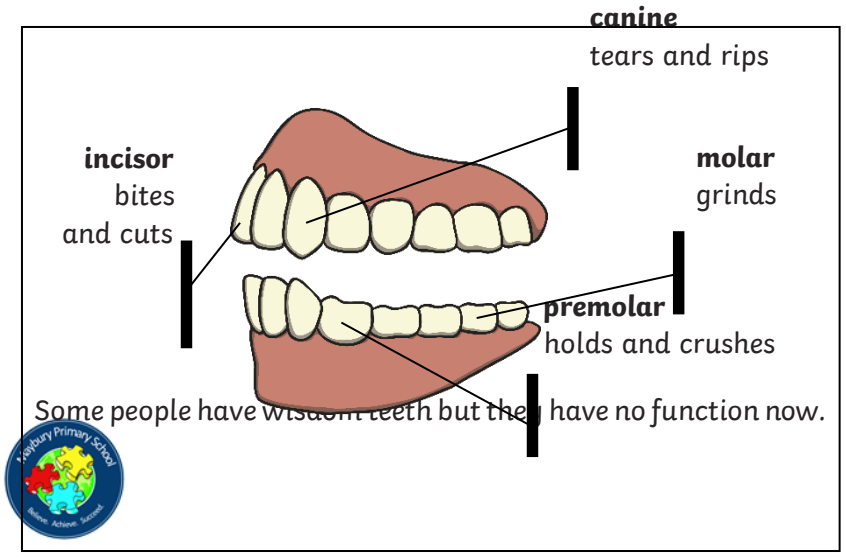
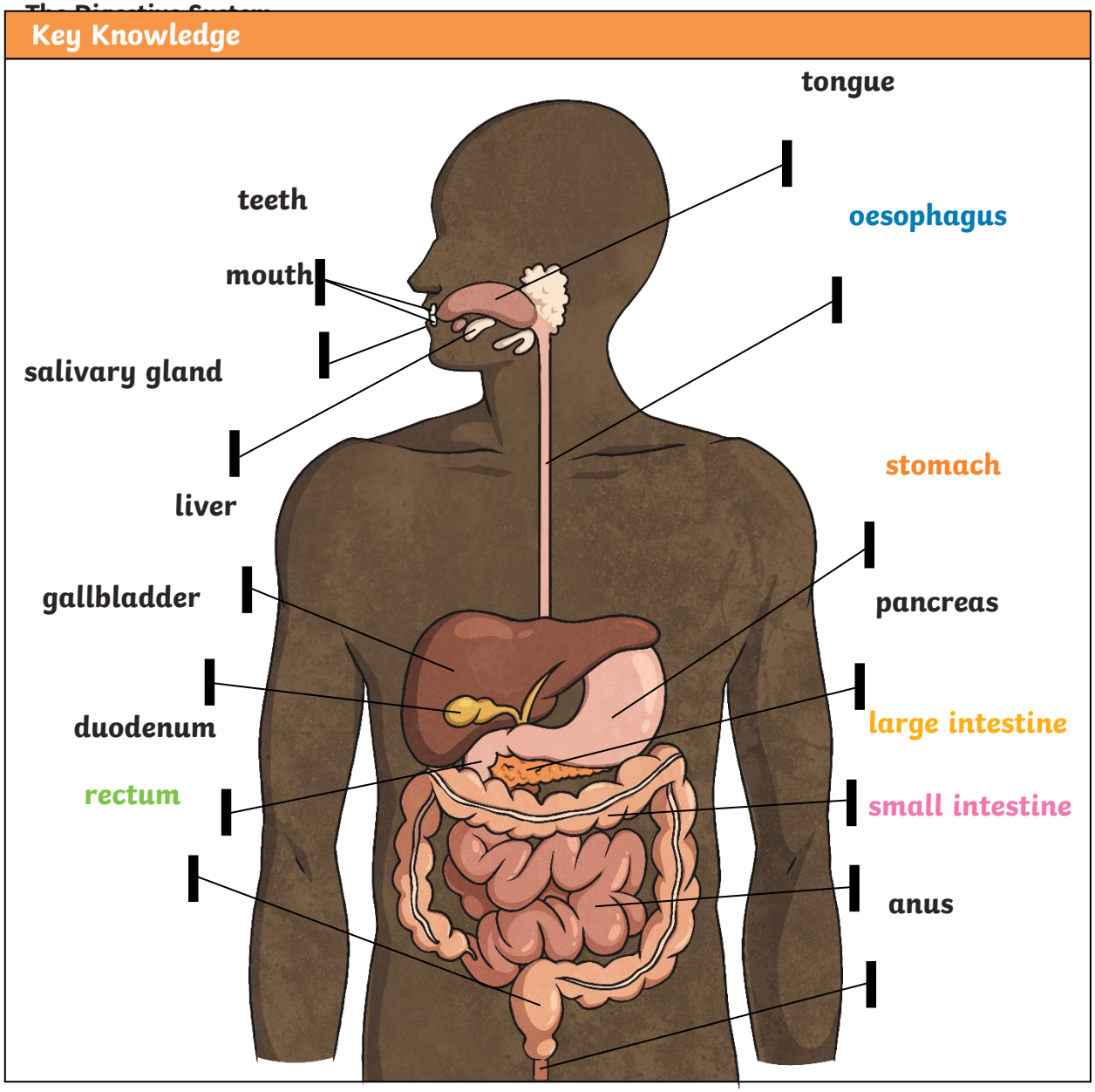
Key Vocabulary

