

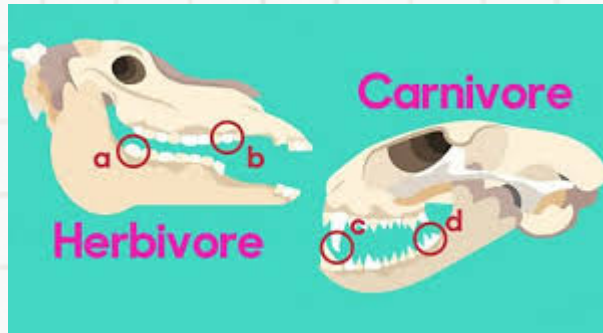
ANIMALS INCLUDING HUMANS

Carnivores vs Herbivores

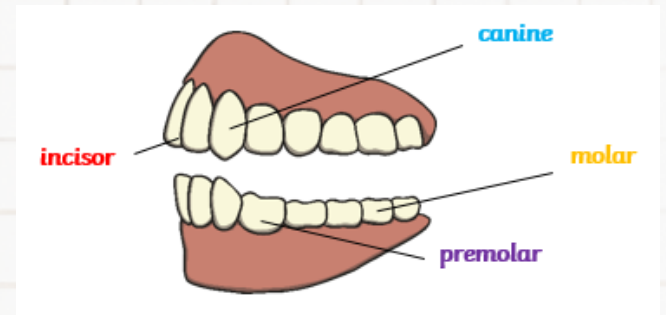
Animals have teeth appropriate to the food they eat.

Carnivores have sharp slicing teeth for eating meat.

Herbivores have flat, broad molars and premolars for grinding tough vegetation and often have incisors designed for cropping or cutting plants. Many herbivores lack or have reduced canines, which are more prominent in carnivores.



Teeth



Humans have different types of teeth: incisors, canines, premolars and molars.

- Incisors - Humans have 8 incisors altogether; 4 in the upper jaw and 4 in the lower jaw. Incisors are used for biting and cutting food.
- Canines - Humans have 4 canine teeth, one in each quarter of the mouth, on either side on the incisors. Canines are used for tearing and ripping food.
- Pre-molars - Humans have 8 premolars, two in each quarter of the mouth. Pre-molars are used for holding and crushing food.
- Molars - Humans have 9 molars, two in each quarter of the mouth. Molars are used for grinding food.
- Wisdom teeth - Humans can have up to 4 wisdom teeth, although not everyone has them. Wisdom teeth no longer have a function.



ANIMALS INCLUDING HUMANS

The digestive system

The digestive system breaks down food into smaller pieces that our body can use for energy and growth and gets rid of waste.

Salivary gland - The first part of digestion. Your salivary gland produces saliva. It is mostly made of water and helps you chew, taste and swallow food. It contains enzymes which breaks down the food you eat.

Mouth - The entry point for food and helps move food along the oesophagus.

Teeth - Tear, cut and grind food into smaller pieces.

Tongue- Helps mix the food and saliva.

