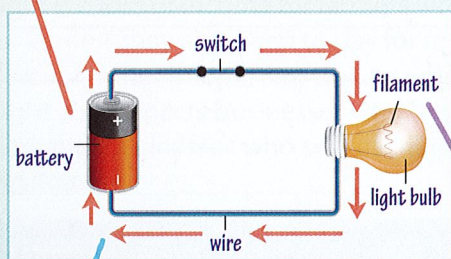# Electric Circuits

Electricity flows through an electric circuit just like water flows through a pipe. Water will flow continuously unless there is an obstacle blocking its path. Then it will stop. An electric current is the flow of electrons around an electric circuit. The current needs a force to make it flow. This force, or electric pressure, is measured in units called volts.

### How Does an Electric Circuit Work?

The flow of electricity travels from the positive terminal on a battery to the negative terminal. The battery is the power source that stores electricity.

The electricity will flow until the battery loses its charge or the switch is opened.

The switch acts like a tap. It connects or disconnects the wires that carry the flow of electricity to the light bulb.

A closed circuit
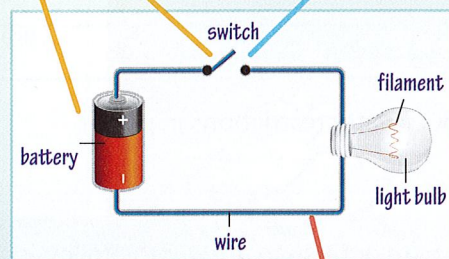
An open circuit

After the electricity leaves the light bulb it flows back to the negative terminal on the battery.

The thin wire inside a light bulb is called a filament. When the electricity passes through the filament, it glows and gives off light.

Copper wire provides a path for electricity to flow. The wire is encased in plastic.

A closed electric circuit has electric current flowing from the battery to the light bulb and back continuously, with the light bulb being illuminated. When an electric circuit does not have all of its components connected, or the switch is opened, it creates a gap. Any gap in the electric circuit will result in the current halting its flow. This is called an open circuit.
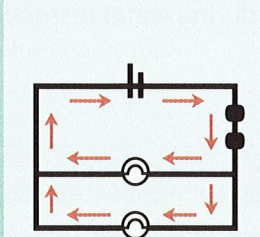
Series
When light bulbs are arranged in a series, there is only one path for the current to flow. The more light bulbs in a series, the dimmer the lights will appear.
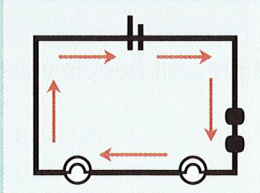
Parallel
When light bulbs are placed in a parallel circuit, there is more than one path for the current to flow because different components are connected on different divisions of the wire. Therefore, if one bulb fuses it will not affect the others in the same circuit.

Key

Component	Symbol
Wire	———
Light bulb	—⊙—
Open switch	—•⁄ •—
Closed switch	—•—•—
One battery	‖
Two batteries	‖ ‖