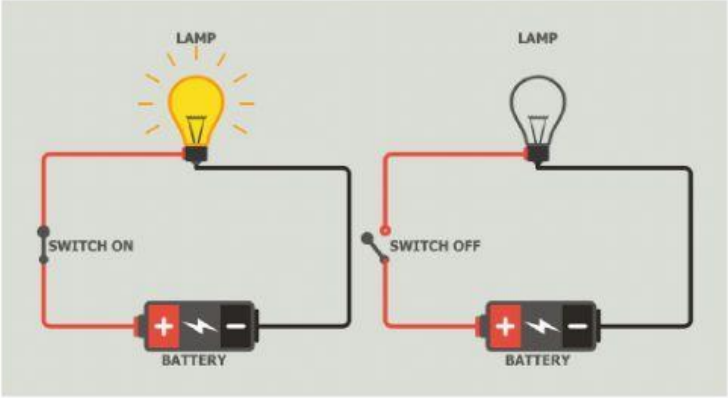
Electric Circuits

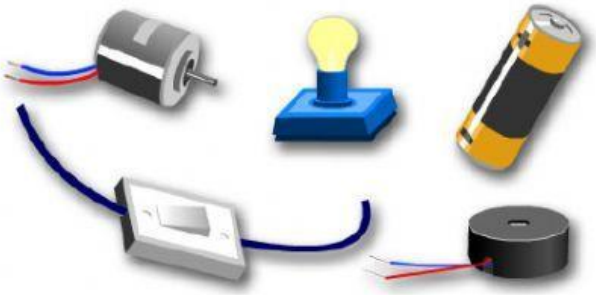
What is an Electric Circuit?



An electric circuit is the conductive path for flow of current or electricity. It is called "electric circuit" or "electrical circuit". A conductive wire is used to establish relations among sources of voltage and loads, which are the components that transform electrical energy into another type of energy. An ON / OFF switch and a fuse is also used in between the source and load.

The Basic Components of an Electric Circuit

Every electric circuit, regardless of where it is or how large or small it is, has five basic parts: a source of voltage, a conductive path (wire), an electrical load (device), a switch (ON/OFF) and a fuse.



Source of Voltage
The first component in an electric circuit is the source of voltage. This source could be a battery, a solar cell, or a hydroelectric plant, and it pushes electric charge (voltage), whose potential is measured in volts.

Conductive Path (wire)
Conductors are substances that allow electricity to pass through them freely. Metals, for example, are good conductors of electricity.

Electrical load (device)
An electrical load is simply any component of a circuit that consumes power or energy. This is, any device in a circuit that converts electrical energy into light, heat, or useful motion.

Switch (ON/OFF)
Switch is an electrical component which can make or break an electrical circuit automatically or manually. Switch mainly works with ON (open) and OFF (closed) mechanisms.

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Fuse

A fuse or a circuit breaker is used to prevent major fires due to overloads. A fuse is designed to burn up if the current gets too high.

Adapted from:

- https://energyeducation.ca/encyclopedia/Electrical_load#:~:text=An%20electrical%20load%20is%20simply,that%20consumes%20power%20or%20energy.&text=In%20a%20more%20general%20sense,a%20load%20on%20the%20circuit.
- https://www.toppr.com/guides/science/electricity-and-circuits/electric-circuits-and-conductors-and-insulators/
- https://www.hunker.com/12003706/the-four-and-more-basic-parts-of-an-electrical-circuit
- http://www.electronicsandyou.com/blog/electric-circuit-types-of-electric-circuit.html

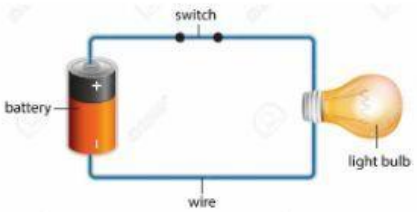
Reading-comprehension Activities

1) Match the images to their names.

A. ____

1. Source of voltage

B. ____



2. Switch (ON/OFF)

C. ____

3. Fuse

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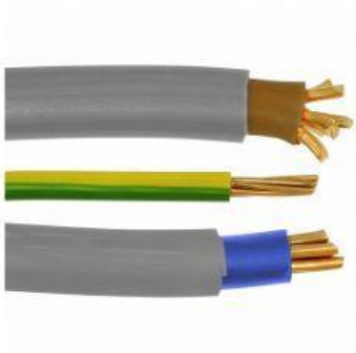
D. ___



4. Electric circuit

E. ___

5. Conductive path

F. ___

6. Electrical load

2) Read the sentences and complete the gaps with missing information from the text *"Electric Circuit"*.

a. An electric circuit is the _____ for flow of current or electricity. It is called "electric circuit" or _____.

b. The first component in an electric circuit is the _____.

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c. _____ are substances that allow electricity to pass through them freely.

d. An electrical load is simply any component of a circuit that consumes _____. This is, any _____ in a circuit that converts electrical energy into light, heat, or useful motion.

e. Switch is an electrical component which can _____ or _____ an electrical circuit automatically or manually.

f. A fuse or a _____ is used to prevent major fires due to overloads. A fuse is designed to _____ if the current gets too high.

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