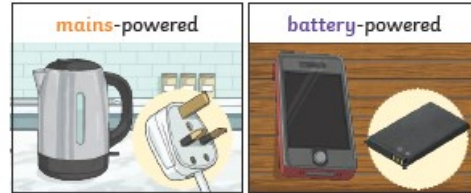


Electricity


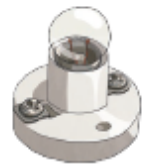
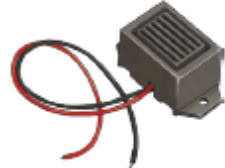



Key Vocabulary	
electricity	The flow of an electric current through a material, e.g. from a power source through wires to an appliance .
appliances	A piece of equipment or a device designed to perform a particular job, such as a washing machine or mobile phone.
battery	A device that stores electrical 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.
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.


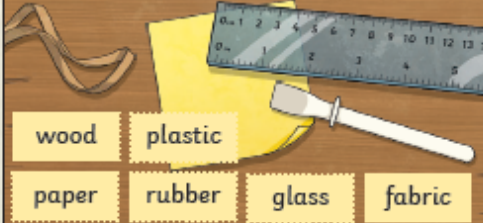
Appliances
Many everyday **appliances** rely on **electricity** for them to work. Some **appliances** use **mains electricity** (are plugged into a socket) and others have a **battery** to make them work. Examples of **mains-powered appliances** include toasters and televisions. **Battery-powered appliances**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




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.



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> 

Key Knowledge	
<p>Examples of Electrical Conductors</p>  <p>water metal</p>	<p>Examples of Electrical Insulators</p>  <p>wood plastic paper rubber glass fabric</p>

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.
 - Only use equipment as instructed.
 - Connect equipment correctly.
 - Report any damaged or broken equipment to your teacher. Do not use it.
 - 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**

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.



Key Science Skills

Asking questions

Asking questions that can be answered using a scientific enquiry.



Making predictions

Using prior knowledge to suggest what will happen in an enquiry.



Setting up tests

Deciding on the method and equipment to use to carry out an enquiry.



Observing and measuring

Using senses and measuring equipment to make observations about the enquiry.



Recording data

Using tables, drawings and other means to note observations and measurements.



Interpreting and communicating results

Using information from the data to say what you found out.



Evaluating

Reflecting on the success of the enquiry approach and identifying further questions for enquiry.



Electricity



Key outcomes

I can identify common appliances that run on electricity.

I can make a simple electrical circuit and name the basic parts of a circuit

I can identify whether a light will be on in a circuit.

I can recognise that a switch opens and closes a circuit.

I can recognise electrical conductors and insulators.

Electricity Symbols



Battery



Wire



Bulb



Buzzer



Motor



Switch (off)



Switch (on)