



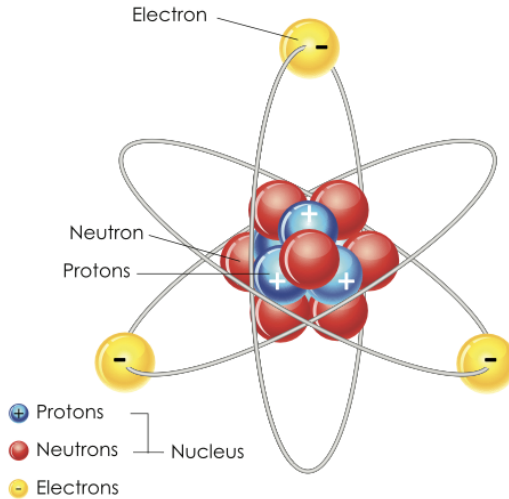
Science study

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



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

Electricity



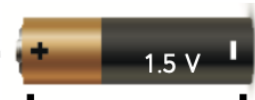
Year ____ Term ____

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)

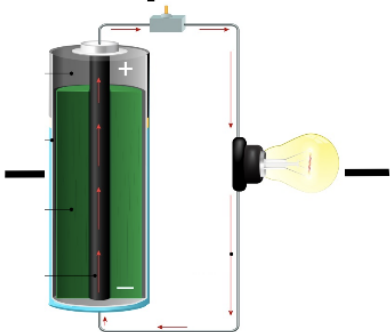
This remote control needs a **potential difference of 3 volts** to work = 3 volts

$1.5V + 1.5V = 3V$



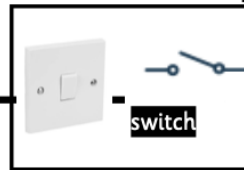
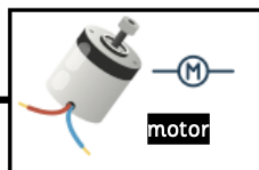
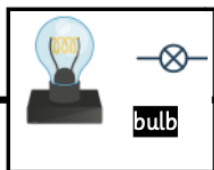
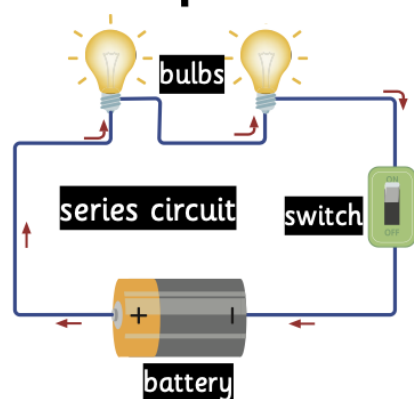
a closed series circuit – electric **current** follows one path

Batteries create a current when the circuit is complete.



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