

Knowledge Organiser

Year: 4

Term: Autumn 1

Topic: Electricity - Physics

Key Knowledge:

Electricity is a form of energy made up of tiny particles (called electrons) that flow around a circuit.

Benjamin Franklin discovered electricity when he famously flew a kite with a key attached to it in a storm to prove that the electrical energy in a storm could be conducted to the ground -he got a big electric shock as a result.



Every day in our homes and at work we use many appliances that run on electricity. Some use mains by plugging into the mains and other use batteries (called a cell). Batteries are usually in smaller items which you carry around.



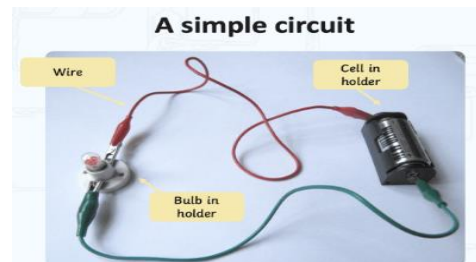
A cell is a chemical way of producing electricity that can be stored until it is needed



Electricity flows through wires.

To build a series circuit you need a battery, wires and a bulb. These must be connected correctly to allow the electricity to flow.

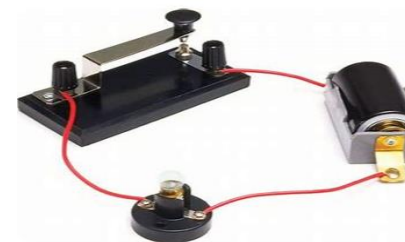
A bulb will light up in a complete circuit because electricity is flowing.



Buzzers, bulbs and motors can **be added to an electrical** circuit.

These components are called resistors.

A switch is a circuit component that controls the flow of electricity around the circuit.



Some materials let electricity pass through them easily.

These are known as electrical **conductors**. Many metals are good electrical conductors.



Some materials do not allow electricity to pass through them. These are known as **insulators**.

Plastic, wood, rubber and glass are good electrical insulators.

WARNING – Never touch electrical items with wet hands