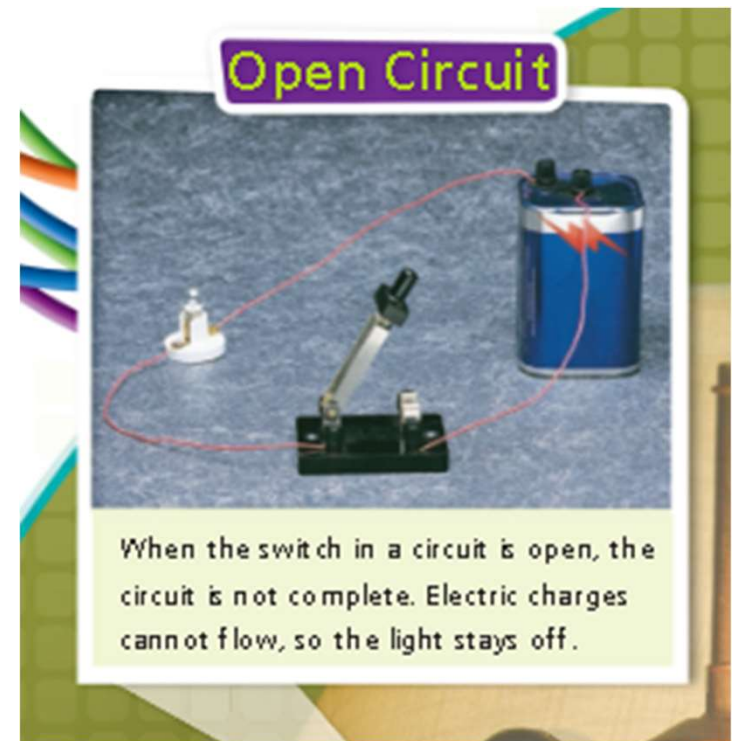
# A Path to Follow cont...

## Open Circuit

- Disconnected – no form or complete loop
- Path is broken
- Charges can't flow

## Switch

- Many circuits have a switch.
- A switch controls the flow of charges by opening and closing the circuit.



# What's Wrong?

