

Knowledge Organiser Year 3 Science: Animals including Humans

Concept: Ecosystems, Living things (cells)

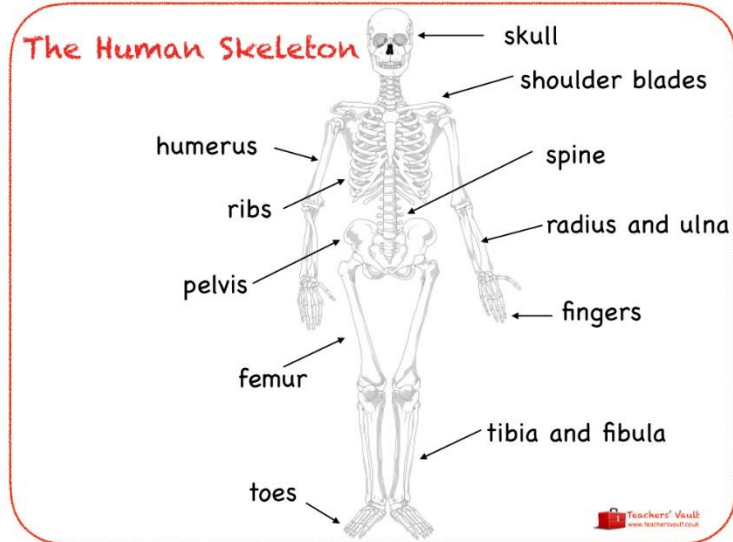
Key Vocabulary

Muscle	A band or bundle of fibers that can contract and relax to allow the body to move. There are over 650 muscles in the human body.
Bone	Hard whitish tissue which make up the human skeleton. Bones provide support for the body and protect vital organs. There are 206 bones in the human body.
Joint	Where two or more bones join together. Skeletons bend at joints such as knees and ankles.
Vitamins & Nutrients	Substances essential for maintenance of life and growth.
Protein	Protein is an essential nutrient responsible for growing, maintaining, and replacing the tissues in our bodies.
Fat	Fats help to fuel the body and absorb vitamins. They also help insulate the body.
Carbohydrate	Carbohydrates are an essential nutrient which are important energy sources for the body.

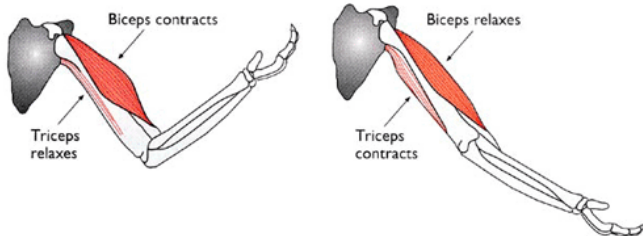


To survive, humans need:

- food
- water
- air



MUSCLES WORK IN PAIRS TO MOVE A BONE



Skeletons

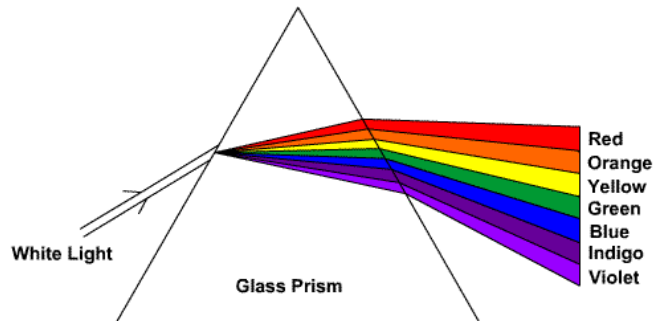
1. Protect our organs
2. Help us move
3. Support our bodies