digest	Break down food so it can be used by the body.
oesophagus	A muscular tube which moves food from the mouth to the stomach.
stomach	An organ in the digestive system where food is broken down with stomach acid and by being churned around.
small intestine	Part of the intestine where nutrients are absorbed into the body.
large intestine	Part of the intestine where water is absorbed from remaining waste food. Stools are formed in the large intestine.
rectum	Part of the digestive system where stools are stored before leaving the body through the anus.

Human Teeth and Their Functions

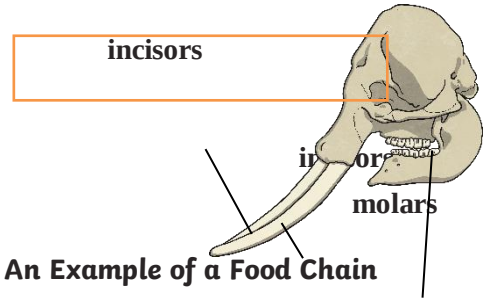


Key Knowledge

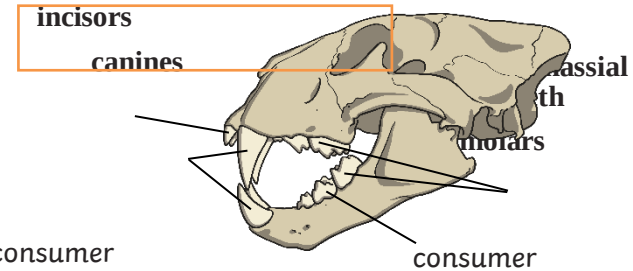


The teeth of an animal are designed to eat different foods depending on the diet of the animal. Examples of a **herbivore**, a **carnivore** and an **omnivore** skull:

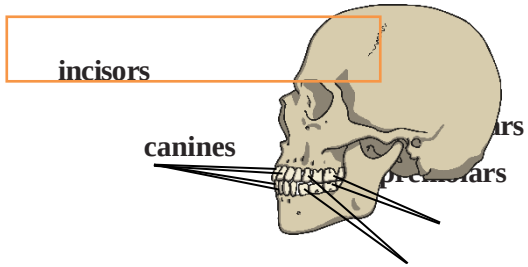
Elephant - herbivore



Lion - carnivore

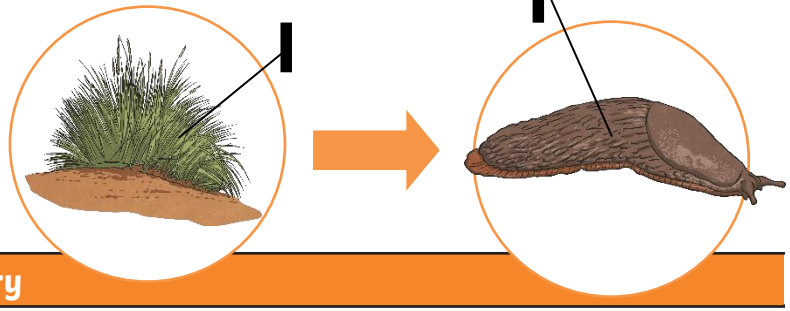


Human - omnivore



An Example of a Food Chain

The arrows in a food chain show the flow of energy.



