

Electricity

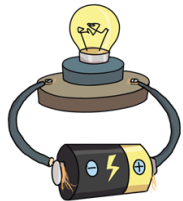
Knowledge Organiser Y3/4

Knowledge

Lots of **appliances** around our house use **electricity** to work.



Most big appliances in our house have to be **plugged in**. These are powered by **mains power**. Some smaller appliances can be powered by **batteries**. Some appliances have batteries that need to be **charged** by mains power.



The **circuit** has to be complete to allow the **electricity** to travel all the way around it.

Mains power is produced mainly in a **gas, coal or nuclear power station**. **Wind turbines, solar panels** and **hydroelectric dams** are also used to produce mains power but are not used as often.



The electricity then travels from the **power stations** to our **houses** through **overhead wires** and **pylons**. We use the electricity in our house by plugging the appliance into a **plug socket**. Finally, the electricity enters the appliance's **electrical circuit** through the wires.



When we put a **switch** in an electrical circuit and turn it to the **on** position, it completes the circuit and allows electricity to **flow** around the circuit. When we turn the switch to the **off position**, this creates a break in the circuit meaning the electricity **cannot flow** anymore and the appliance will not work.



paddle switch



push button switch



pull switch

Insulators	Conductors
fabric	tin foil
plastic	tin can
paper	steel spoon
string	penny
wood	

Vocabulary

appliance - a device or piece of equipment that has been made to perform a specific task

battery - a small item used to power small appliances

circuit - a route through which electricity flows

components - the parts of a circuit

conductor - allows electricity to flow through it

electrical - something that uses electricity to work

insulator - doesn't allow electricity to flow through it

mains power - electricity provided by power stations

portable - can be easily carried around

pylon - a tower used for keeping electrical wires above the ground

Sequence of Learning

1. To identify common appliances that run on electricity.
2. To identify circuit components and construct a working circuit.
3. To investigate whether circuits are complete or incomplete.
4. To investigate which materials are conductors or insulators.
5. To explain how a switch works in a circuit, build switches and report my findings.

Battery powered appliances are **portable** which means you can use it anywhere without it having to be plugged into a **plug socket**. There are different types of battery for different appliances

