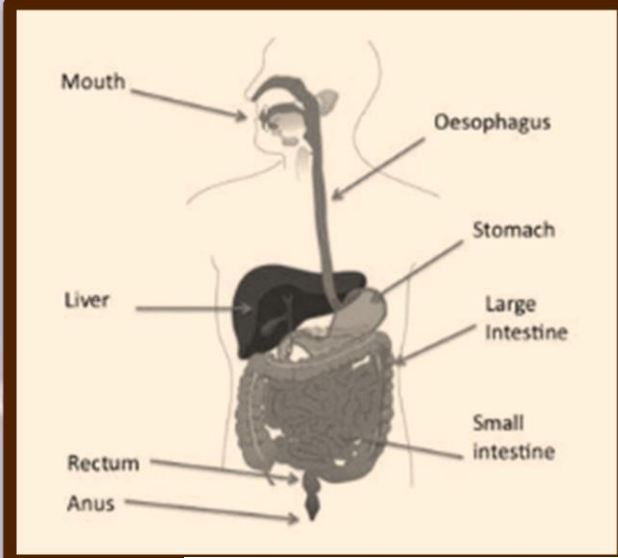




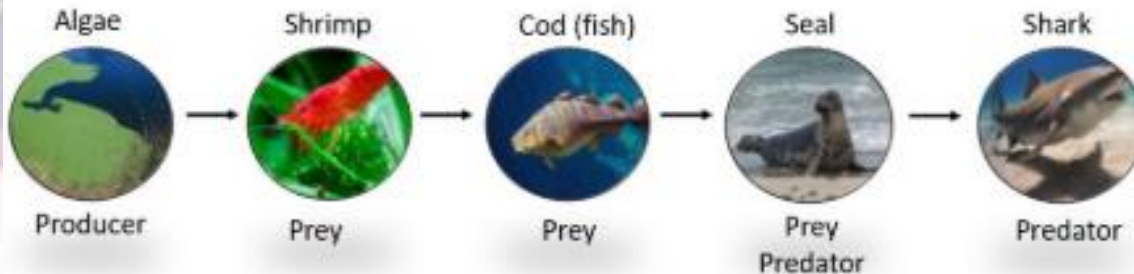
Year 4 Knowledge Organisers

The Digestive System

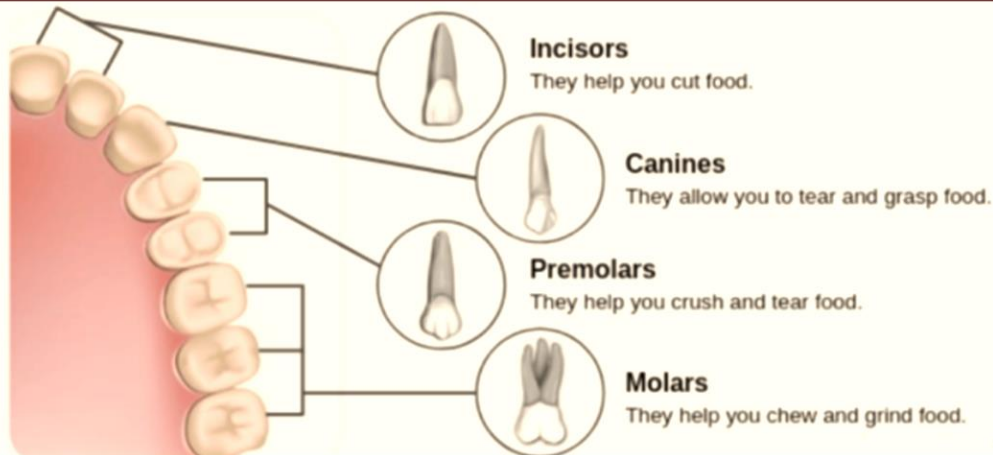


Food Chains

Food chains are the connections between producers, prey and predators. All the living things in a food chain rely on each other. A food chain describes how different organisms eat each other, starting out with a plant and ending with an animal.



Teeth



Key vocabulary

Digestive system - The group of organs that work together to break down and process food into parts the body can use.

Digestion - The breakdown of food molecules so they can be absorbed by the body.

Absorbs - To take in or suck up like a sponge.

Enzyme - A chemical substance that helps reactions to occur in the body.

Intestine - The organ that breaks down food, absorbs nutrients, and through which waste passes on its way out of the body.

Incisors - A narrow-edged tooth at the front of the mouth, adapted for cutting. In humans there are four incisors in each jaw.

Canines - A pointed tooth between the incisors and premolars of a mammal, often greatly enlarged in carnivores.

Molars - A grinding tooth at the back of a mammal's mouth.

Food chain - A series of living things each dependent on the next as a source of food.

Predator - An animal that hunts, catches and eats other living things.

Prey - An animal that is hunted, caught and eaten by other living things.

Producer - a plant that produces its own food.