Key Vocabulary

herbivore	An animal that eats plants.
carnivore	An animal that feeds on other animals.
omnivore	An animal that eats plants and animals.
producer	A plant that produces its own food.
predator	An animal that hunts and eats other animals.
prey	An animal that gets hunted and eaten by another animal.

To help prevent tooth decay:

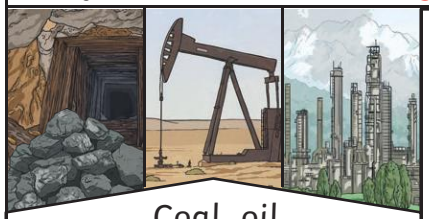
- limit sugary food and drink;
- brush teeth twice daily using a fluoride toothpaste;
- visit your dentist regularly.

Key Vocabulary

electricity	The flow of an electric current or charge through a material, e.g. from a power source through wires to an appliance.
generate	To make or produce.
renewable	A source of electricity that will not run out. These include solar, nuclear, geothermal, hydro and wind.
non-renewable	This source of energy will eventually run out and so will no longer be able to be used to make electricity. These include fossil fuels – coal, oil and natural gas.
appliances	A piece of equipment or device designed to perform a particular job, such as a washing machine or mobile phone.
battery	A device that stores electrical energy as a chemical.

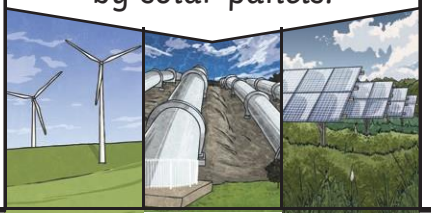
Key Knowledge

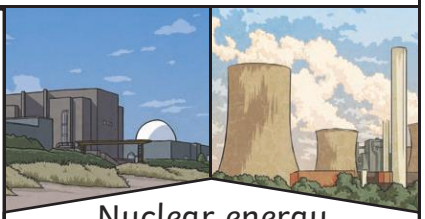
Lightning and static electricity are examples of electricity occurring naturally but for us to use electricity to power appliances, we need to make it.



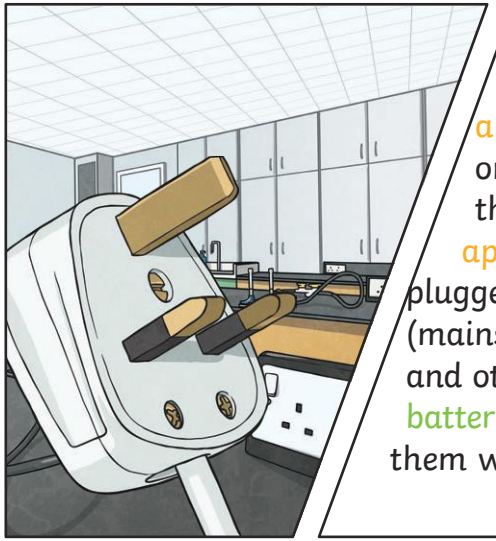
Coal, oil and natural gases are fossil fuels which, when burnt, produce heat which can be used to generate electricity.

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.

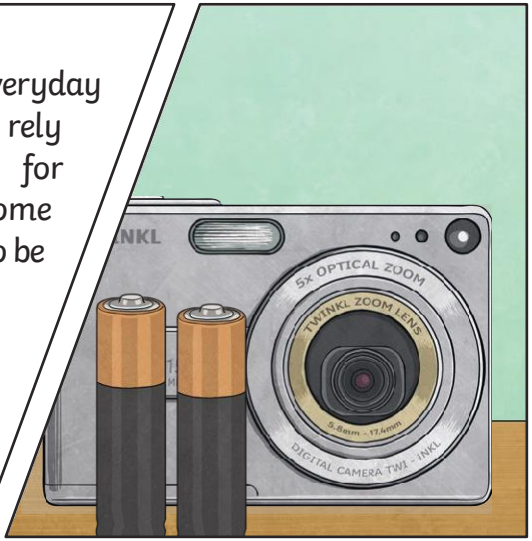




Nuclear energy is created when atoms are split. This creates heat which can be used to generate electricity. Geothermal energy is heat from the Earth that is converted into electricity.