Knowledge Organiser Year 3 Science: Light and shadow

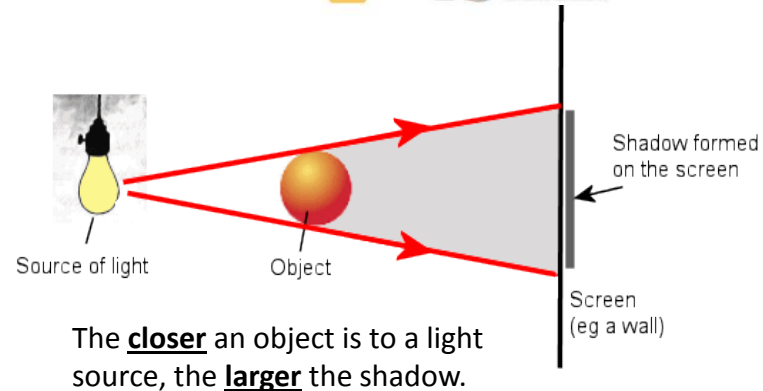
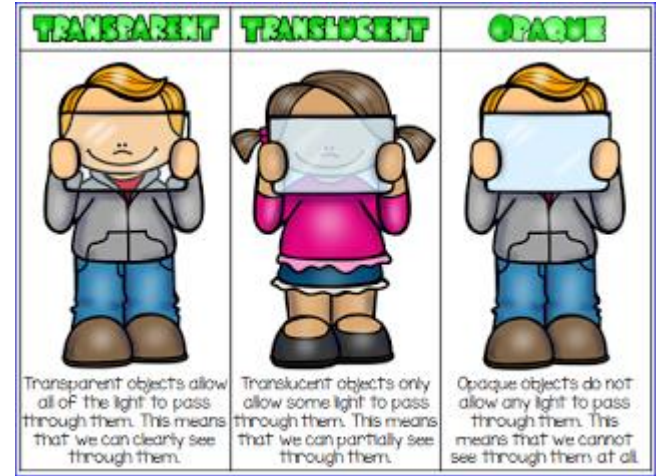
Concept: Energy

Key Vocabulary

Light source	An object that produces its own light (e.g. sun, fire).
Reflection	When a light hits a surface and 'bounces' off.
Refraction	When light passes through a different object and its direction changes.
Opaque	An object which does not allow light to pass through it (e.g. wood).
Translucent	An object which allows some light to pass through it. It may be possible to see some unclear images through the object (e.g. tissue paper).
Transparent	An object which allows light to pass through it so that objects behind it can be easily seen (e.g. glass).
Spectrum	A range of colours caused when white light is refracted. A rainbow shows a spectrum of colours.
Rainbow	An arch of colour caused by the refraction of light on water droplets in the air, usually rain (Red, Orange, Yellow, Green, Blue, Indigo, Violet).
Prism	A solid 3D shape where two end faces are similar and parallel.
Shadow	A dark area or shape caused by the blockage of light.



When white light passes through a glass prism, it is refracted. The light changes direction and is then dispersed (spread out) as it exits the prism. Depending on the shape of the prism and the angle of the light, we can often see the spectrum of colours.

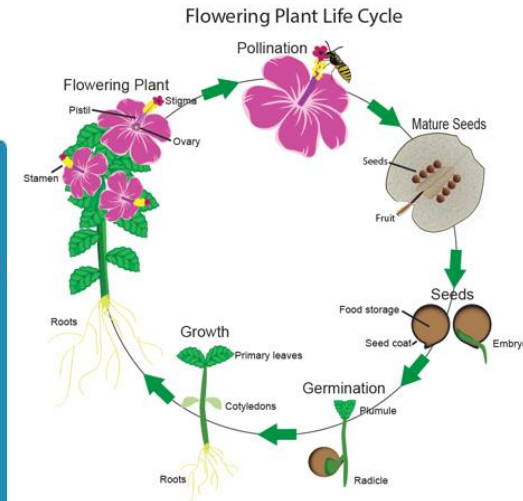
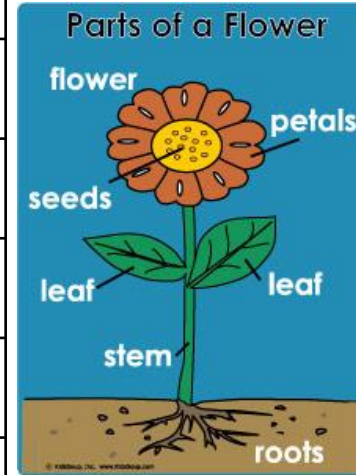