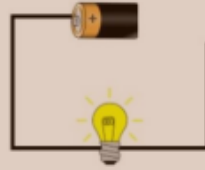
Electricity

Mains electricity

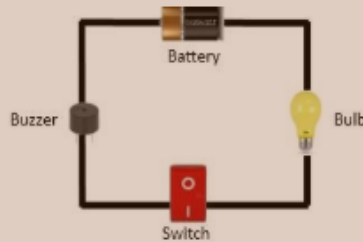
Batteries



This circuit will not work as it is not complete.



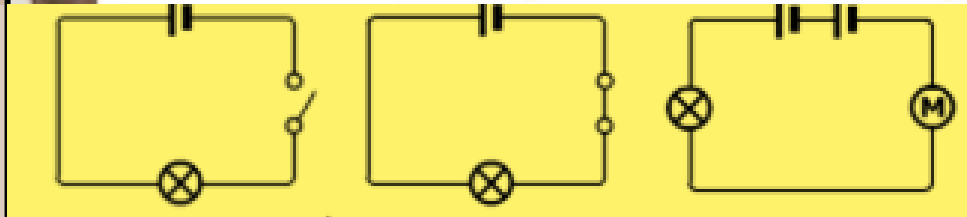
This circuit is complete so the buzzer will sound and the bulb will light.



Complete Circuit



Incomplete Circuit



Some components of an electric circuit

	Wire	cell	switch	buzzer	lamp
Circuit Diagram					
Picture					

Key vocabulary

Electricity - a form of energy that can be carried by wires and is used for heating and lighting.

Bulb - the glass part of an electric lamp, which gives out light when electricity passes through it.

Cell - a single unit used for converting chemical or solar energy into electricity.

Battery - a container of one or more cells in which chemical energy is converted into electrical energy and used as a source of power.

Buzzer - an electrical device that is used to make a buzzing sound.

Circuit - a complete route which an electric current can flow around.

Switch - a small control for an electrical device which you use to turn the device on or off.

Wires - a long thin piece of metal that is used to fasten things or to carry electric current.

Motor - a device that uses electricity or fuel to produce movement.

Conductor - a substance that heat or electricity can pass through or along.

Insulator - a non-conductor of electricity or heat.

Electrical appliances - an electrical device or machine in your home that you use to do a job such as cleaning or cooking.

Mains - where the supply of water, electricity, or gas enters a building.

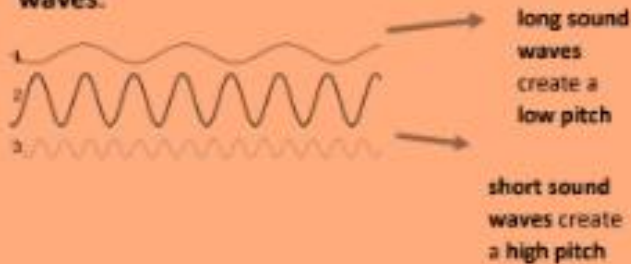
Component - the parts that something is made of.

Current - a flow of electricity through a wire or circuit. energy the power from sources such as electricity that makes machines work or provides heat

Sound

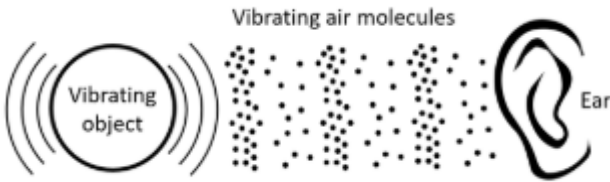
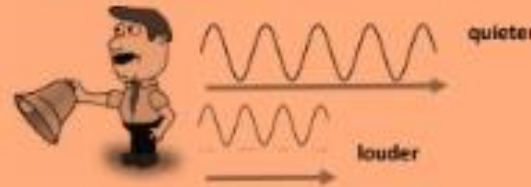
Pitch:

- High pitch sounds are created by short sound waves.
- Low pitched sounds are created by long sound waves.



Volume:

- The closer you are to the source of the sound, the louder the sound will be.
- The further away you are from the source of the sound, the quieter the sound will be.



How does the ear work?

The sound waves travel to the ear and make the eardrums vibrate. Messages are sent to the brain which recognises the vibrations as sounds.

1) Sound waves are "funnelled" into the ear by the pinna

5) The electrical signals are then sent to the brain

2) These vibrations make the ear drum vibrate

3) These vibrations make the ear bones vibrate

4) These vibrations are turned into electrical signals in the cochlea

Key vocabulary

Vibration - A movement backwards and forwards

Sound waves - Vibrations travelling from a sound source.

Source - The beginning: where something comes from.

Volume - The loudness of a sound.

Amplitude - The size of a vibration. A larger amplitude = a louder sound.

Pitch - How high or low a sound is.

Ear - An organ used for hearing.

Soundproof - To prevent sound from passing.

Absorb sound - To take in sound energy. Absorbent materials have the effect of muffling sound.

Eardrum - Part of the ear, which is thick, tough layer of tissue that is stretched like a drum skin. Sound waves make the eardrum vibrate.

Sound - a type of energy. Sounds are made when objects vibrate.

