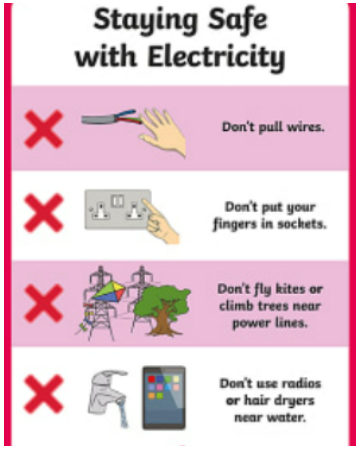
Science – Electricity - How do We Create an Electrical Circuit

Year 4 | Summer 2

Working together to be the best that we can be

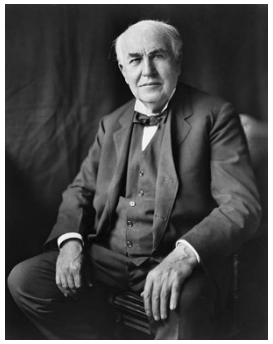
Golden Thread: Technical Advancement

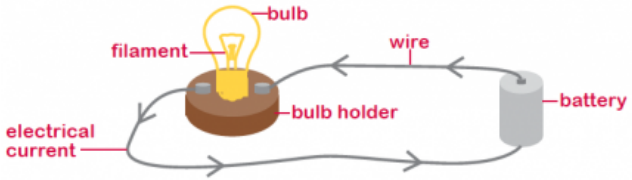
Electricity can be very DANGEROUS. Always work safely

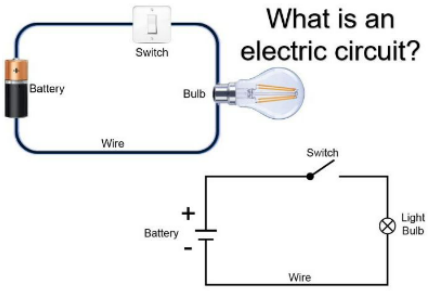


Thomas Edison (February 11, 1847 – October 18, 1931)

He was an American inventor who invented many things. Edison developed one of the first practical light bulbs, but contrary to popular belief, did not invent the light bulb. Edison's received 1093 patents, which was the most granted to any inventor in his time. He started the General Electric Company to make some of the things he invented.







Insulators & Conductors

Insulators and Conductors help with the flow of electrical energy.

Insulators stop the transfer of energy. They slow down the energy and make it difficult for it to pass through the object.

Conductors help the transfer of energy. They allow energy to easily pas through the object.

Electrical Insulators	Electrical Conductors
	
What do all these insulators have in common?	What do all these conductors have in common?

Key facts

- In a **series circuit** all the components are joined together and the electricity can only flow in one **direction.**
- A **circuit** will not work if the cells aren't connected properly, a component isn't working, if there is a gap or one of the components acts as an insulator.
- An **electrical conductor lets electricity pass through it**. They are often **metal** (e.g. iron, copper and gold) but also include carbon and water.
- An **insulator doesn't let electricity pass through it**, e.g. wood, leather and plastic.

Glossary

electricity a form of energy that can be carried by wires and is used for heating and lighting.

bulb the glass part of an electric lamp, which gives out light when electricity passes through it.

battery a container of one or more cells in which chemical energy is converted into electrical energy and used as a source of power.

buzzer an electrical device that is used to make a buzzing sound.

circuit a complete route which an electric current can flow around.

switch a small control for an electrical device which you use to turn the device on or off.

wires a long thin piece of metal that is used to carry electric current.

motor a device that uses electricity or fuel to produce movement.

conductors a substance that heat or electricity can pass through or along.

insulators a non-conductor of electricity or heat.

electrical appliances an electrical device or machine in your home that you use to do a job such as cleaning or cooking.

Mains where the supply of water, electricity, or gas enters a building. component the parts that something is made of.

current a flow of electricity through a wire or circuit.