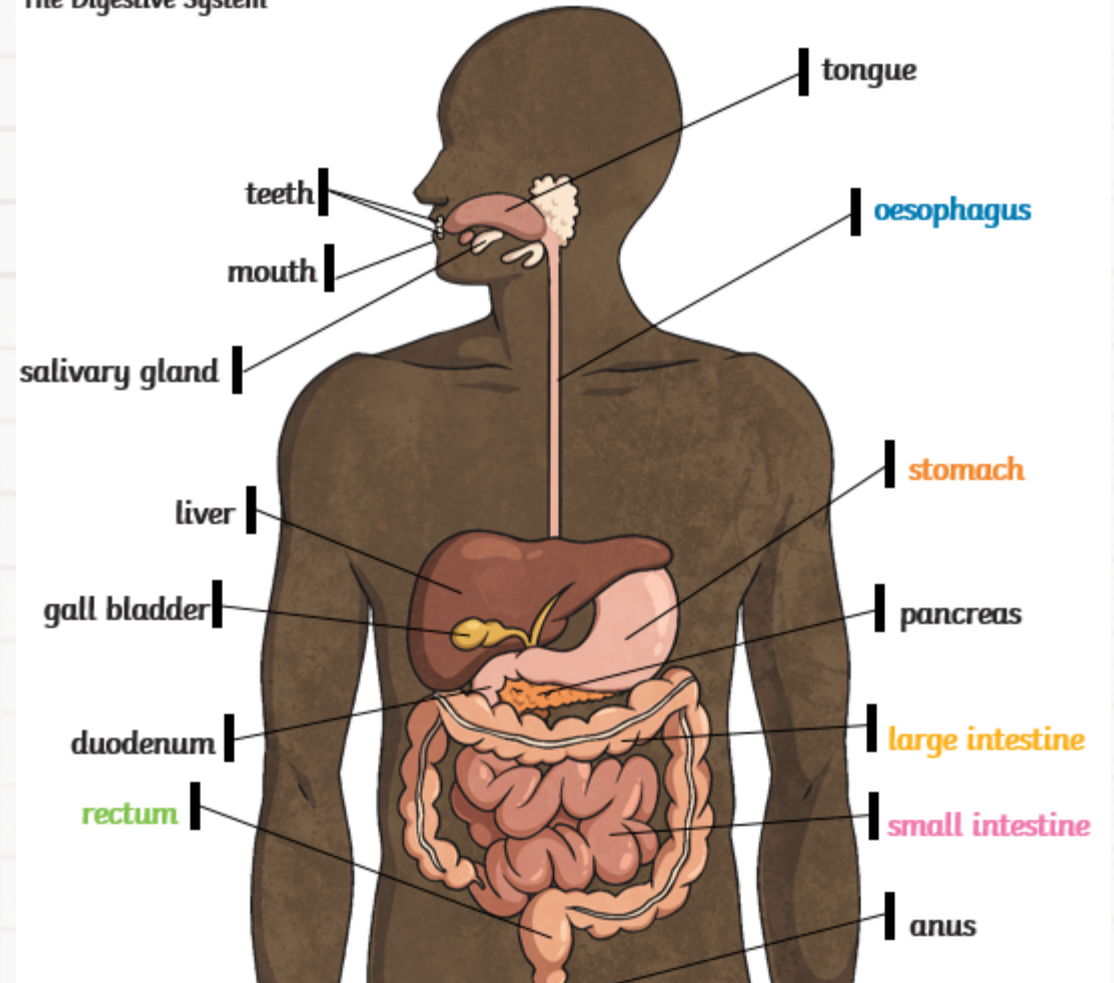
Oesophagus - A tube which runs from mouth to stomach. Muscles contract and relax as the food moves down the oesophagus.

Small intestine - Where food is sent to be broken down and digested. It's where all of the nutrients can be absorbed into our blood.

Large intestine - The leftovers that the body can't use go here. This is where water is absorbed from the waste to make sure the body doesn't lose too much water.

Anus - The waste that our body can't use leaves the body through the anus when we go to the toilet.

The Digestive System



LIVING THINGS AND THEIR HABITAT

The seven processes of life

The 7 processes of living things are: movement, respiration, sensitivity, growth, reproduction, excretion, nutrition.

Living things

Mammal - breathes air, has a backbone, and grows hair

Amphibian - mainly cold-blooded and live in water and on land. Known for their moist skin and for laying eggs, often in water.

Reptile - cold-blooded, vertebrate animals with scaly skin, known for laying eggs.

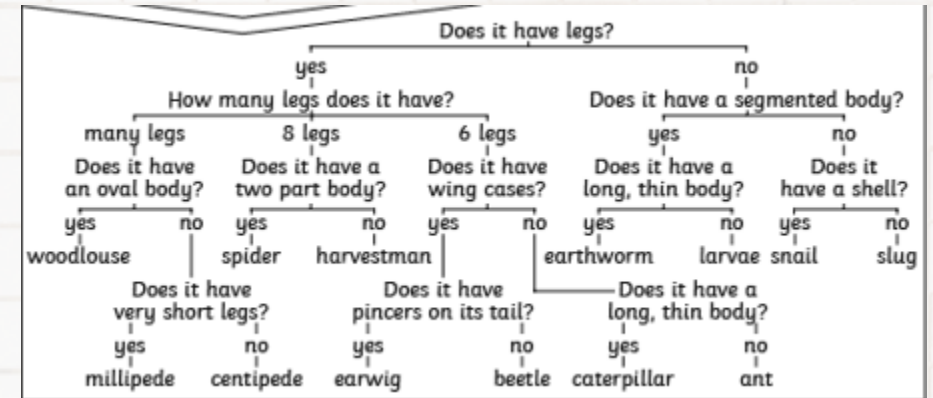
Fish - vertebrates that live in water. They breathe using special organs called gills.