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

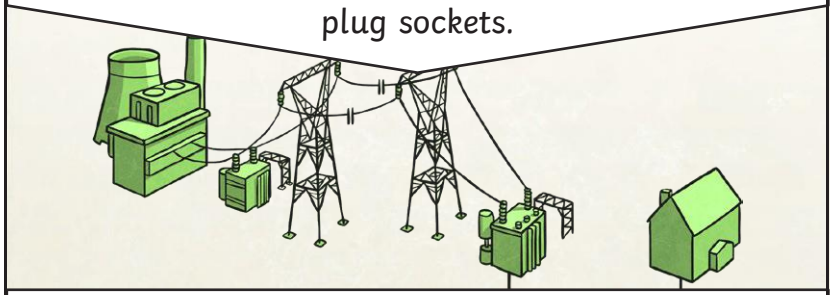


Key Vocabulary

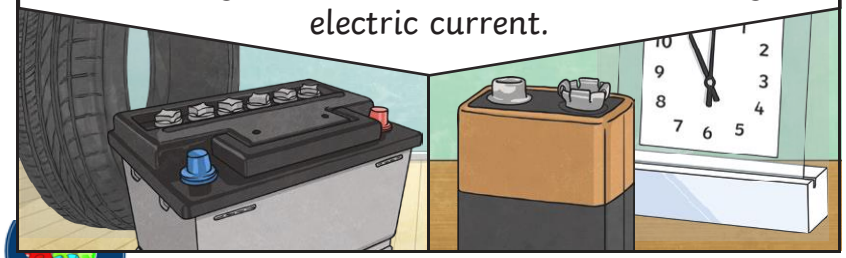
circuit	A pathway that electricity can flow around. It includes wires and a power supply and may include bulbs, switches or buzzers.
electrons	Small particles with an electric charge.

There are two types of electric current.

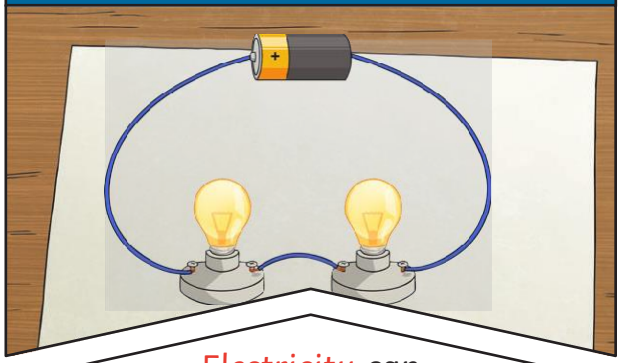
Mains electricity: power stations send an electric charge through wires to transformers and pylons. Then, underground wires carry the electricity into our homes via wires in the walls and out through plug sockets.



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



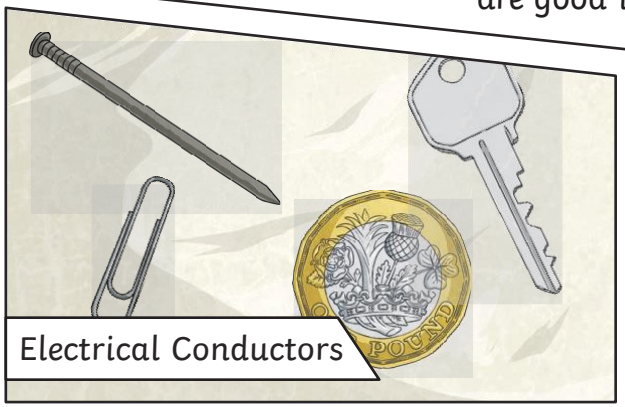
Key Knowledge



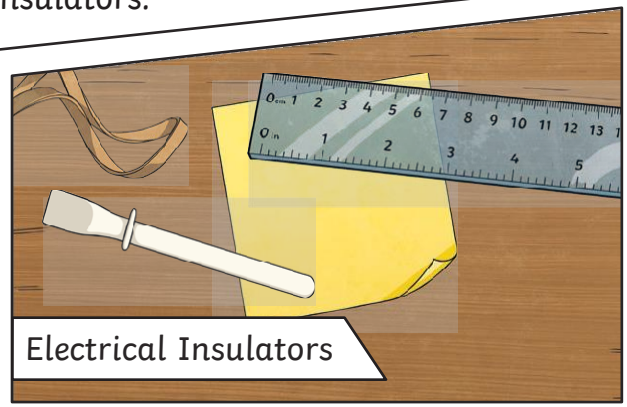
Electricity can only flow around a complete circuit that has no gaps. There must be wires connected to both the positive and negative end of the power supply/battery.

