ORCES A Speed Gravity Y7 Term 1

All Saints Catholic High School Science

Keywords

Speed: How much distance is covered in how much time.

Average speed: The overall distance travelled divided by overall time for a journey.

Relative motion: Different observers judge speeds differently if they are in motion too, so an object's speed is relative to the observer's speed.

Acceleration: How quickly speed increases or decreases.

Keywords

Weight: The force of gravity on an object (N).

Non-contact force: One that acts without direct contact.

Mass: The amount of stuff in an object (kg).

Gravitational field strength, g: The force from gravity on 1 kg (N/kg).

Field: The area where other objects feel a gravitational force.

Speed

The speed of an object tells you how fast or slow it is moving. You can find the average speed of an object if you know the distance it has travelled and the time taken to travel that distance.

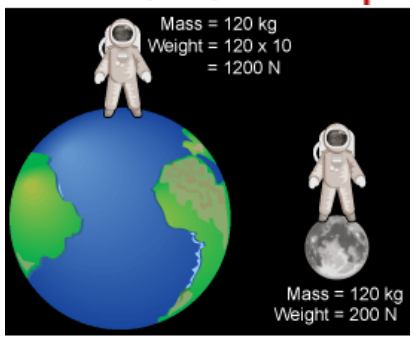
The equation is:

Speed(m/s) = Distance(m) ÷ Time(s)

$$V = \frac{S}{t}$$

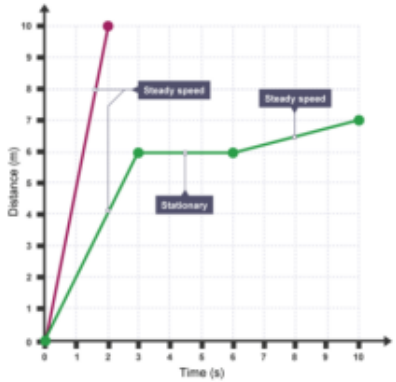
E.g. A car travels 100m in 20s. Calculate the speed of the car.

Speed = Distance ÷ Time
Speed = 100m ÷ 20s
Speed = 5m/s



Distance Time Graphs

A distance time graph is a useful way to represent the motion of an object. It shows ho the distance move from a starting point changes over time.



If the line is horizontal, the object is stationary (because the distance stays the same).
If the line is a straight diagonal, the object is moving at a constant speed.

The steeper the line, the greater the gradient and the greater the speed.

E.g. Calculate the speed of the green line for the first 3s.

Speed = Distance ÷ Time
Speed = 6m ÷ 3s
Speed = 2m/s

Unbalanced Forces

If more than one force act along a straight line, the resultant force can be found by adding (acting in the same direction) or subtracting (acting in opposite direction) them.

100 – 60 = 40 N (to the right)

Contact & Non-Contact Forces

All forces between objects are either:
Contact Forces – The objects are physically touching
Non-Contact Forces – The objects are physically separated.

Contact: Friction, Air Resistance, Tension, Normal Contact

Non-Contact: Gravitational, Electrostatic, Magnetic

Acceleration:

Acceleration is the rate of change of velocity. It is the amount that velocity changes per unit time.

$$\text{Acceleration} = \frac{\text{Change in Velocity}}{\text{Time Taken}}$$

Metres per second (m/s)

Metres per second squared (m/s^2)

Seconds (s)

$$a = \frac{v - u}{t}$$

Change in velocity = final speed – initial speed

Newton's First Law

An object has a constant velocity unless acted on by a resultant force

Thrust = Drag. Zero resultant force and the plane moves at a constant velocity.

Newton's Second Law

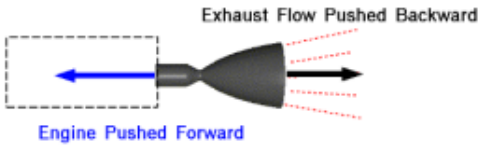
The acceleration of an object is proportional to the resultant force acting on the object, and inversely proportional to the mass of the object.

