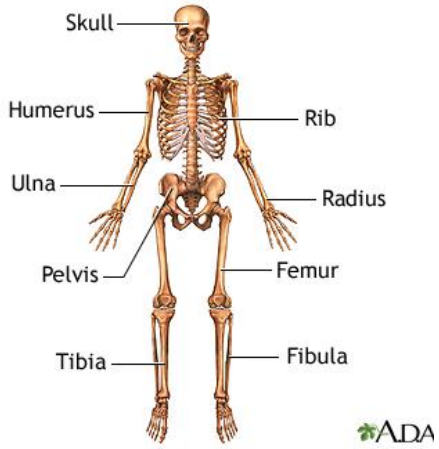
Knowledge Organiser: Animals, including humans Year 3

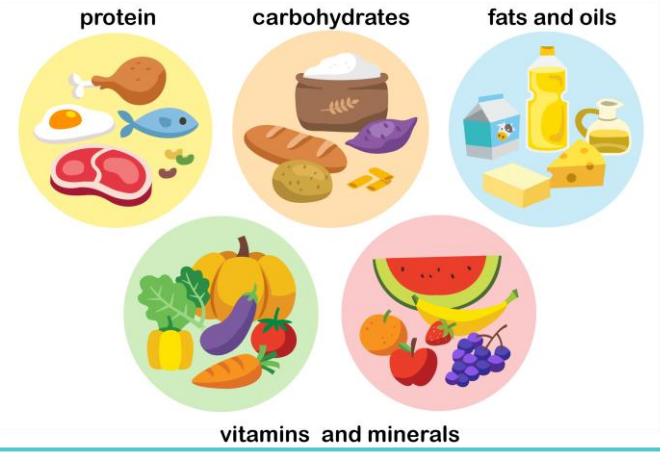
Careers connected to animals & humans:
anthropologist, orthopaedic doctor

Animal Skeletons

Human Skeleton



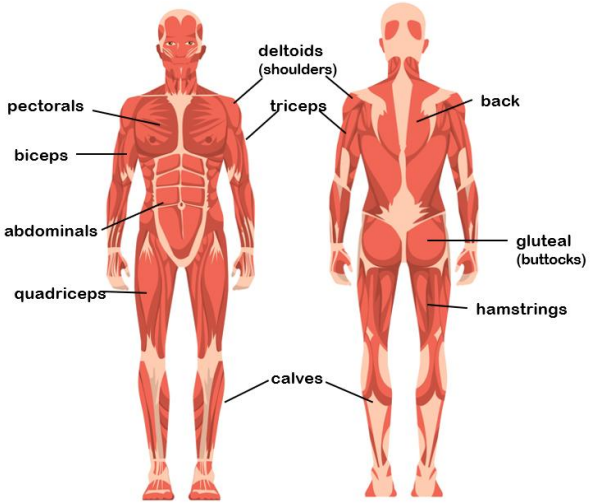
5 Food Groups



Key Vocabulary

	vitamin	found in foods and are essential for the body's growth, repair and building immunity
	mineral	found in foods and help build strong bones and teeth
	nutrition label	gives information about what the food contains
	balanced	in good proportion
	endoskeleton	animals with skeletons inside their body
	exoskeleton	animals with skeletons outside their body

Human Muscles



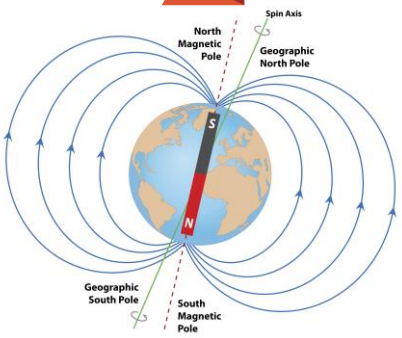
Knowledge Organiser: Forces and Magnets Year 3

Careers connected to forces and magnets: radiographer, magnetic engineer, railway engineer

