# Science study

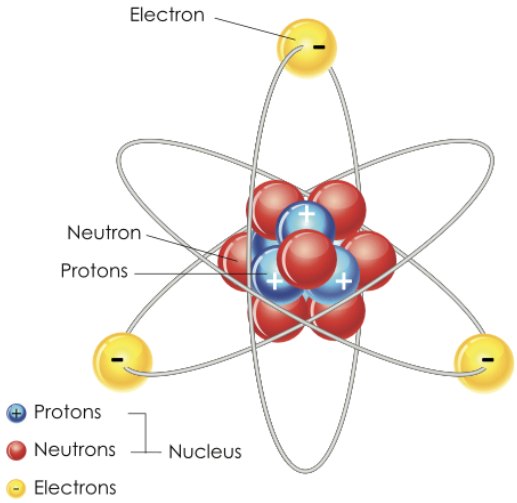
# Electricity

Year ___ _____ Term

Atoms are the **smallest** part of an element

Atoms have a **nucleus** containing **neutrons** and **protons (+)**

**electrons (-)** *orbit* around the central **nucleus**




**nucleus** = protons (+) and neutrons (no charge) they are held together in the nucleus of atoms

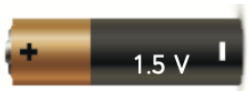
**electron** = negative (-) charge and are free to move about

**electrons** repel each other (-) and (-) When one moves it repels another and this causes the current of electricity

**electricity** – a word we use to describe the position or movement of charge

V

A




positive (+) **terminal** (end of battery)

negative (-) **terminal** (end of battery)

**potential difference (used to be called 'voltage')**

- The energy transferred to/from charge to induce current
- a small battery is usually 1.5V
- mains electricity has a potential difference of 230V
- **potential difference is still measured in volts**

**current**

- 'continuous loop' of charges moving through the circuit
- measured in amps (A)



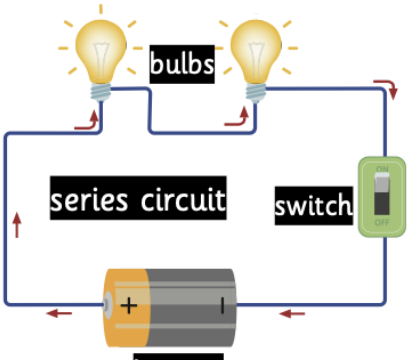
This remote control needs a **potential difference of 3 volts** to work = 3 volts



1.5 V + 1.5 V

**circuits**

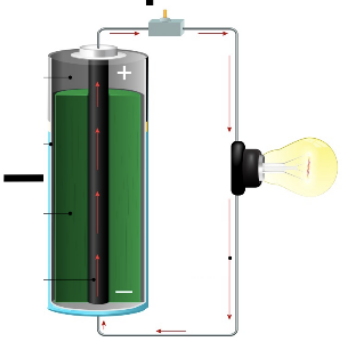
a closed series circuit – electric **current** follows one path

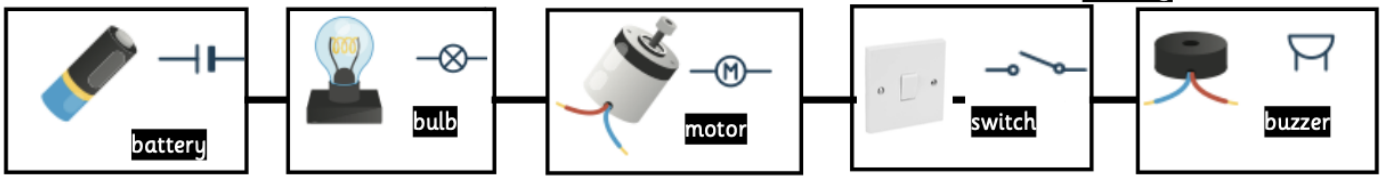



If the **positive** and **negative** terminals of a battery are joined by a wire, then electrons will flow. We call this current.

The conventional current flows from the **positive** terminal to the **negative** terminal.

Batteries create a current when the circuit is complete.






- It is dangerous to play with plugs or leave liquid near electrical items
- Never touch exposed wires

- Never touch switches with wet hands
- Don't fly kites near overhead power lines

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