F = ma
F is Force in N
m is mass in Kg
a is acceleration in m/s^2.

Newton's Third Law

Wherever two objects interact, the forces they exert on each other are equal and opposite.

Rocket Engine Thrust



For every action, there is an equal and opposite re-action.

ELECTROMAGNETS B Voltage and resistance Current

Gravity Y7 Term 2

Keywords

Negatively charged: An object that has gained electrons as a result of the charging process.

Positively charged: An object that has lost electrons as a result of the charging process.

Electrons: Tiny particles which are part of atoms and carry a negative charge.

Charged up: When materials are rubbed together, electrons move from one surface to the other.

Electrostatic force: Non-contact force between two charged objects.

Current: Flow of electric charge, in amperes (A).

In series: If components in a circuit are on the same loop.

In parallel: If some components are on separate loops.

Field: The area where other objects feel an electrostatic force.

Keywords

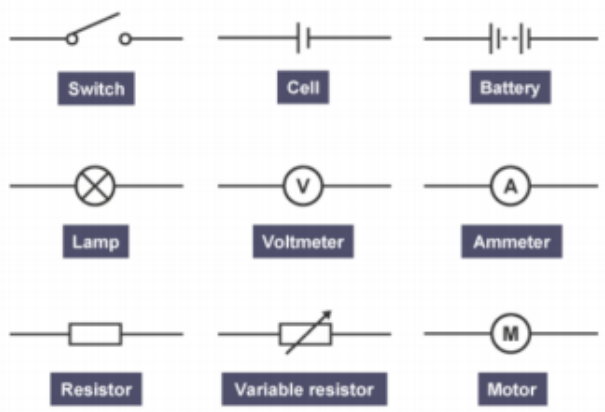
Potential difference (voltage): The amount of energy shifted from the battery to the moving charge, or from the charge to circuit components, in volts (V).

Resistance: A property of a component, making it difficult for charge to pass through, in ohms (Ω).

Electrical conductor: A material that allows current to flow through it easily, and has a low resistance.

Electrical insulator: A material that does not allow current to flow easily, and has a high resistance.

Circuit Symbols



Electric Charge

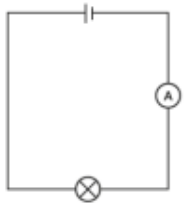
Some particles carry an electric charge. In electric wires these particles are called electrons. An electric current is a flow of charge, and in a wire this will be a flow of electrons.

For an electric current to flow we need:

- Something to transfer the energy to the electrons, such as a cell, battery or power pack.
- A complete path for the electrons to flow through (a complete circuit).

Current

Current is measured in amperes (A). 20A is a bigger current that 10A. An ammeter is used to measure the current. The ammeter must be connected in series.



Equations To Remember

Current

$$\text{Current} = \frac{\text{Charge}}{\text{time}} \qquad I = \frac{Q}{t}$$

Current in Amps (A), Charge in Coulombs (C), Time in Seconds (s).

Potential Difference:

Potential Difference = Current x Resistance

V = I x R

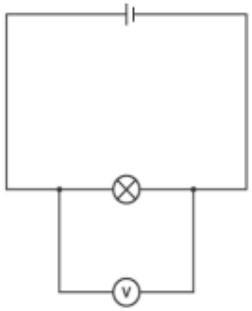
Potential difference in Volts (V), Resistance in Ohms (Ω), Current in Amps (A)

Potential Difference

Potential difference is a measure of the difference in energy between two parts of a circuit. The bigger the difference in energy, the bigger the potential difference.

Potential difference is measured in volts. A 230V is a bigger potential difference than 12V.

A voltmeter is used to measure the potential difference, and must be in parallel.