Forces

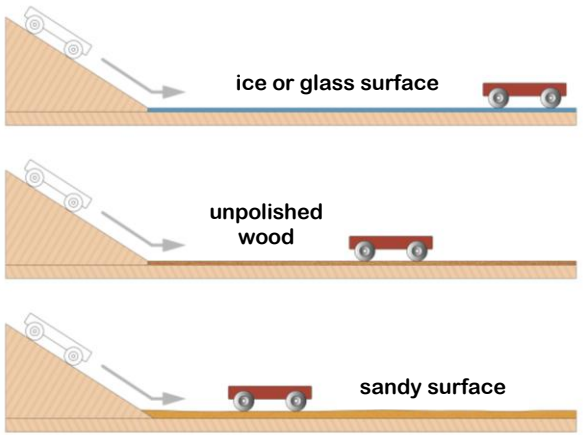
- Forces act in opposite directions to each other.
- When an object moves across a surface, **friction** acts as an opposite force. Friction is a force that holds back the **motion** of an object.
- Some surfaces create more friction than others, meaning that objects move across them more slowly.
- On a ramp, the force that causes the object to move downwards is gravity.
- Objects move differently depending on the **surface** of the object itself and the surface of the **ramp**.

How do magnetic poles work?



The ends of a magnet are called poles. One end is called the north pole and the other end is called the south pole. Opposite poles attract; similar poles repel. If you place two magnets so the south pole of one faces the north pole of the other, the magnets will move towards each other. This is called attraction. If you place the magnets so that two of the same poles face each other, the magnets will move away from each other. They are repelling each other.

Friction



Key Vocabulary

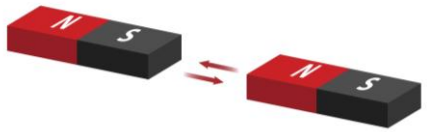
force	a power or strength that can cause an object to move
friction	the force that pulls backwards when objects rub against each other
motion	the process of movement
texture	the feel or look of a surface
magnet	an object that can pull some metal items towards it
attract	to pull towards
repel	to force back or push away
magnetic field	the force that surrounds a magnet and attracts magnetic objects

non-magnetic

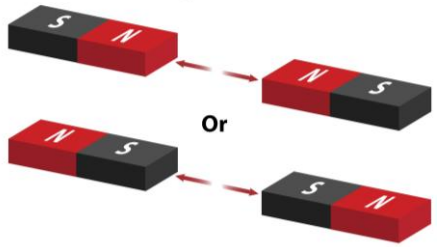
magnetic

Magnetic Forces

Attraction



Repulsion



Knowledge Organiser: Light Year 3

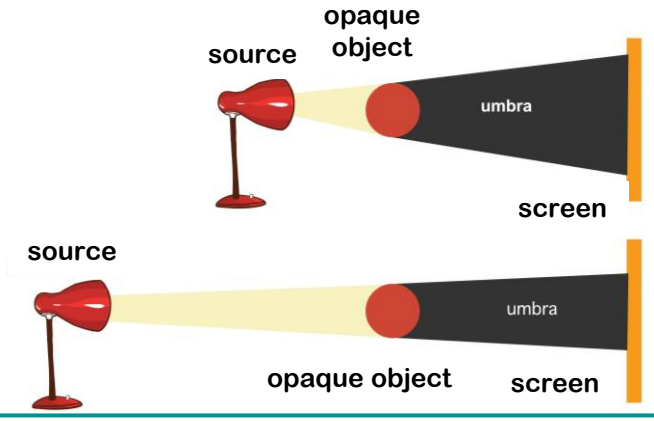
Careers connected to light: optometrist, optic scientists, lighting engineer

Key Facts

We need light to be able to see things. Light travels in a **straight line**. When light hits an object, it is reflected (**bounces off**). If the reflected light hits our eyes, we can see the object. Some surfaces and materials reflect light well. Other materials do not reflect light well. **Reflective surfaces** and materials can be very useful. Remember the Sun can be dangerous.