Knowledge Organiser Year 3 Science: Plants

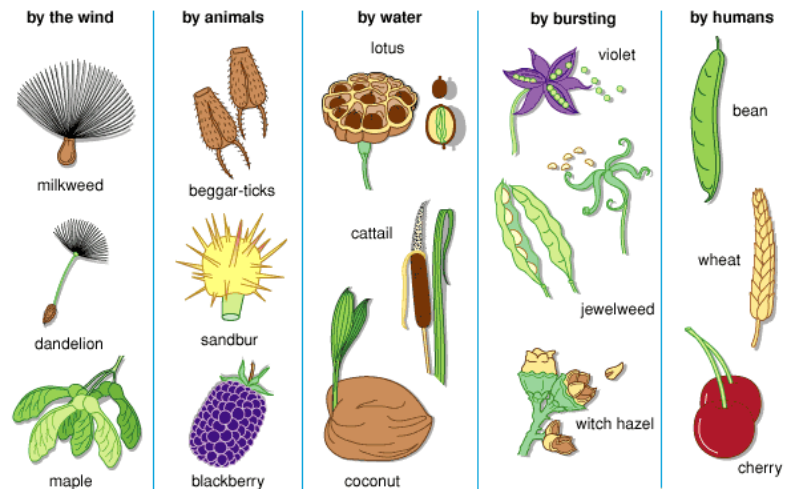
Concept: Living things, Evolution, Living things (cells)

Key Vocabulary

root	Anchor the plant in the ground and absorb nutrients from the soil.
stem	Transports water and nutrients to different parts of the plant. It supports the structure of the plant.
leaves	Part of the plant that can create the plant's own food in the form of sugar (photosynthesis).
petal	The colourful outside section of a flower head which attract bees and other pollinators.
flower	The part of a plant which allow it to reproduce by creating seeds.
pollination	The process by which pollen is transferred from the male part of a plant to the female part of a plant.
seed dispersal	The movement or transport of seeds away from the parent plant.
nutrient	A substance that provides nourishment for growth.



How Seeds Travel



Life Processes

M	Movement	All living things move, even plants
R	Respiration	Getting energy from food
S	Sensitivity	Detecting changes in the surroundings
G	Growth	All living things grow
R	Reproduction	Making more living things of the same type
E	Excretion	Getting rid of waste
N	Nutrition	Taking in and using food

Knowledge Organiser Year 3 Science: Forces and magnets

Concept: Forces

Key Vocabulary

force	A push or pull on an object which can cause it to move, change speed, direction or shape. Measured in Newtons (N).
magnet	A material or object that produces a magnetic field. It attracts or repels magnetic objects, including iron.
attract	To pull towards. Opposite of repel.
repel	To push away. Opposite of attract.
propel	The act of driving or pushing forward.
friction	The resistance of motion when one object rubs against another. Friction causes objects to slow down and the energy becomes heat.
air resistance	The frictional force of air against a moving object. The faster an object moves, the greater the air resistance.
balanced force	Two forces of equal size acting in opposite directions on an object so that it will stay still or continue to move in the same way.