Solids, Liquids and Gases

Key facts

There are three different states of matter: solids, liquids and gases. These states change when heated or cooled

Solids



Particles in a solid are close together and cannot move. They can only vibrate.

Liquids



Particles in a liquid are close together but can move around each other easily.

Gases



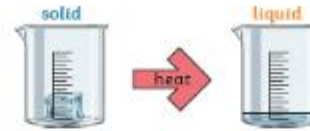
Particles in a gas are spread out and can move around very quickly in all directions.

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.

Changing State

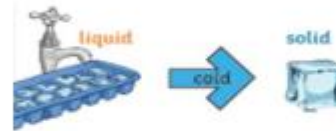
Some materials change state when they are heated or cooled, some of these changes can be reversed.

Melting



If a solid is heated to its melting point, it melts and changes to a liquid. For example ice melting to water.

Freezing



When freezing a liquid turns into a solid. For example freezing water to make ice cubes.

Condensing



When a gas is cooled it condenses into a liquid. For example water vapour (steam) from a kettle touching a cold window.

Evaporating



When water is heated it evaporates. For example puddles drying out on a hot day, washing drying.

Key vocabulary

Condensation - When water vapour changes from a gas back to liquid.

Evaporation - When liquid changes into gas, usually when heated.

Freezing - When a liquid turns to a solid as it has reached its freezing point. These can differ depending on the substance.

Gases - Gaseous matter does not have any fixed shape but does have a mass. The matter within a gas is free moving.

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.

Melting - When a solid changes to a liquid, usually when heated.

Solids - Solids 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.

Water vapour - Water that is in the form of a gas.

Water Cycle

Water continually moves around the Earth in the water cycle. The Sun evaporates water into water vapour. When the water vapour cools down it turns into liquid water and it rains. In very cold places the water freezes into snow or ice. Snow and ice, when warmed.

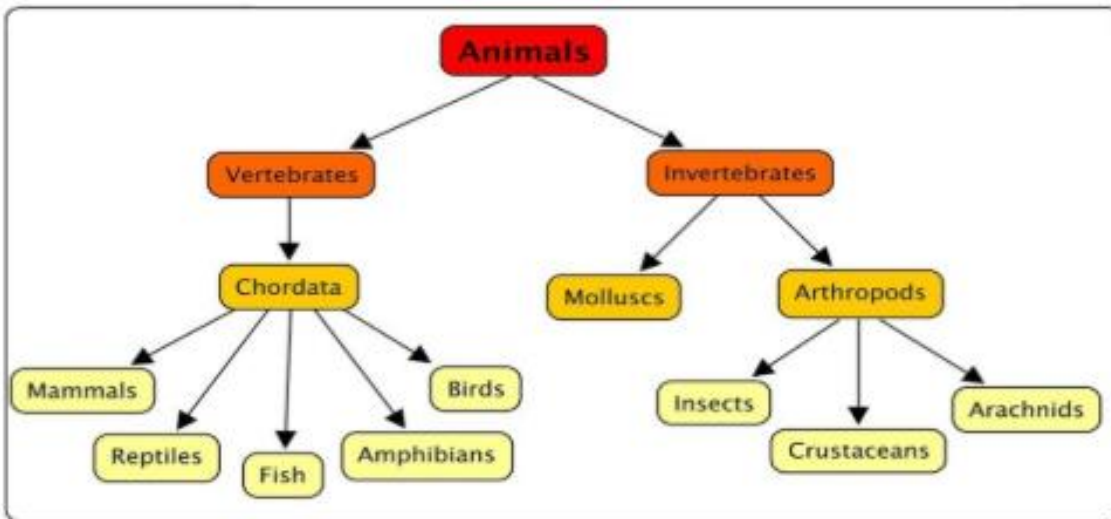


Vertebrates and Classification

All living things, which can also be called **organisms**, have to do certain things to stay alive. These are the **life processes**:

- movement
- respiration
- sensitivity
- growth
- reproduction
- excretion
- nutrition

Living things can be grouped according to different **criteria** (where they live, what type of **organism** they are, what features they have). For example, a camel can belong in a group of **vertebrates**, a group of animals that live in the desert, and a group of animals that have four legs.



Key vocabulary

Vertebrates: Animals which have backbones (mammals, fish, birds, reptiles and amphibians).

Invertebrates: Animals without backbones. These include insects, spiders (arachnids), worms and crustaceans such as crabs.

Flowering Plants: Plants which reproduce using pollination via flowers.

Non-Flowering Plants: Plants which reproduce using other means such as runners. They do not have flowers.

Environment: The place and its surroundings where living things live.

Animals: Multi-cellular living things which cannot create their own food and can move.

Classify / Classification Key: The process of using 'Yes' / 'No' answered questions to sort living things.

Micro-organism: Micro-organisms are tiny. They are so small they can only be seen with a microscope.

Species: This is the grouping together of similar species of plant, animal and other organisms.

Fungi: Fungi are a group of living organisms which are classified in their own kingdom. This means they are not animals, plants, or bacteria.

Bacteria: Bacteria are tiny, single-celled organisms that are everywhere around us.