Switches can be used to open or close the circuit. When off, a switch 'breaks' the circuit to stop the flow of electrons. When the switch is on, the circuit is complete and the electrons are able to flow around the circuit.

A conductor of electricity is a material that is made up of free electrons which can be made to move in one direction, creating an electric current. Metals are good conductors. Electrical insulators have no free electrons and so no electric current can be made. Wood, plastic and glass are good insulators.



Electrical Conductors



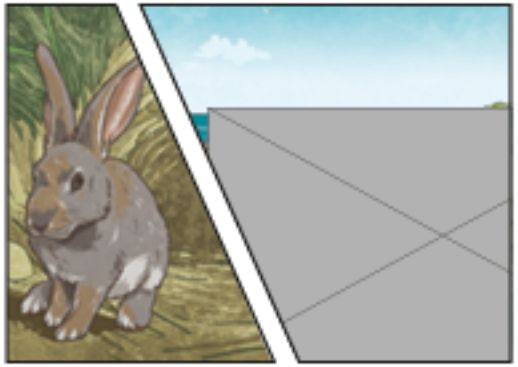
Electrical Insulators

Key Vocabulary	
organisms	This is another word that can be used to mean 'living things'.
life processes	The things living things do to stay alive.
respiration	A process where plants and animals use oxygen gas from the air to help turn their food into energy.
sensitivity	The way living things react to changes in their **environment**.
reproduction	The process through which young are produced.
excretion	The process by which living things get rid of waste products.
nutrition	Food which provides living things with energy to live and stay healthy.
habitat	The specific area or place in which particular animals or plants may live.
environment	An **environment** contains many **habitats** and these include areas where there are both living and non-living things.
endangered species	A plant or animal where there are not many of their species left and scientists are concerned that the species may become **extinct**.
extinct	When a species has no more members alive on the planet, it is **extinct**.

Life Processes

To stay alive and healthy, all living things need certain conditions that let them carry out the seven **life processes**:

Movement
Respiration
Sensitivity
Growth
Reproduction
Excretion
Nutrition



Changes to an **environment** can be natural or caused by humans. Changes to an **environment** can have positive as well as negative effects. Here are some examples of things that can change an **environment**.

Natural
- earthquakes
- storms
- floods
- droughts
- wildfires
- the seasons

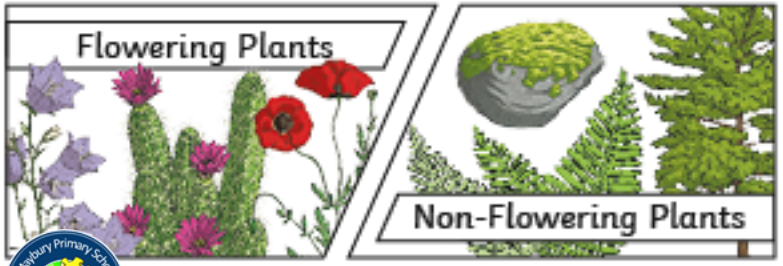
Human-Made
- deforestation
- pollution
- urbanisation
- the introduction of new animal or plant species to an environment
- wildfires

Plants and animals rely on the **environment** to give them everything they need. Therefore, when **habitats** change, it can be very dangerous to the plants and animals that live there.

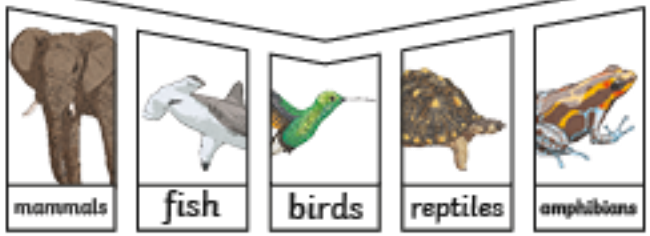
Key Vocabulary

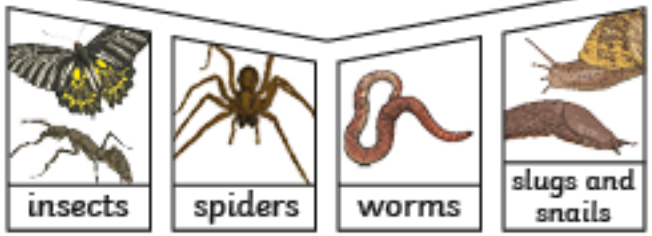
classification	This is where plants or animals are placed into groups according to their similarities.
vertebrates	Animals with a backbone.
invertebrates	Animals without a backbone.
specimen	A particular plant or animal that scientists study to find out about its species.
characteristics	The distinguishing features or qualities that are specific to a species.

