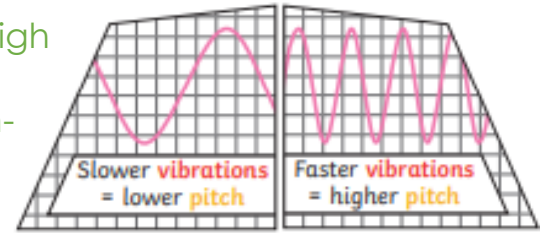
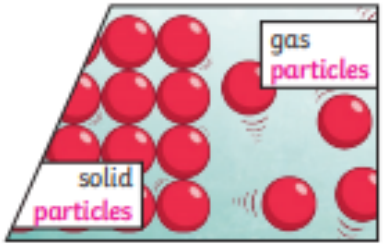
Knowledge Organiser Year 4 Science: Sound

Concept: Energy

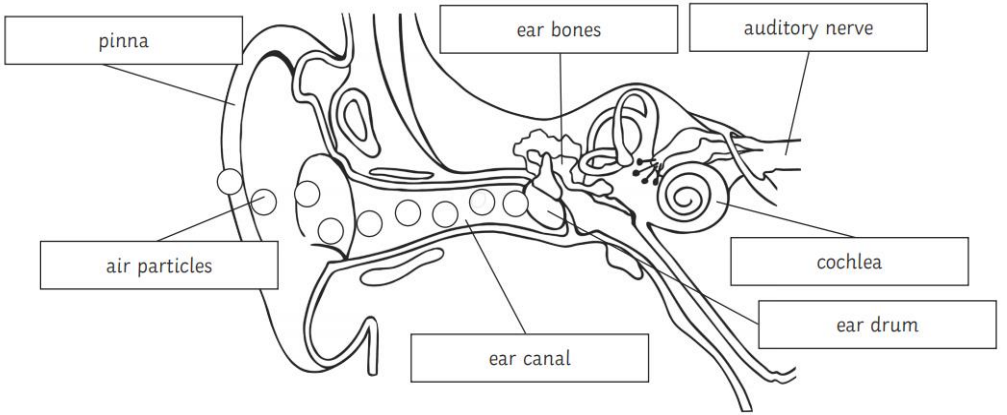
Key Vocabulary	
sound	Sound is a type of energy. Sounds are created by vibrations. The louder the sound, the bigger the vibration.
vibration	A movement backwards and forwards.
sound wave	Vibrations travelling from a sound source.
volume	The loudness of a sound.
amplitude	The size of a vibration. A larger amplitude = a larger sound.
pitch	How low or high a sound is.
ear	An organ used for hearing.
particles	Solids, liquids and gases are made of particles. They are so small we are unable to see them.
soundproof	To prevent sound from passing.

Pitch is a measure of how high or low a sound is. A whistle being blown creates a high-pitched sound. A rumble of thunder is a low-pitched sound.
Faster vibrations = higher pitch.
Slower vibrations = lower pitch.



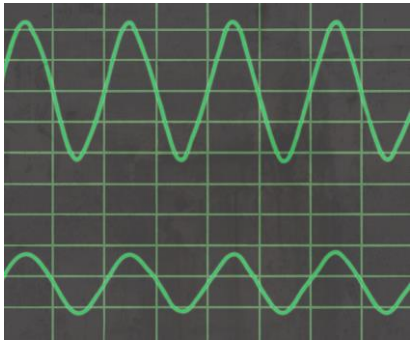


Sound energy can travel from particle to particle easier in a solid because the vibrating particles are closer together than in other states of matter.



Inside your ear, the vibrations hit the eardrum and are then passed to the middle and then the inner ear. They are then changed into electrical signals and sent to your brain. Your brain tells you that you are hearing a sound.

The louder the sound the bigger the vibration.
Quieter sounds have small vibrations.
The size of the vibration is called the amplitude.