Series Circuit

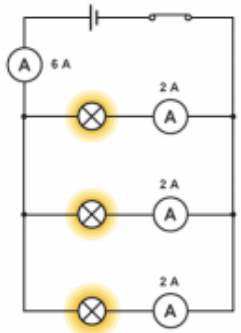
In series circuits:

- You get several components one after another.
- If a component breaks, the circuit is broken and all the other components stop working.
- The current is the same everywhere in a series circuit no matter where you put the ammeter – it will give the same reading.

Parallel Circuit

In parallel circuits:

- Different components are connected on different braches.
- If a component breaks, the components on the different braches keep working.
- Unlike series, the lamps stay bright If you add more lamps in parallel.
- Current is shared between the components.

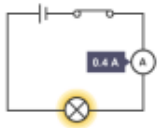


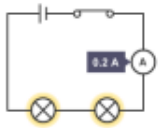
Resistance

The wires and other components in a circuit reduce the flow of charge through them – this is resistance.

The resistance increases when you add more components in series.

The resistance of two lamps is greater than the resistance of one lamp, so less current will flow through them.





ENERGY G Energy Costs Energy Transfer Gravity Y7 Term 1

All Saints Science

Keywords

Power: How quickly energy is transferred by a device (watts).

Energy resource: Something with stored energy that can be released in a useful way.

Non-renewable: An energy resource that cannot be replaced and will be used up.

Renewable: An energy resource that can be replaced and will not run out. Examples are solar, wind, waves, geothermal and biomass.

Fossil fuels: Non-renewable energy resources formed from the remains of ancient plants or animals. Examples are coal, crude oil and natural gas.

Keywords

Thermal energy store: Filled when an object is warmed up.

Chemical energy store: Emptied during chemical reactions when energy is transferred to the surroundings.

Kinetic energy store: Filled when an object speeds up.

Gravitational potential energy store: Filled when an object is raised.

Elastic energy store: Filled when a material is stretched or compressed.

Dissipated: Become spread out wastefully.

Type of energy	Description	Type of energy	Description
Kinetic	The energy in moving objects	**Thermal (Internal)**	The heat stored in an object
Chemical	When a substance undergoes a chemical reaction	**Gravitational potential**	When an object is raised to a height
Magnetic	When 2 objects attract or repel	**Electrostatic (electrical)**	Allows an electric current to flow
Elastic potential	When an object is stretched or squashed	**Nuclear**	Energy stored in an atom*(not needed till GCSE)*
Light	*From a bright object (not stored)*	*Sound*	*From a vibrating object (not stored)*

Calculating Kinetic Energy

$$E_K = \frac{1}{2}mv^2$$

E_K = Kinetic Energy
m = Mass
v = velocity

Calculating GPE

GPE = mass x gravitational field strength x height

- Mass is measured in **kilograms (kg)**.
- Gravitational field strength is measured in **newtons per kilogram (N/kg)**, usually taken as 10N/kg on Earth.
- Height is measured in **metres (m)**.
- GPE is measured in **joules (j)**.

Calculating Power

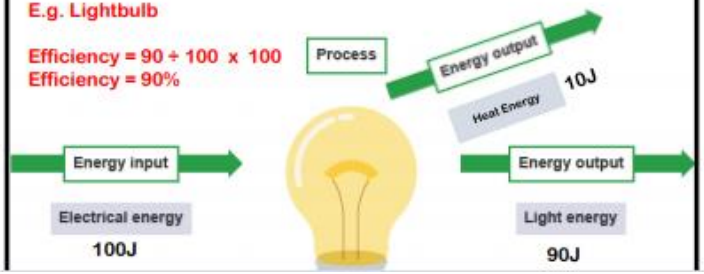
Word Equation	Power = Work Done / Time Taken
Dimensions	P = W / t
Units	Watt = Joule / second