Plants can be sorted into many different groups. For example:



Animals can be grouped in lots of different ways based upon their **characteristics**.



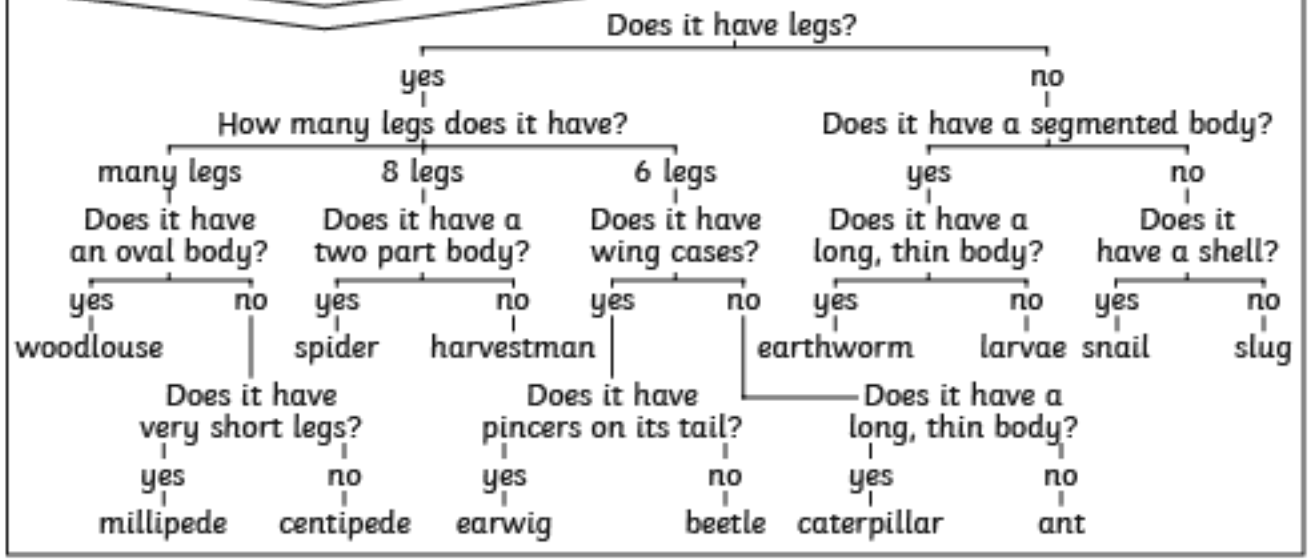


Vertebrates can be separated into five broad groups.

You could sort **invertebrates** you might see around school in different ways, such as in this example. The vast majority of living things on the planet are **invertebrates**.

You can use **classification** keys to help group, identify and name a variety of living things. Here is an example of a **classification** key:

Invertebrate Classification Key

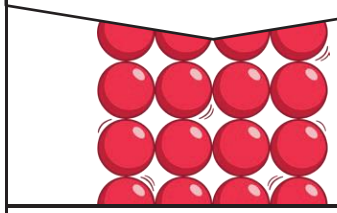
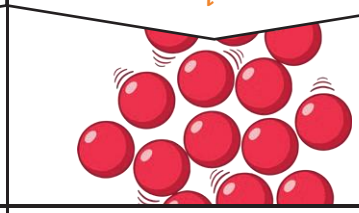
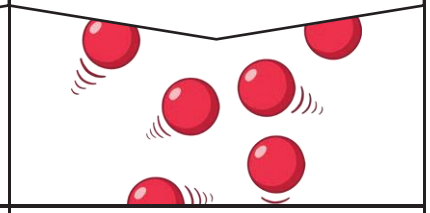


