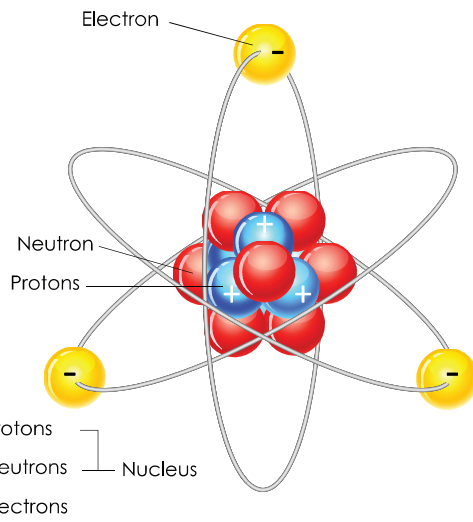


Electricity

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

Atoms have a **nucleus** containing **neutrons** and **protons (+)**
electrons (-) orbit around the central **nucleus**

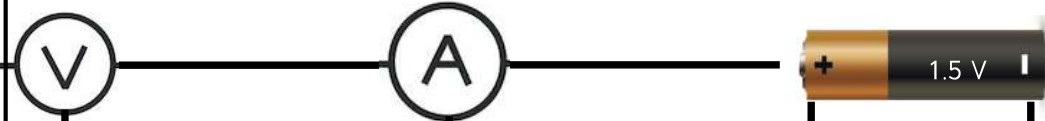


nucleus = protons (+) and neutrons (no charge) they are held together in the nucleus of atoms

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



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

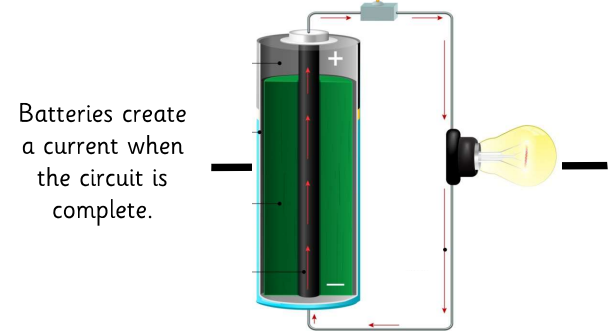
- 'continuous loop' of charges moving through the circuit
- measured in amps (A)

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

This remote control needs a **potential difference of 3 volts** to work.
1.5 V + 1.5 V = 3 volts

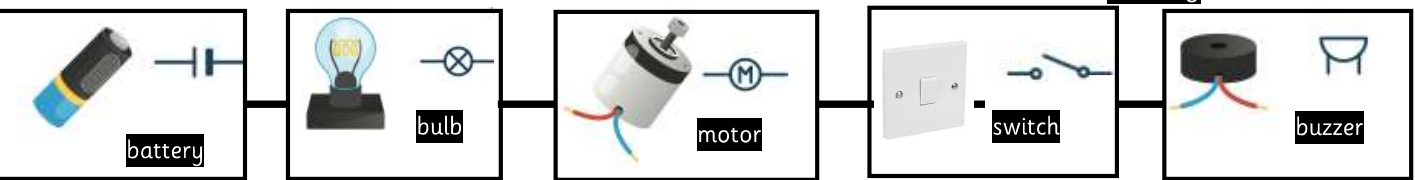
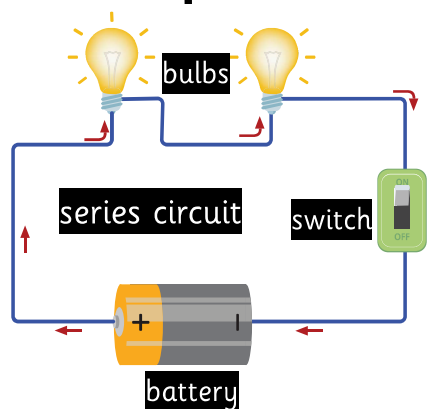
circuits

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.



- 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