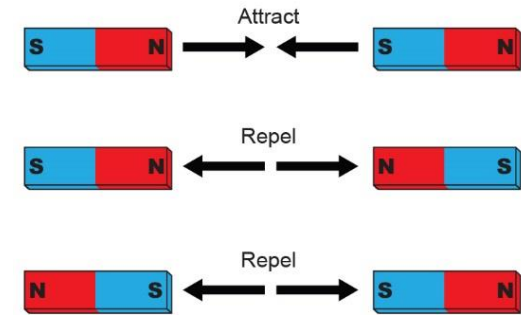
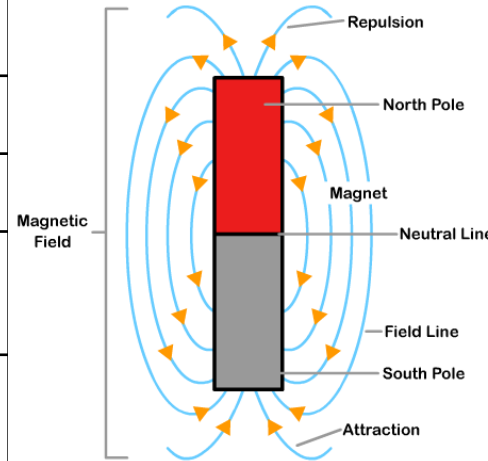
Bar Magnet



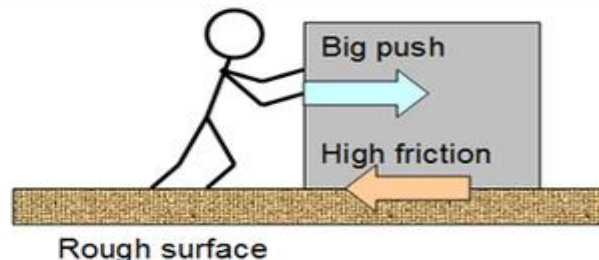
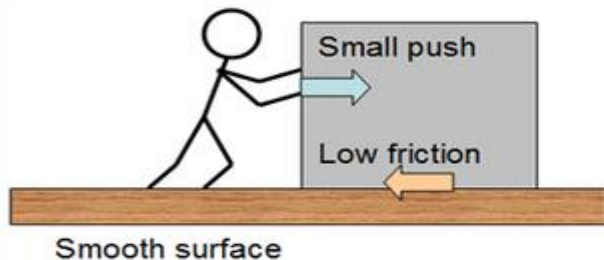
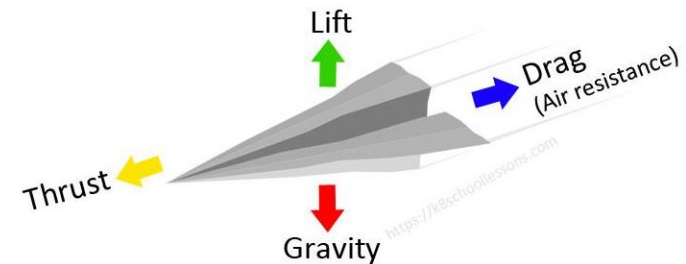
Horseshoe Magnet



Disc Magnet



Forces acting on a paper plane



<https://k2schoollessons.com>

Knowledge Organiser Year 3 Science: Rocks and Fossils

Concept: Chemistry

Key Vocabulary

rock	A hard, solid material that is made of minerals and is found in nature.
soil	The top layer of the ground, in which plants grow; dirt.
mineral	A solid, natural material that does not come from a living thing.
Metamorphic rock	Rock formed when any type of rock goes through changes caused by extreme heat and pressure (e.g. marble, slate).
Igneous rock	Rock formed by the cooling and hardening of hot magma or lava. Formed by volcanoes! (e.g. basalt, granite).
Sedimentary rock	Rock formed when sediment is pressed together over time. Formed over a long period of time (e.g. shale, limestone, sandstone).
rock cycle	The series of changes that rock undergoes over time as it shifts between different types.
fossil	The remains of a plant or animal that turned to stone over a long period of time. Mostly found in sedimentary rock.
weathering	The process of wearing away or otherwise changing Earth's surface, caused by natural forces.
erosion	The process of transporting and wearing away rocks or soil as loose articles that are moved by water, wind, ice or gravity.

TYPES OF ROCKS

IGNEOUS		SEDIMENTARY		METAMORPHIC	
					
Granite	Scoria	Sandstone	Limestone	Marble	Slate
					
Pumice	Obsidian	Shale	Conglomerate	Gypsum	Quartzite
					
				Gneiss	