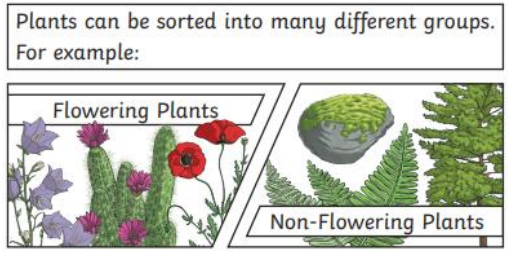
Knowledge Organiser Year 4 Science: Living things and their habitats

Concept: Evolution

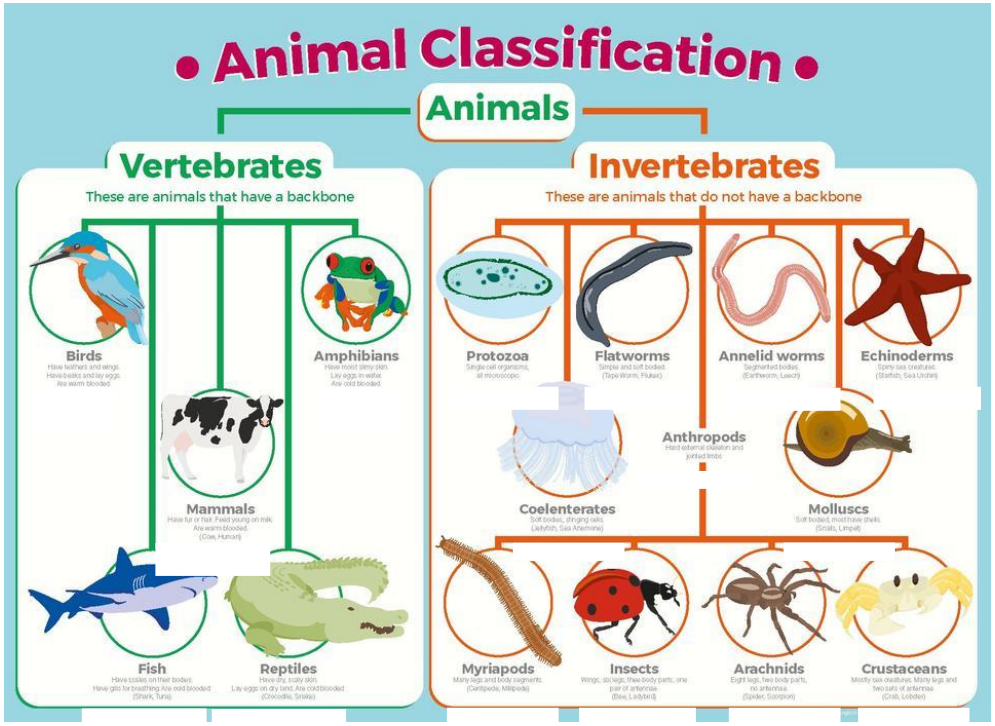
Key Vocabulary	
organisms	This is another word that means living things.
life processes	The things that living things do to stay alive.
habitat	The specific area or place in which particular animals or plants may live.
environment	An environment contains many habitats and these include areas where there 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 will become extinct.
extinct	When a species has no more members alive or the plant, it is extinct.
classification	This is when 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.

