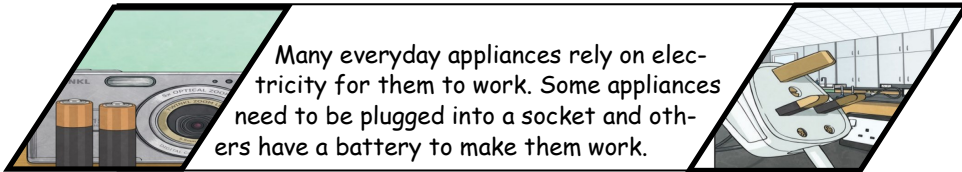




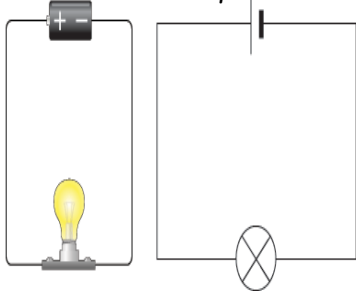
Key Knowledge

*Can you name an electrical appliance in your home?*



Many everyday appliances rely on electricity for them to work. Some appliances need to be plugged into a socket and others have a battery to make them work.

*I can construct a simple circuit.*

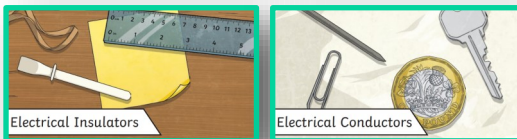


- A **circuit** always has a power source such as a battery with wires connected to both the positive and negative ends.
- A **circuit** can also contain other electrical components such as bulbs, switches and buzzers.
- Electricity will only travel around a complete circuit.

*I can predict whether or not a bulb will light in a circuit.*

	<p>Will the bulb light?</p> <p><b>No</b></p> <p>Why?</p> <p>The circuit has no battery to provide the electrical power.</p>
	<p>Will the bulb light?</p> <p><b>No</b></p> <p>Why?</p> <p>The circuit is not complete.</p>

*Can you name a conductor? Can you name an insulator?*



- Woods, plastics and glass are good **insulators**.
- Metals are good **conductors**.

*How can I open and close a circuit?*

When off, a switch breaks a **circuit** to stop the flow of **electrons**. When a switch is on, the **circuit** is complete and **electrons** are able to flow around the **circuit**.



Key Vocabulary

<b>appliances</b>	A piece of equipment designed to carry out a certain job.
<b>battery</b>	A device that stores electrical energy as a chemical.
<b>circuit</b>	A pathway that electricity can flow around.
<b>conductor</b>	A material that allows electrons to pass through it.
<b>electricity</b>	The flow of an electric current through a material.
<b>electrons</b>	Small particles with an electric charge.
<b>insulator</b>	A material that electrons can't travel through in one direction.

Working Scientifically

- We will be sorting household appliances and talking about our criteria for sorting them.
- We will be investigating circuits by making predictions with reasons discussing whether or not different circuits will power a bulb.
- We will design our own fair tests on the conductivity of different materials. We will record our data using scientific language and labelled diagrams and tables. We will use our findings to design our own light switches.

Prior learning

Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. (Early Learning Goal)

MISCONCEPTIONS—some children may think that:

- electricity flows to bulbs, not through them
- electricity flows out of both ends of a battery
- electricity works by simply coming out of one end of a battery into the component.