Key Vocabulary

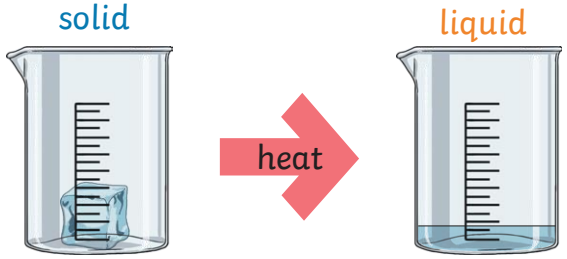
states of matter	Materials can be one of three states: solids, liquids or gases. Some materials can change from one state to another and back again.
solids	These are materials that keep their shape unless a force is applied to them. They can be hard, soft or even squashy. Solids take up the same amount of space no matter what has happened to them.
liquids	Liquids take the shape of their container. They can change shape but do not change the amount of space they take up. They can flow or be poured.
gases	Gases can spread out to completely fill the container or room they are in. They do not have any fixed shape but they do have a mass.
water vapour	This is water that takes the form of a gas. When water is boiled, it evaporates into a water vapour.

Key Knowledge

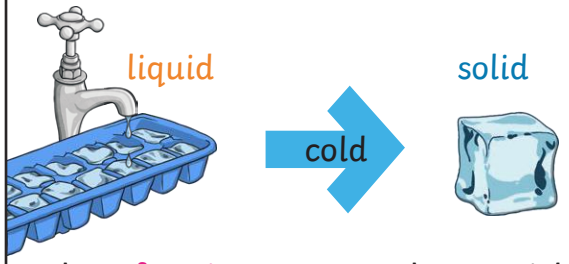
There are three states of matter.

Solid	Liquid	Gas
		
Particles in a solid are close together and cannot move. They can only vibrate.	Particles in a liquid are close together but can move around each other easily.	Particles in a gas are spread out and can move around very quickly in all directions.

When water and other liquids reach a certain temperature, they change state into a solid or a gas. The temperatures that these changes happen at are called the boiling, melting or freezing point.



If a solid is heated to its melting point, it melts and changes to a liquid. This is because the particles start to move faster and faster until they are able to move over and around each other.



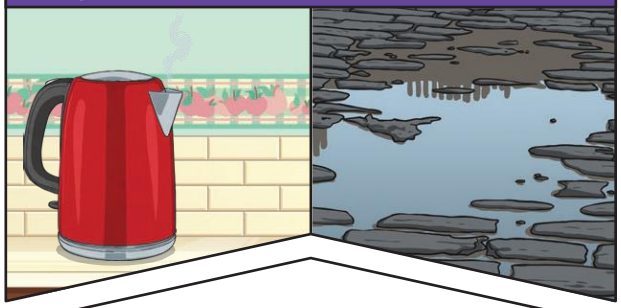
When freezing occurs, the particles in the liquid begin to slow down as they get colder and colder. They can then only move gently on the spot, giving them a solid structure.

Key Vocabulary

melt	This is when a solid changes to a liquid.
freeze	Liquid turns to a solid during the freezing process.
evaporate	Turn a liquid into a gas.
condense	Turn a gas into a liquid.
precipitation	Liquid or solid particles that fall from a cloud as rain, sleet, hail or snow.

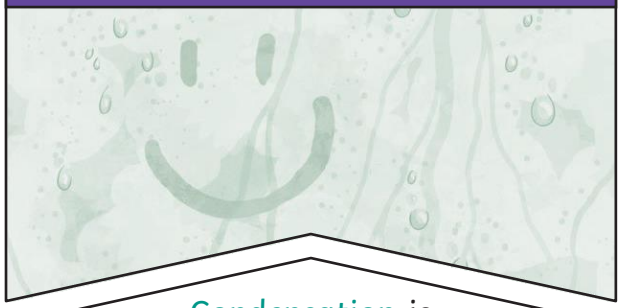
Condensation and evaporation occur within the water cycle.

Evaporation



Evaporation occurs when water turns into water vapour. This happens very quickly when the water is hot, like in a kettle, but it can also happen slowly, like a puddle evaporating in the warm air.

Condensation



Condensation is when water vapour is cooled down and turns into water. You can see this when droplets of water form on a window. The water vapour in the air cools when it touches the cold surface.

1. Water from lakes, puddles, rivers and seas is evaporated by the sun's heat, turning it into water vapour.
2. This water vapour rises, then cools down to form water droplets in clouds (condensation).
3. When the droplets get too heavy, they fall back to the earth as rain, sleet, hail or snow (precipitation).