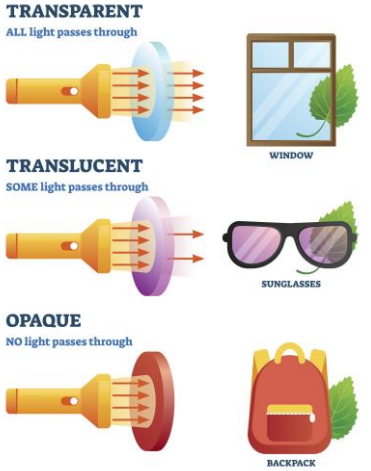
Size of a shadow changes

A shadow is caused when light is blocked by an opaque object. A shadow is larger when an object is closer to the light source. This is because it blocks more of the light.



Mirrors and reflection

Mirrors reflect light very well, so they create a clear image. An image in a mirror appears to be reversed. For example, if you look in a mirror and raise your right hand, the mirror image appears to raise its left hand.



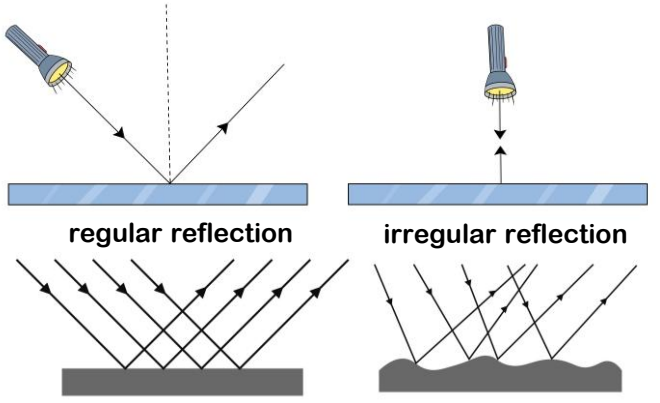
Key Vocabulary

light	a form of energy that allows our eyes to see
reflect	the process that describes light bouncing off a surface
vitamin D	a vitamin that come from sunlight or food and important for bone strength
ultraviolet rays	type of light that can be harmful
fluorescent	gives a highly visible reflection of light
high visibility	can be seen easily
shadow	a dark image that is formed when an object blocks the light
ray	a thin beam of light

Light is reflected from surfaces

Light from the torch hits the object.

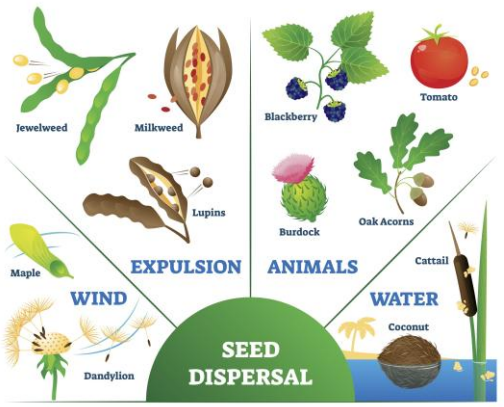
The light is reflected from the object.



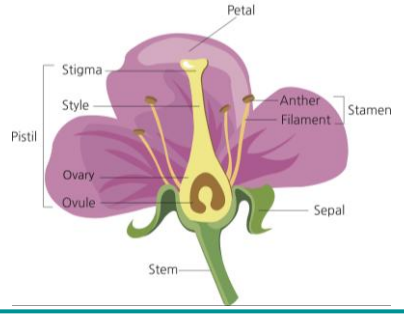
Knowledge Organiser: Plants Year 3

Careers connected to plants: conservation scientist, floriculturist, organic farmer