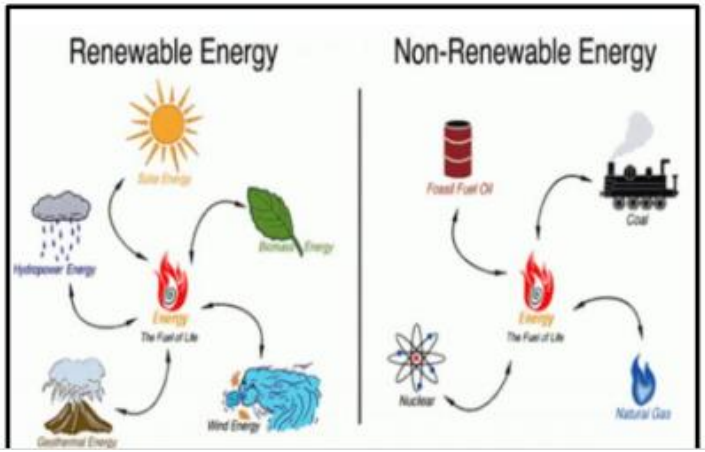
Calculating Efficiency.

$$\text{Efficiency} = \frac{\text{useful energy out}}{\text{total energy in}} \times 100$$

E.g. Lightbulb

Efficiency = 90 ÷ 100 x 100
Efficiency = 90%





WAVES D Sound Light Gravity Y7 Term 2

All Saints Catholic High School Science

Keywords

Vibration: A back and forth motion that repeats.

Longitudinal wave: Where the direction of vibration is the same as that of the wave.

Volume: How loud or quiet a sound is, in decibels (dB).

Pitch: How low or high a sound is. A low (high) pitch sound has a low (high) frequency.

Amplitude: The maximum amount of vibration, measured from the middle position of the wave, in metres.

Wavelength: Distance between two corresponding points on a wave, in metres.

Frequency: The number of waves produced in one second, in hertz.

Vacuum: A space with no particles of matter in it.

Oscilloscope: Device able to view patterns of sound waves that have been turned into electrical signals.

Absorption: When energy is transferred from sound to a material.

Auditory range: The lowest and highest frequencies that a type of animal can hear.

Echo: Reflection of sound waves from a surface back to the listener.

Keywords

Incident ray: The incoming ray.

Reflected ray: The outgoing ray.

Normal line: From which angles are measured, at right angles to the surface.

Angle of reflection: Between the normal and reflected ray.

Angle of incidence: Between the normal and incident ray.

Refraction: Change in the direction of light going from one material into another.

Absorption: When energy is transferred from light to a material.

Scattering: When light bounces off an object in all directions.

Transparent: A material that allows all light to pass through it.

Translucent: A material that allows some light to pass through it.

Opaque: A material that allows no light to pass through it.

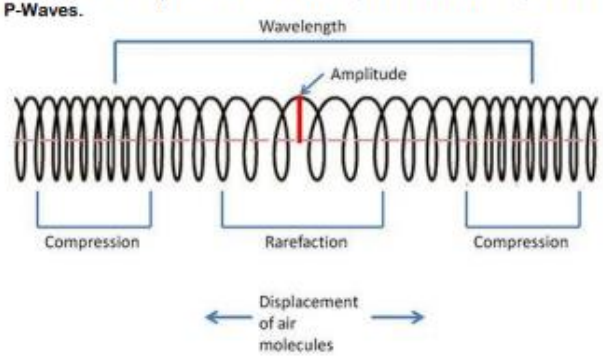
Convex lens: A lens that is thicker in the middle which bends light rays towards each other.

Concave lens: A lens that is thinner in the middle which spreads out light rays.

Retina: Layer at the back of the eye with light detecting cells and where an image is formed.

Longitudinal Waves

In longitudinal waves, the vibrations are parallel to the direction of wave travel. Examples are: Sound Waves, Ultrasound Waves, Seismic P-Waves.



