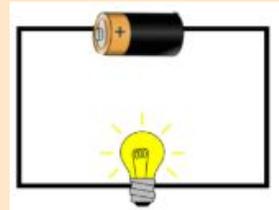
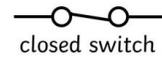
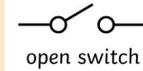
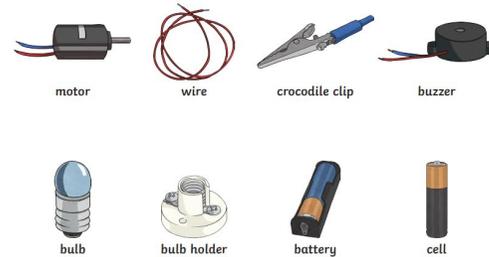


Key Knowledge

<p>Household devices Many household devices and appliances run on electricity. Some plug in to the mains and others run on batteries.</p>	<p>Electrical circuit An electrical circuit consists of a cell or battery connected to a component using wires.</p>
<p>Loose connections If there is a break in the circuit, a loose connection or a short circuit, the component will not work.</p>	<p>Switches A switch can be added to the circuit to turn the component on and off.</p>
<p>Conductors Metals are good conductors so they can be used as wires in a circuit.</p>	<p>Insulators Non-metallic solids are insulators except for graphite (pencil lead).</p>
<p>Water Water, if not completely pure, also conducts electricity.</p>	

Key Diagrams

Electrical Circuit Components



Complete circuit

Key Vocabulary

Battery	Small devices that provide the power for electrical items such as torches
Bulb	The glass part of an electric lamp, which gives out light when electricity passes through it.
Buzzer	A component in a circuit which makes a sound when the circuit is complete.
Cell	This can be a battery, It describes the source of power.
Complete circuit	A complete route which an electric current can flow around
Component	The parts that something is made of
Conductor	A substance that heat or electricity can pass through or along
Crocodile Clip	The clip at the end of the wires that form a circuit. The clip is attached to the components in the circuit.
Current	The flow of electricity through a wire or circuit
Electrical appliance/device	Examples include a kettle, iron and computer. They all need electricity to work.
Electrical circuit	Energy from a cell flows through the wires around the path which forms the circuit
Electricity	A form of energy that can be carried by wires and is used for heating and lighting, and to provide power for devices
Insulator	A substance that will not allow heat or electricity to pass through or along
Mains	Where the supply of water, electricity, or gas enters a building
Metal	A solid material such as gold or silver which will conduct electricity
Motor	A device that uses electricity or fuel to produce movement
Non-metal	A material which is not a metal which does not conduct electricity
Plug	The plug contains metal pins and connects the electrical appliance to the mains
Switch	a small control for an electrical device which you use to turn the device on or off

Important Scientists

<p>Robert Noyce He co-invented the silicon chip which is found in all computers</p>	1927 - 1990
<p>Hedy Lamarr She developed a radio control system which was used during WWII and is still used today</p>	1913-2000

Investigate

Construct a range of circuits.	Explore which materials can be used instead of wires to make a circuit.
Classify the materials that were suitable/not suitable for wires as conductors and insulators.	Make circuits that can be controlled as part of a DT project.
Explore how to connect a range of different switches and investigate how they function in different ways.	Apply knowledge of conductors and insulators to design and make different types of switch.