

Year 4 - Electricity

Key Vocabulary

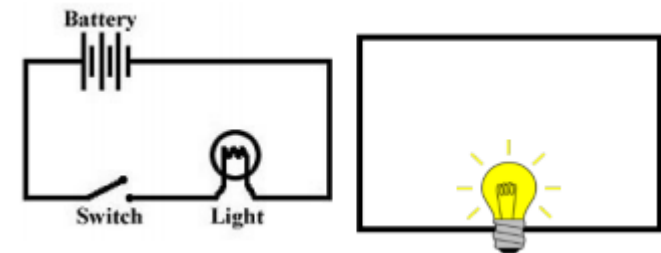
Circuit	A pathway that electricity can flow around. It includes wires and a power supply and may include bulbs, switches or buzzers
Cell	Converts energy to electricity
Wire	A length of material that conducts electricity
Bulb	A device that provides light when electricity passes through it
Buzzer	An electrical device that is used to make a sound
Appliance	A device designed to perform a task
Batteries	A device that stores electrical energy as a chemical
Current	The steady flow of electrons
Voltage	A collection of cells
Component	The parts that something is made of
Conductor	A substance that heat or electricity can pass through or along
Insulator	A non-conductor of electricity or heat. Does not allow electricity to pass through or along
Electricity	A form of energy that can be carried by wires and is used for heating and lighting, and to provide power for devices
Generate	To make or produce

Key Objectives

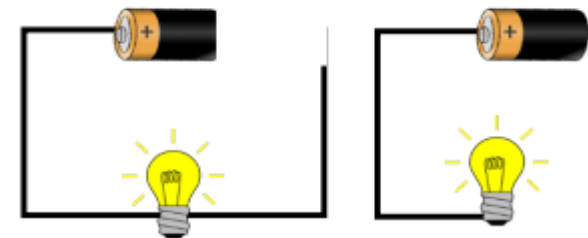
- To identify common appliances that run on electricity
- To construct a simple series electrical circuit, identifying and naming its basic parts including cells, wires, bulbs, switches and buzzers
- To identify whether or not a lamp will light in a simple series circuit based on whether or not the lamp is part of a complete loop with a battery
- To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
- To recognise some common conductors and insulators, and associate metals with being good conductors

Circuit Diagrams

Complete Circuits




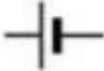
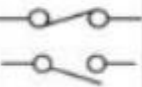


Incomplete Circuits



Key Knowledge

Where does electricity come from?	<ul style="list-style-type: none"> Electricity is generated using energy from sources such as the Sun, oil, water and wind
Which appliances run on electricity?	<ul style="list-style-type: none"> Some appliances use batteries and some use mains electricity Common appliances that use electricity: <ul style="list-style-type: none"> Toaster Lamp Kettle Laptop Headlights Television Torch phone
How does a circuit work?	<ul style="list-style-type: none"> A complete circuit is a loop that allows electrical current to flow through the wires A circuit contains a battery (cell), wires and an appliance that requires electricity to work (such as a bulb or a buzzer) The electrical current flows through the wires from the battery to the bulb or buzzer A switch can break or reconnect a circuit A switch controls the flow of electrical current around the circuit. When the switch is off, the current cannot flow. This is not the same as an incomplete circuit
What are electrical conductors and insulators?	<ul style="list-style-type: none"> When objects are placed in the circuits, they may or may not allow electricity to pass through Objects that are made from materials that allow electricity to pass through are called electrical conductors Objects that are made from materials that do not allow electricity to pass through and do not complete a circuit are called electrical insulators

Electrical Symbols

	Wire	cell	switch	buzzer	lamp
Circuit Diagram					
Picture	