Movement
Respiration
Sensitivity

Growth
Reproduction
Excretion
Nutrition



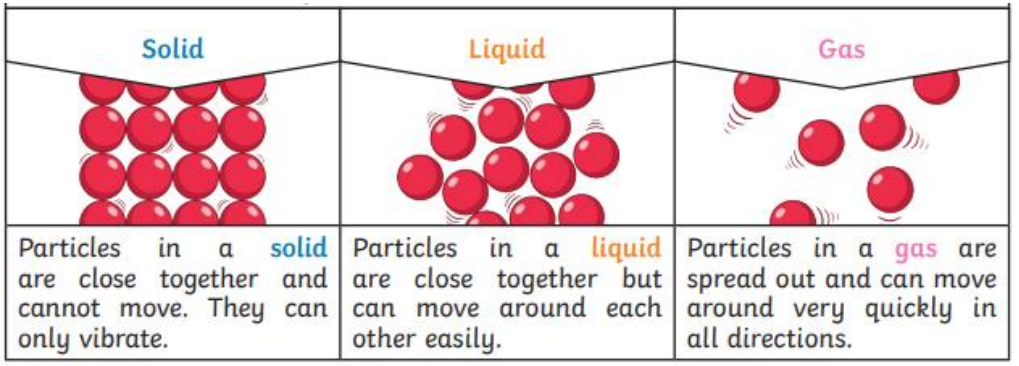
Changes to an environment can be natural or caused by humans. Changes to an environment can have positive as well as negative effects. Plants and animals rely on the environment to give them everything they need. Therefore, when habitats change, it can be very dangerous to the plants and animals that live there.

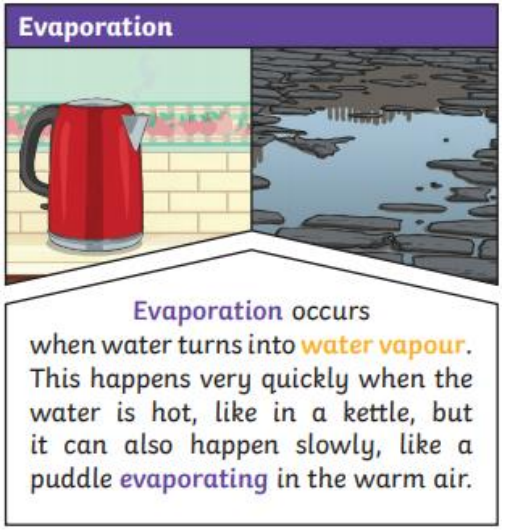


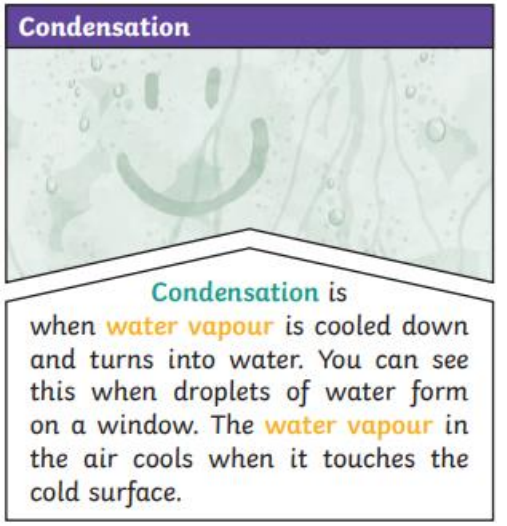
Knowledge Organiser Year 4 Science: States of Matter

Concept: Chemistry

Key Vocabulary	
states of matter	Materials can be one of three states: solids, liquids or gases. Some materials can change state.
solids	These are materials that keep their shape unless a force is applied. They can be hard, soft or squishy. Solids take up that 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 and be poured.
gases	Gases can spread out to completely fill their container. They do not have a fixed shape.
water vapour	This is water that takes the form of a gas.
melt	This is when a solid changes to liquid.
freeze	Liquid turns into a solid during the freezing process.
evaporation	This is the process of turning a liquid into a gas.
condensation	This is the process of turning a gas into a liquid.



