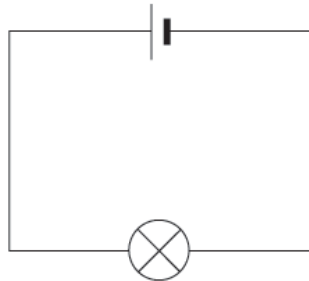
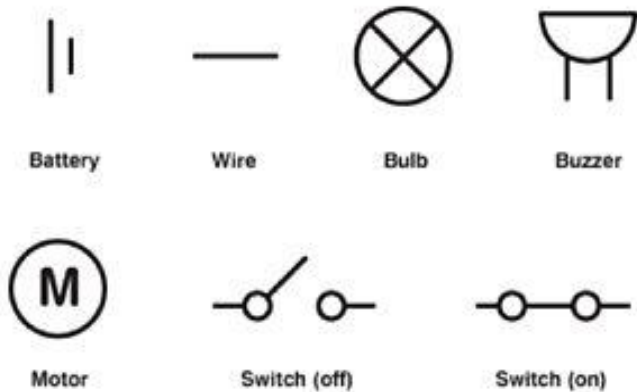


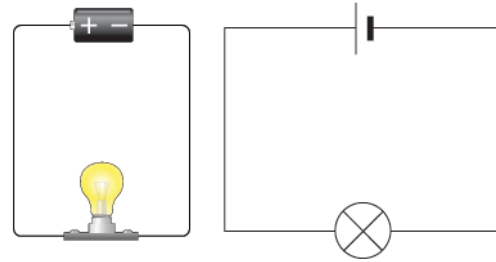
Year 6 Electrical Circuits

A circuit always has a battery (cell) but it can also contain other electrical components, such as bulbs, buzzers and motors.

When drawing circuit diagrams, rather than drawing detailed components, we use simple symbols to represent the different components.

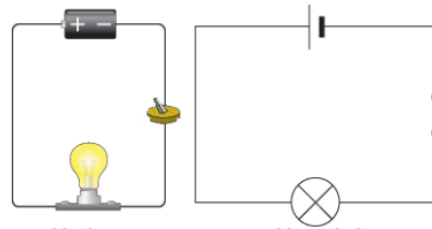


Electricity can flow through the components in a **complete** electrical circuit.



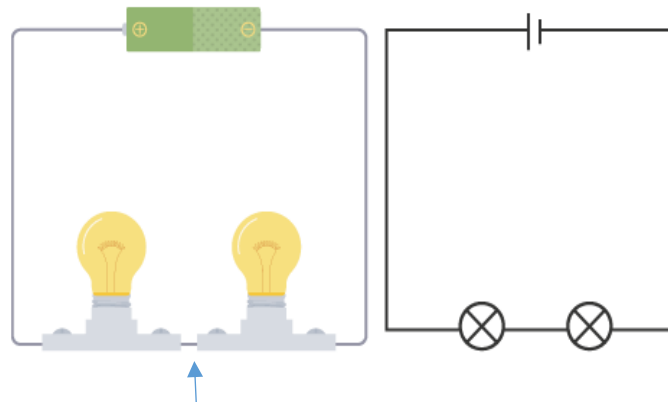
A circuit always needs a **power source**, such as a battery, with wires connected to both the positive (+) and negative (-) ends.

Electricity will only travel around a circuit that is complete. That means it has no gaps. You can use a switch in a circuit to create a gap in a circuit. This can be used to switch it on and off.



When a switch is open (off), there is a gap in the circuit. Electricity cannot travel around the circuit. When a switch is closed (on), it makes the circuit complete. Electricity can travel around the circuit.

cell	Stores energy until it is needed. This energy is chemical energy.
battery	A collection of cells is called a battery
voltage	The force that makes the electric current move through the wires. The greater the voltage, the more current will flow
current	Flow of electrons
amps	How electric current is measured.
electrons	Electrons are very small particles. There are electrons in all of the parts of the circuit. They take the energy from the cell and around the circuit to all of the components.
resistance	The difficulty that the electric current has when flowing around a circuit.



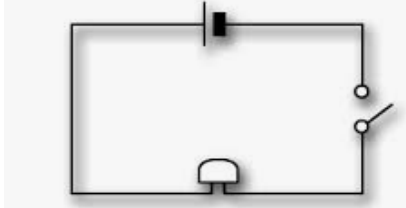
This is a series circuit. If you start at one end of the battery and travel around the circuit, you pass through all of the components before you get to the other end of the battery.

There is only one route to take!

The more bulbs or buzzers you add, the dimmer or quieter they will get as they will be sharing the energy from the battery / cell.

If more cells are added, the bulbs will become brighter. If a buzzer was in place instead of a bulb, it would get louder.

What will make a bulb brighter or a buzzer louder?	
More batteries / cells	Shortening the wires - to create less resistance
What will make a bulb dimmer or a buzzer quieter?	
More bulbs or cells	Lengthening the wires to increase the resistance



One buzzer in a series circuit