Birds - warm-blooded vertebrates identifiable by feathers, wings, toothless beaked jaws and laying of hard-shelled eggs.

M	ovement
R	espiration
S	ensitivity
G	rowth
R	eproduction
E	xcretion
N	utrition

Classification keys

Living things can be grouped in many different ways e.g. by how they look, where they live and what they eat.



Food chains

A food chain shows how energy and nutrients pass from one living thing to another as they eat or get eaten by each other.

A producer (a plant) makes the food using water, air and the energy of the sun.

This is passed to the consumer (a herbivore) that eats it.

It is then passed to any animal (a carnivore) that eats the consumer.



SOUND

How is sound made?

Sound is made by vibrations which make the air move.

When an object vibrates, it causes the air particles around it to vibrate as well, creating a sound wave.

If these sound waves reach your ear, you hear them as sound.

The ear drum is a flap of skin stretched tight and vibrates when sound hits.



Volume

The volume is the loudness of the sound.

The volume of the sound depends on the vibrations that produced it.

The longer the distance, the fainter the sound.

How does the ear function?

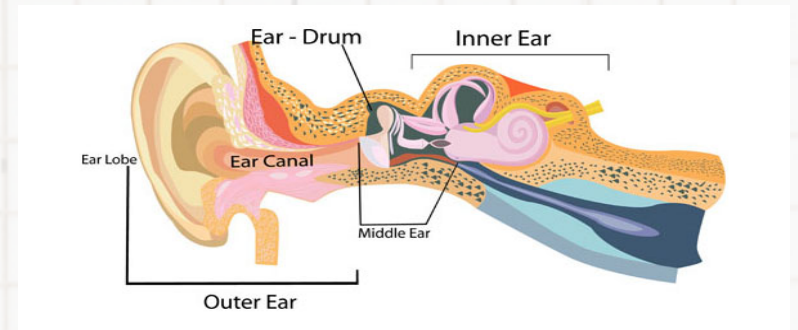
The human ear has three main parts: the outer ear, middle ear, and inner ear.

Each part plays a role in how we hear and maintain balance.

The outer ear, including the pinna (or auricle) and ear canal, collects and directs sound waves.

The middle ear contains the eardrum and three tiny bones (hammer, anvil, and stirrup) that amplify sound vibrations.

The inner ear, including the cochlea, converts these vibrations into electrical signals that are sent to the brain.



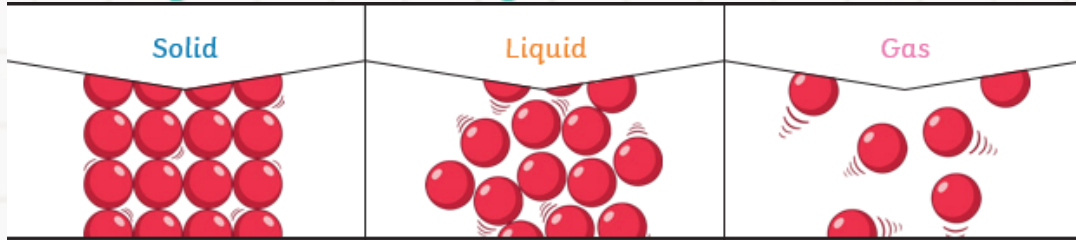
Pitch

The pitch of a sound is how quickly the sound wave (vibration) travels.

If a sound wave is travelling quickly, we say that it is a high sound. If a sound wave is travelling slowly, we say that it is a low sound.