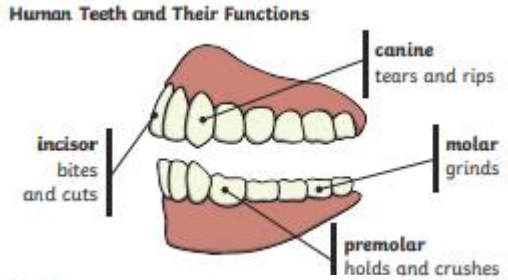


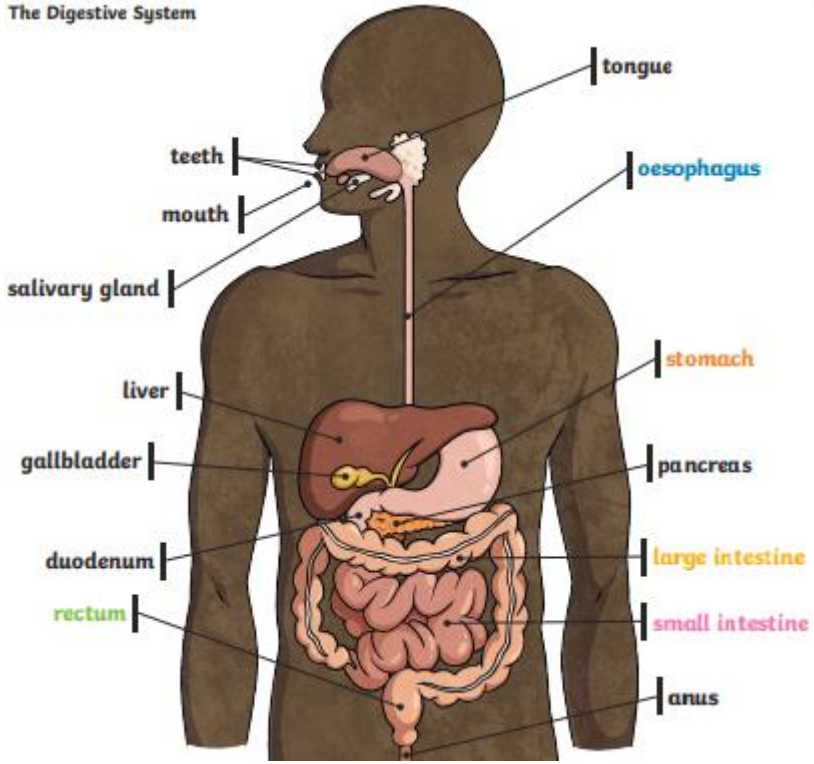


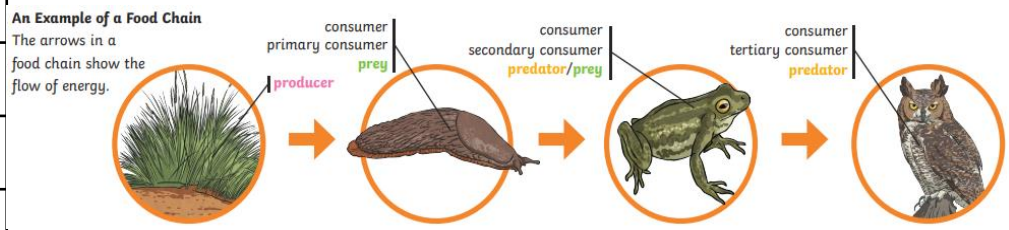
Knowledge Organiser Year 4 Science: Humans

Concept: Living things

Key Vocabulary	
digest	Break down food so it can be used by the body.
digestive system	System of organs that get food in and out of the body and which make use of the food to keep the body healthy.
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 begin 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.
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.







Knowledge Organiser Year 4 Science: Electricity

Concept: Forces

Key Vocabulary	
electricity	The flow of an electric current or charge through a material, eg. 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. These include fossil fuels.
appliances	A piece of equipment or device designed to perform a particular job, such as a washing machine.
battery	A device that stores electrical energy as a chemical.
circuit	A pathway that electricity can flow around. It included wires and a power supply and may include switches and lightbulbs.
electrons	Small particles with an electric charge
conductor	It is a material that is made up of free electrons which can be made to move in one direction creating an electrical current.
insulator	It is a material with no free electrons so no electrical current can be made.