

Vocabulary

Word	Meaning
battery	A device for storing and supplying electricity.
bulb	The part of an electric lamp, which gives out light when electricity passes through it.
buzzer	A component in a circuit that makes a sound when electricity goes through it.
cell	The scientific name for a battery. A cell produces an electrical current, chemically.
circuit	A complete path that an electrical current can flow around. Electricity flows from the cell/battery, through wires and components before returning to the cell/battery.
component	A part of a circuit (eg. bulb, motor, cell).
current	The measure of how much electric charge flows through a complete circuit.
motor	A component that converts electrical energy into mechanical energy and can make something move.
parallel circuit	A circuit that has more than one pathway for an electrical current to flow through.
resistance	The difficulty that the electric current has when flowing around a circuit.
series circuit	A circuit that has one pathway for an electrical current to flow through.
voltage	The force that makes the electric current move through the wires. The greater the voltage, the more current will flow. Measured in volts (V).

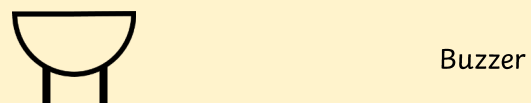
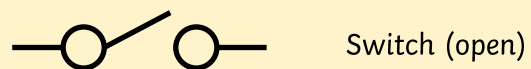
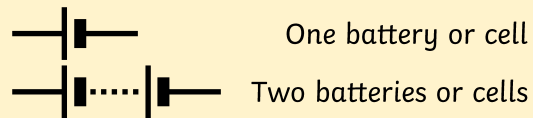
Simple Circuits

A cell or battery is needed in a circuit to power it and provide electricity.

The higher the voltage within a circuit, the more electricity is within it. This means there is more power that can be shared between the components.

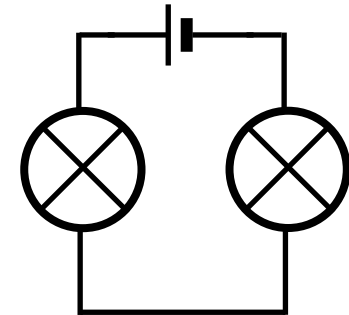
Circuit Symbols

Circuit symbols are used to draw circuit diagrams so it is clear what components are included in a circuit.

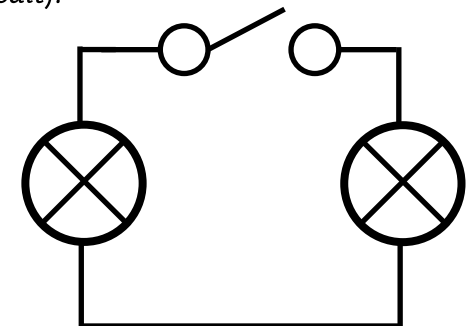


Complete and Incomplete

A complete circuit means there is a clear pathway for an electrical current to travel through.

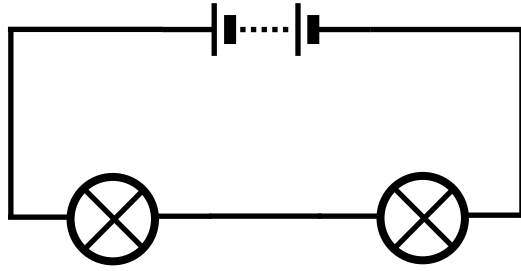


An incomplete circuit means that there is resistance; the electrical current is unable to flow through the circuit as it is broken. It could also be when a circuit is not provided with any electrical current (a battery or cell is not included in the circuit).



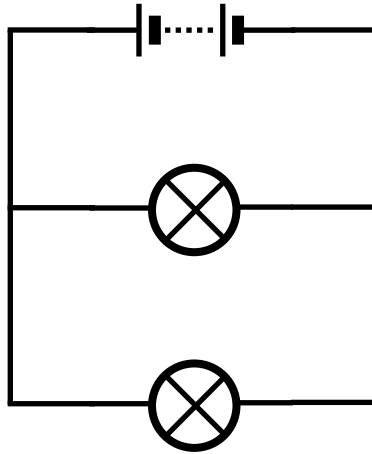
Series and Parallel Circuits

A series circuit that has only one route for the current to take. If more bulbs or buzzers are added, the power has to be shared and so they will be dimmer or quieter. If just one part of this series circuit breaks, the circuit is broken and the flow of current stops.



series circuit

A parallel circuit has more than one route for the electrical current to take. If one component in the circuit did not work, the entire circuit would continue to work as the current is able to find a different pathway.



parallel circuit

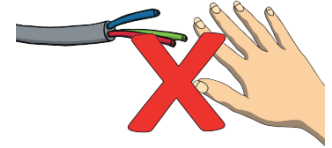
Electricity

Electrical Safety

Even though it can be very useful, Electricity can also be **very** dangerous. We always have to think about electrical safety so that electricity does not harm us.



Don't put your fingers in sockets



Don't pull wires



Don't use radios or hair dryers near water



Don't climb trees near power lines



Don't fly kites near power lines

Extending your learning

5 things you could do at home to extend your learning:

1. Find as many electrical appliances at home as you can and check their voltage. Why might some require a higher voltage than others?
2. Have a think about what items at home require an electrical circuit. Which are series and which are parallel? Think about if one light bulb in your house blows, will this affect the others in your home?
3. Draw your own scientific diagram of an electrical circuit in your home or at school.
4. Visit the Science Museum in London to find out more about electricity.
5. Think about electric cars: How do they work? What are the pros and cons of having an electric vehicle?