STATES OF MATTER



- Solids stay in one place and can hold their shape, they can be poured e.g. salt, sugar and cut or shaped. The particles in a solid are close together, so there is little movement.
- Liquids can flow or be poured easily, they are not easy to hold and can change their shape depending on the container they are in. The particles in a liquid are not as close together and so they are able to move more.
- Gases are often invisible; they do not have a fixed shape and can be squashed. The particles in a gas spread out across any space and are constantly moving.

Heating and cooling

Some materials can change state. This can be at different temperatures.

Heating causes some solids to melt into liquids

Water freezes at 0 degrees.

Evaporation and condensation

Some liquids evaporate into gases. Cooling causes gases to condense into liquids and liquids to freeze into solids.

Evaporation is changing water from a liquid to a gas.

Condensation is when 'water vapour' changes from gas to a liquid.

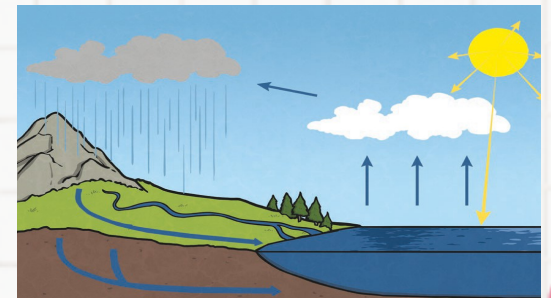
Water cycle

Condensation- Water vapour in the air cools down and changes back to tiny drops of liquid water, forming clouds.

Evaporation - the process where a liquid changes into a gas.

The water cycle describes the continuous movement of water on, above, and below the surface of the earth.

When the clouds get heavy, the water falls back to ground in the form of rain or snow, this is called precipitation. Water then returns to the sea and the process begins again. Water evaporates, condenses into clouds, precipitates back to earth, and then flows back into bodies of water, continuing the cycle.

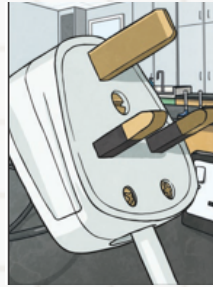


ELECTRICITY

Common appliances

Many household appliances run on electricity. Some plug into the mains and others run on batteries.

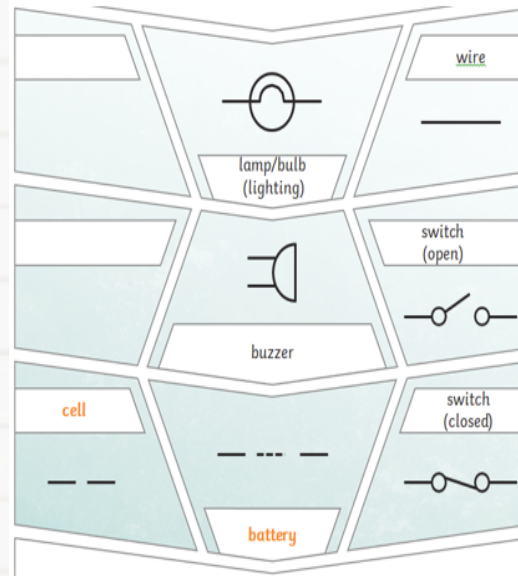
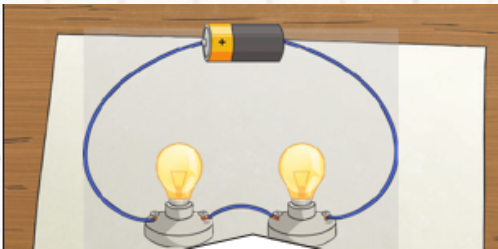
A source of electricity (mains or battery) is needed for electrical devices to work.



Simple series circuit

An electrical circuit consists of a cell or batteries connected to another component using wires.

If there is a break in the circuit, a loose connection, or a short circuit, the component will not work.



A switch can be added to the circuit to turn it on and off'

Conductors and insulators

Metals are good electrical conductors especially **copper, iron and steel**.

A conductor lets electricity pass through whilst an insulator does not.

Non-metals are generally electrical insulators.

An insulator is a material which does not allow heat or electricity to easily pass through.