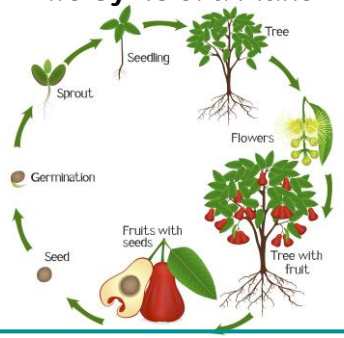
Seed Dispersal



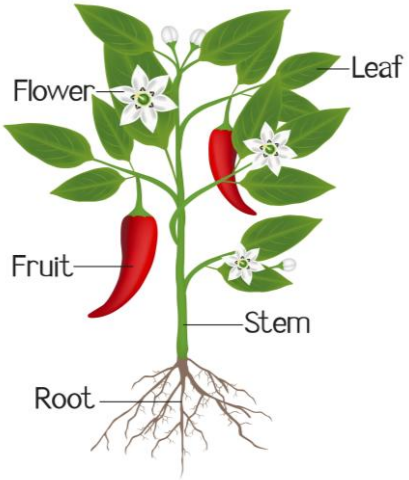
Parts of a Flower



Life Cycle of a Plant

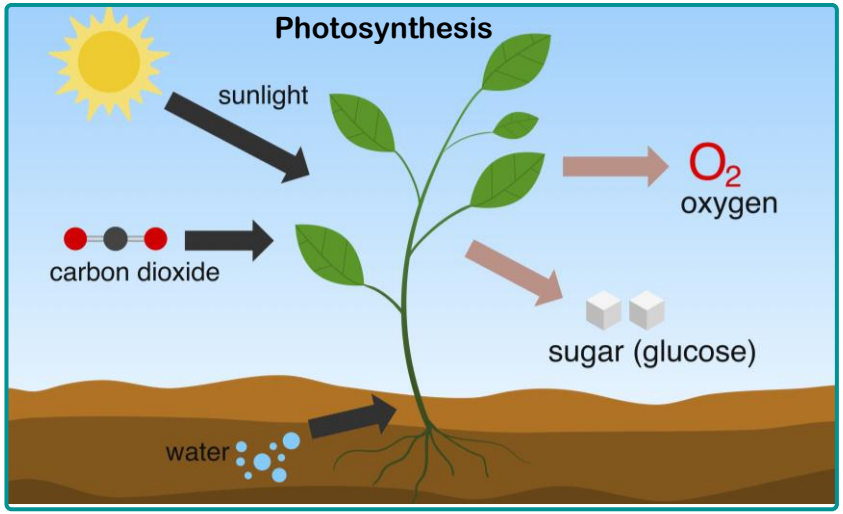


Parts of a Plant



1. The roots of a plant absorb water from the soil.
2. The stem transports water to the leaves.
3. Water evaporates from the leaves.
4. This evaporation causes more water to be sucked up the stem.
5. The fruit is the part of a flowering plant that contains the seeds.

Photosynthesis



Key Vocabulary

anther	the part of a stamen that produces and contains pollen and is usually borne on a stalk
filament	the stalk of a plant stamen that bears the anther
stomata	tiny openings or pores, found mostly on the undersurface of a plant leaf and used for gas exchange
transpiration	the process of water movement in a plant
pollen	a fine powder produced by certain plants
nectar	a liquid produced by the flower of plants

Knowledge Organiser: Rocks Year 3

Careers connected to rocks:
geologist, archaeologist

Key Vocabulary

igneous rocks	rocks created from solidified lava
sedimentary rock	rocks that are made from layers of sediment that has been subjected to heat and pressure
metamorphic rock	rocks that have changed from igneous or sedimentary through heat and pressure
erosion	the wearing away of rocks by wind or water
fossil	the imprint of a prehistoric plant or animal embedded in rock
decompose	the process where dead animals and plants break down into smaller parts
fragments	small pieces
magma	hot liquid rock below the surface of the Earth. When a volcano erupts it can be seen, and is called lava

What is soil made from?

AIR – Oxygen, carbon dioxide, nitrogen
ORGANIC MATTER – Living and dead plants and animals.
WATER – Air and water fill the gaps between particles of soil.
MINERALS – Broken down rock.

chalk	flint	marble	limestone	sandstone	granite
					

Igneous Rock	Metamorphic Rock	Sedimentary Rock
		
Far underground the temperature is so hot, rock melts into a liquid (molten rock). When the liquid is underground, it is called magma and it can cool to form igneous rock.	Metamorphic rocks are formed under the surface of the earth from the change (metamorphosis) that occurs under the intense heat and pressure (squeezing).	These rocks form under the sea. Rocks are broken into small pieces by wind and water (erosion). They settle as mud, sand, minerals and even remains of living things. Over time layers build up and the pressure turns this sediment into rock.

How fossils are formed.