

**What should I already know?**

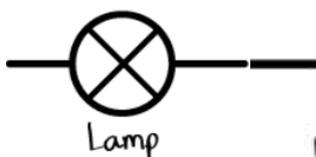
- **Energy** comes in different forms and can be neither created nor destroyed. Only changed from one form to another.
- **Electricity is generated** using **energy** from natural **sources** such as the sun, oil, water and wind.
- These can also be called **fuel sources**.

**Let's investigate!**

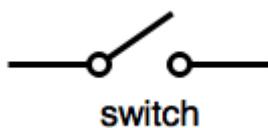
**Vocabulary**

Appliances	A <b>device</b> or machine in your home that you use to do a job such as cleaning or cooking. They are often <b>electrical</b> .
Battery	Small <b>devices</b> that provide the <b>power</b> for <b>electrical</b> items such as torches.
Bulb	The glass part of an <b>electric</b> lamp, which gives out light when <b>electricity</b> passes through it.
Buzzer	an <b>electrical device</b> that is used to make a buzzing sound
Cell	A <b>battery</b> .
Chemical reaction	The process where a substance is converted into a different substance.
Circuit	A complete route which an <b>electric current</b> can flow around.
Component	The parts that something is made from.
Conductor	a substance that heat or <b>electricity</b> can pass through or along.
Current	A flow of <b>electricity</b> through a <b>wire</b> or <b>circuit</b> .
Device	An object that has been invented for a particular purpose.
Electricity	A form of <b>energy</b> that can be carried by <b>wires</b> and is used for heating and lighting, and to provide <b>power</b> for <b>devices</b> .
Electron	A very small particle that has a negative charge of electricity.
Emit	To send out (from a source).
Energy	The <b>power</b> from a <b>source</b> such as <b>electricity</b> that makes machines work or provides heat.
Fuel	A substance such as coal, oil or petrol that is burned to provide heat or <b>power</b> .
Generate	Cause it to begin and develop.
Insulator	A non- <b>conductor</b> of <b>electricity</b> or heat.
Mains	Where the supply of water, <b>electricity</b> or gas enters a building.
Motor	A <b>device</b> that uses <b>electricity</b> or fuel to produce movement.
Negative terminal	The negative (-) end of a <b>battery</b> .
Particle	Tiny bits of matter that make up everything.
Positive terminal	The positive (+) end of a <b>battery</b> .
Power	<b>Energy</b> that is obtained in large quantities from a fuel <b>source</b> and is used to operate <b>electrical devices</b> .
Property	A characteristic of something.
Source	Where something comes from.
Static electricity	An imbalance of charged particles on a material.
Switch	A small control for an <b>electrical device</b> which you use to turn the <b>device</b> on or off.
wires	a long thin piece of metal that is used to fasten things or to carry <b>electric current</b> .

- Investigate which materials are **electrical conductors** and **insulators**.
- Create **circuits** and identify the different parts.
- Investigate how circuits work and why.



Buzzer



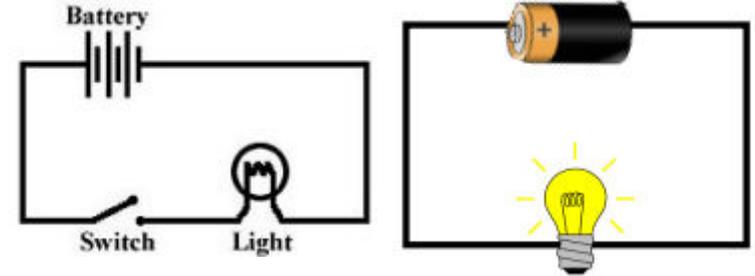
### What I will learn in this topic?

Identify common appliances that run on electricity.

Electrical energy is one of many forms of energy.  
Static electricity is an imbalance of charged particles on a material → it does not operate by flowing around a complete circuit.  
Electricity is the flow of charged particles called electrons.  
Electrical current flows better through materials that are conductors.  
Materials that are conductors have free electrons that allow the electrical current to flow through them.

Construct a simple series circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.

A chemical reaction inside a cell produces the charged particles that can flow around a circuit.  
More than one cell lined up in a circuit to work together is called a battery.  
Electrical current can only flow through a circuit if it is completed.  
When the circuit is completed, different components within the circuit will begin to work. For example: bulbs (emit light) and buzzers (make a noise).



Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.

A switch functions by completing or breaking a circuit.  
If the switch is on, the circuit is complete. If the switch is off, the circuit is broken.

Recognise some common conductors and insulators, and associate metals with being good conductors.

Electrical conductivity is an example of a property.  
Metals are good electrical conductors.