


















Knowledge is Power...

Ivington CofE Primary and Preschool

Reaching together... stand firm in your faith, be courageous and strong - 1 Corinthians 16:13



SUBJECT: PHYSICS - ELECTRICITY	TERM: SUMMER 2022		YEAR GROUPS 4/5	
What should I already know?	Vocabulary			
<ul style="list-style-type: none">Electricity is a form of energy that can be carried by wires and is used for heating and lighting, and to provide power for devices.Sources of light and sound may need electricity to work.	appliances	a device or machine in your home that you use to do a job such as cleaning or cooking. Appliances are often electrical .	energy	the power from sources such as electricity that makes machines work or provides heat
	battery	small devices that provide the power for	fuel	a substance such as coal, oil, or petrol that is burned to provide heat or power
What will I know by the end of the unit?	bulb	the glass part of an electric lamp, which gives out light when electricity passes through it. 	Generate	cause it to begin and develop
Where does electricity come from?	buzzer	an electrical device that is used to make a buzzing sound 	Insulator	a non- conductor of electricity or heat
<ul style="list-style-type: none">Electricity is generated using energy from natural sources such as the Sun, oil, water and wind.These can also be called fuel sources.	cell	a synonym for battery 	Mains	where the supply of water, electricity , or gas enters a building
Which appliances run on electricity ? <ul style="list-style-type: none">Some appliances use batteries and some use mains electricity.Batteries come in different sizes depending on how much and for how long the appliance is used.Common appliances that use electricity. <div> toaster lamp kettle</div> <div> laptop X-box phone</div> <div> torch headlights television</div>	circuit	a complete route which an electric current can flow around	Motor	a device that uses electricity or fuel to produce movement
	component	the parts that something is made of	Mains	where the supply of water, electricity , or gas enters a building
	conductor	a substance that heat or electricity can pass through or along	Motor	a device that uses electricity or fuel to produce movement
	current	a flow of electricity through a wire or circuit	Power	Power is energy , especially electricity , that is obtained in large quantities from a fuel source and used to operate lights, heating, and machinery
	device	an object that has been invented for a particular purpose	source	where something comes from
	Electricity	a form of energy that can be carried by wires and in used for heating and lighting, and to provide power for devices	Switch	a small control for an electrical device which you use to turn the device on or off 
	motor	a device that uses electricity or fuel to produce movement 	Switch	a small control for an electrical device which you use to turn the device on or off
			Wires	a long thin piece of metal that i s used to fasten things or to carry electric current 



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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.

HOW DOES A CIRCUIT WORK?

A complete **circuit** is a loop that allows **electrical current** to flow through **wires**.

- A **circuit** contains a **battery (cell)**, **wires** and an **appliance** that requires **electricity** to work (such as a **bulb**, **motor** or **buzzer**).
- The **electrical current** flows through the wires from the **battery (cell)** to the **bulb**, **motor** or **buzzer**.
- A **switch** can break or reconnect a **circuit**.
- A **switch** controls the flow of the **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?

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**.

COMPLETE CIRCUIT

Electricity can flow. The components will work.

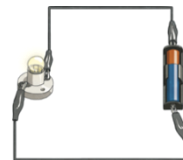
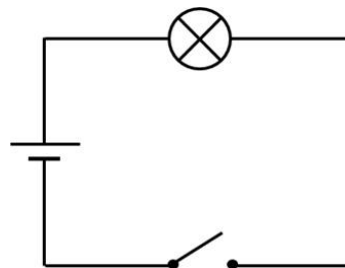


DIAGRAM - CIRCUIT



INCOMPLETE CIRCUIT

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



INVENTOR – THOMAS EDISON

Thomas Edison was born in 1847 and died in 1931. He lived in the state of New Jersey in the United States of America (USA). He is known as one of the greatest inventors in history. He invented the **light bulb**, the **Phonograph** (which could record and play sound) and an early video camera called the **Kinetograph**. The films were then watched on a **Kinetoscope** which he also invented.

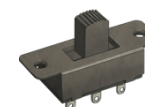


SWITCHES

Switches can be used to close or open 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 around the circuit.



Toggle switch



Slide switch



push button switch