



Science - Electricity Unit 6







Useful web links

- <https://www.bbc.co.uk/bitesize/topics/zi44jxs>
- https://school-learningzone.co.uk/key_stage_two/ks2_science/light_sound_and_electricity/electricity/electricity.html

I already know:

- How to identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses (metal can be used for coins, cans, cars and table legs; wood can be used for matches, floors, and telegraph poles) or different materials are used for the same thing (spoons can be made from plastic, wood, metal, but not normally from glass)


Key Vocabulary	
electricity	The flow of an electric current through a material, e.g. from a power source through wires to an appliance .
appliances	A piece of equipment or a device designed to perform a particular job, such as a washing machine or mobile phone.
battery	A device that stores electrical energy as a chemical. Two or more cells joined together form a battery .
circuit	A pathway that electricity can flow around. It is based around wires and a power supply. Examples of components (parts) you can add in to a circuit are bulbs, switches, buzzers and motors.

Components (Parts) Vocabulary		
<p>cell: Normally, we would call this a battery but scientifically, this is a cell. Two or more cells joined together form a battery.</p> 	<p>bulb: Lights up in a complete circuit.</p> 	<p>buzzer: Makes a noise in a complete circuit.</p> 
<p>wires: Used to connect the different components in the circuit together.</p> 	<p>motor: Produces movement in a complete circuit.</p> 	<p>switch: Used to turn other components in the circuit on or off.</p> 


Series Circuit

A **circuit** where the components are connected in a loop.

Electricity flows through each component in a single pathway.




Complete Circuit




Electricity can flow. The components will work.

Incomplete Circuit


There is a break in the **circuit** that prevents the **electricity** from flowing. The components will not work.



Switches can be used to open or close a **circuit**. When off, a switch 'breaks' the **circuit** to stop the flow of **electricity**. When on, a switch 'completes' the **circuit** and allows the **electricity** to flow.



push button switch



slide switch

Key Vocabulary

mains electricity	Electricity supplied through wires to a building.
electrical conductor	A conductor of electricity is a material that will allow electricity to flow through it.
electrical insulator	Materials that are electrical insulators do not allow electricity to flow through them.

Appliances

Many everyday **appliances** rely on **electricity** for them to work. Some **appliances** use **mains electricity** (are plugged into a socket) and others have a **battery** to make them work. Examples of **mains-powered appliances** include toasters and televisions. **Battery-powered appliances** can include mobile phones and torches.

mains-powered



battery-powered



Key Knowledge

Examples of **Electrical Conductors**



Examples of **Electrical Insulators**



To work **safely** with **circuit** components in the classroom:

- None of the equipment needs to use mains power, so do not put any of it in or near plugs.
- Report any damaged or broken equipment to your teacher. Do not use it.
- Only use equipment as instructed.
- Connect equipment correctly.
- Disconnect equipment after use and put it away neatly.

Materials can be tested in a **circuit** to see if they are **electrical conductors** or **electrical insulators**.



10p = metal = **electrical conductors**



test **circuit**



ruler = plastic = **electrical insulators**