

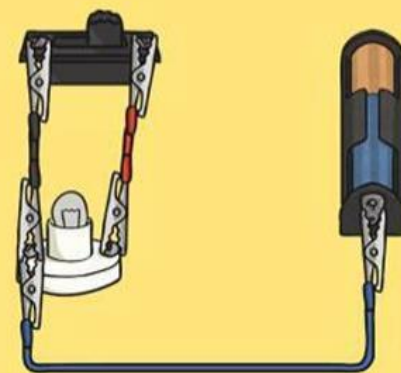
Vocabulary

insulate	Protect (something) by interposing material that prevents the loss of heat
conductor	A substance that allows heat or electricity to go through it: Metal is a good conductor of heat.
battery	A container consisting of one or more cells, in which chemical energy is converted into electricity and used as a source of power.
buzzer	An electrical device that makes a buzzing noise and is used for signalling.
bulb	Light bulb.
wire	Metal drawn out into the form of a thin flexible thread or rod.
appliances	A device or piece of equipment (tool or gadget, etc.) designed to perform a specific task.
circuit	In electronics, a circuit is a path between two or more points along which an electrical current can be carried.
cell	battery
switch	A device for making and breaking the connection in an electric circuit.

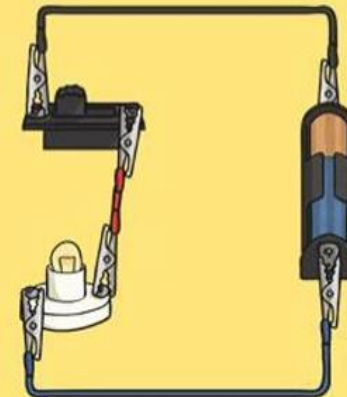
Are Electric Cars a Good Idea?



Incomplete Circuit



Complete Circuit



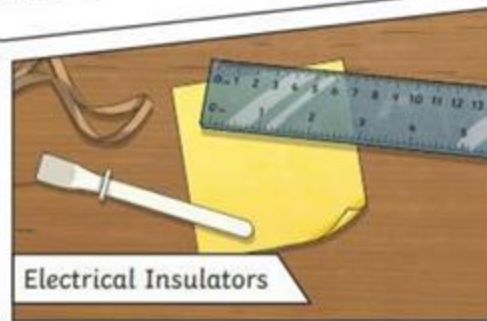
Definition:

When we refer to **electricity**, what we usually mean is **electric current**, which is the **flow of electric charge**.

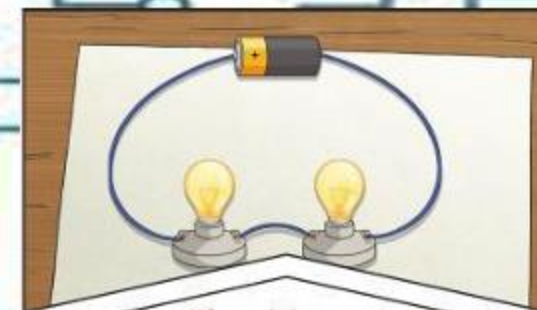
A conductor of **electricity** is a material that will allow **electricity** to flow through it. Metals are good conductors. Materials that are electrical insulators do not allow **electricity** to flow through them. Wood, plastic and glass are good insulators



Electrical Conductors



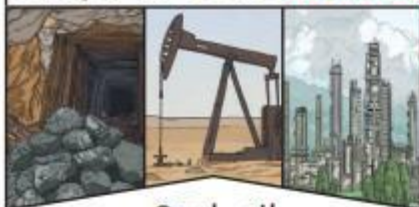
Electrical Insulators



Electricity can only flow around a complete **circuit** that has no gaps. There must be wires connected to both the positive and negative end of the power supply/**battery**.

Key Knowledge

Lightning and static **electricity** are examples of **electricity** occurring naturally but for us to use **electricity** to power **appliances**, we need to make it.

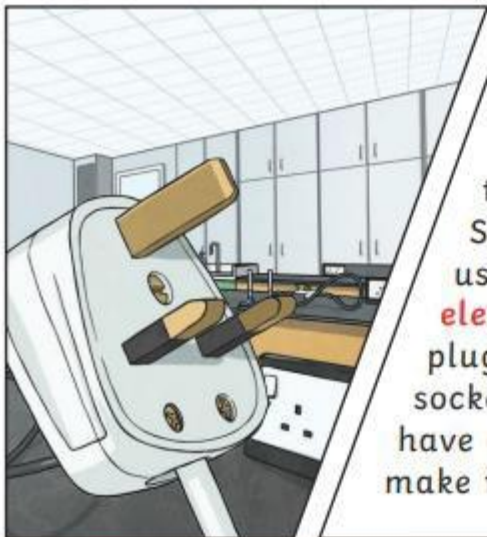


Coal, oil and natural gases are fossil fuels which, when burnt, produce heat which can be used to **generate electricity**.

Electricity can be **generated** from wind power used to turn windmills and hydroelectric power from water used in dams. The Sun's rays can be converted into **electricity** by solar panels.



Nuclear energy is created when atoms are split. This creates heat which can be used to **generate electricity**. Geothermal energy is heat from the Earth that is converted into **electricity**.

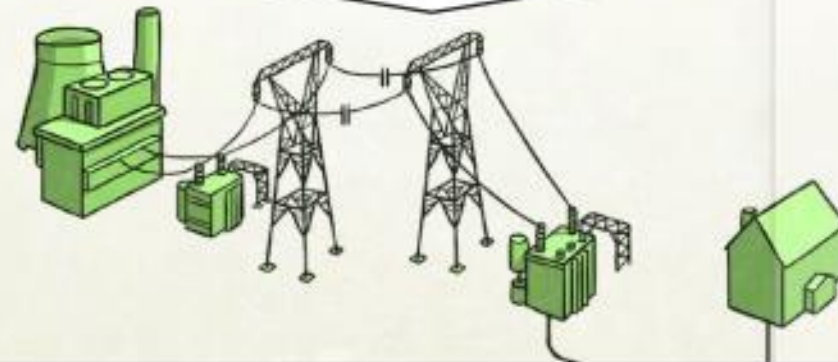


Many everyday **appliances** rely on **electricity** for them to work. Some appliances use mains **electricity** (are plugged into a socket) and others have a **battery** to make them work.



There are two types of electric current.

Mains **electricity**: power stations send an electric charge through wires to transformers and pylons. Then, underground wires carry the electricity into our homes via wires in the walls and out through plug sockets.



Battery electricity: **batteries** store chemicals which produce an electric current. Eventually, even rechargeable **batteries** will stop producing an electric current.

