



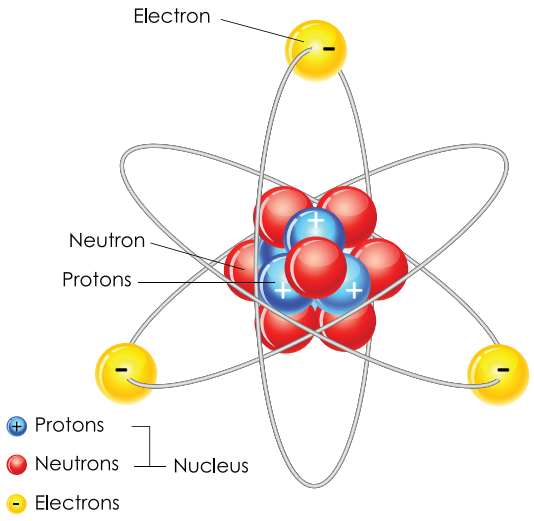
Science study

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**

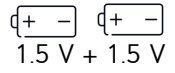
current
• 'continuous loop' of charges moving through the circuit
• measured in amps (A)

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

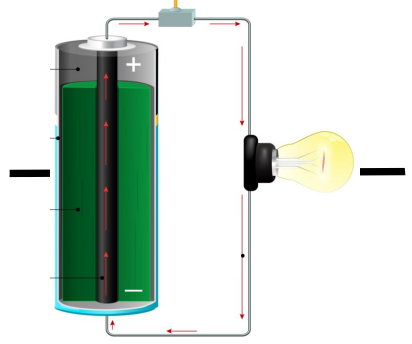
negative (-) **terminal** (end of battery)



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

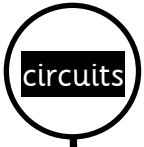


Batteries create a current when the circuit is complete.

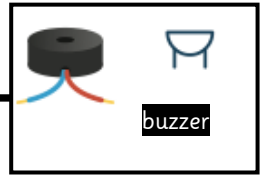
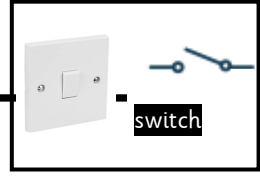
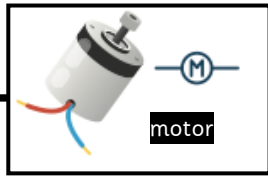
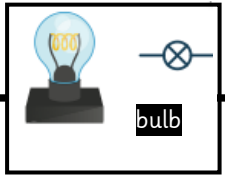
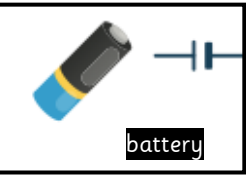
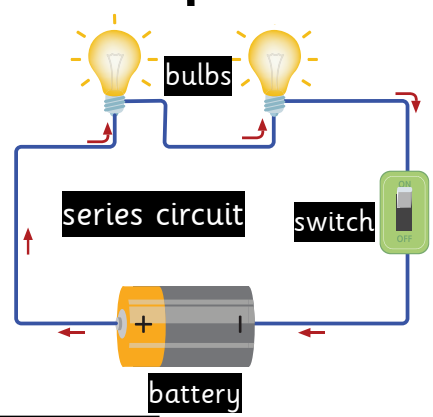


If the **positive** and **negative** terminals of a battery are joined by a wire, then electrons will flow. We call this current.

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



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



• 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