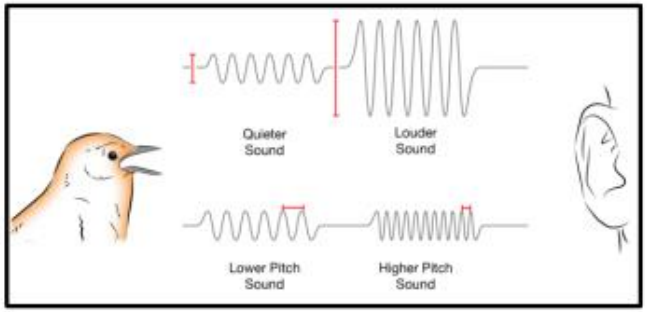
Calculating Wave Speed

$$v = f\lambda$$

v = velocity
f = frequency
λ = wavelength

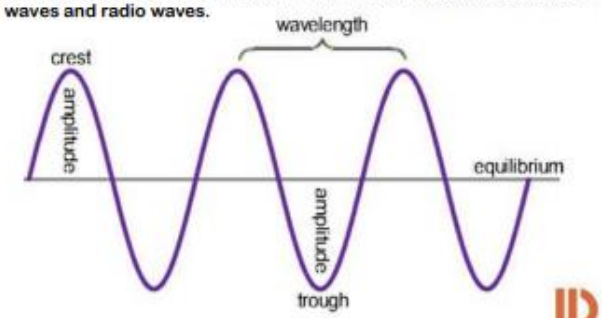
Calculating Speed

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

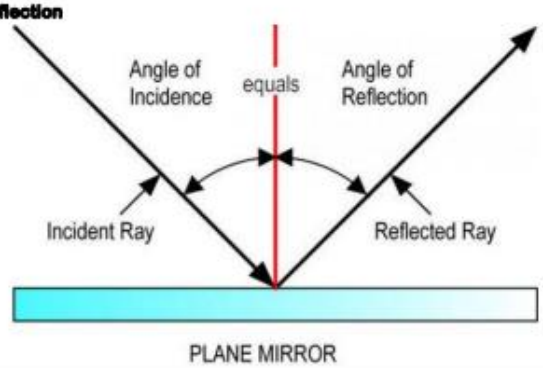


Transverse Waves

In transverse waves, the vibrations are at right angles to the direction of wave travel.
Examples include: Ripples on water, vibrations on a guitar string and a Mexican Wave. Electromagnetic waves such as light waves, micro waves and radio waves.

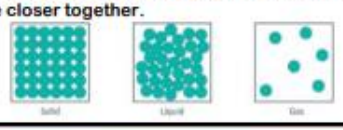


Reflection

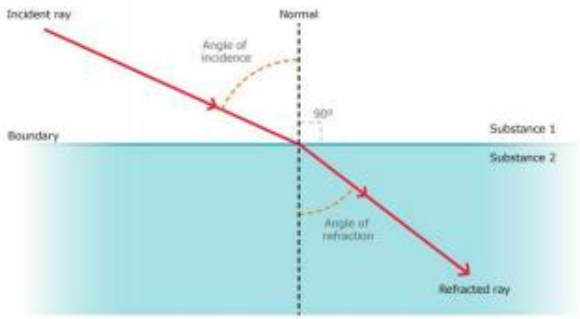


Speed of Light
300,000km/s
Speed of Sound (air)
343m/s

Light can travel through a vacuum but sound cannot. Sound needs a medium to travel through either a solid, liquid or gas. Sound travels fastest in a solid because the particles are closer together.



Refraction



MATTER E Particle Model Separating Mixtures Y7 Term 1

All Saints Catholic High School Science

Keywords

Particle: A very tiny object such as an atom or molecule, too small to be seen with a microscope.

Particle model: A way to think about how substances behave in terms of small, moving particles.

Diffusion: The process by which particles in liquids or gases spread out through random movement from a region where there are many particles to one where there are fewer.

Gas pressure: Caused by collisions of particles with the walls of a container.

Density: How much matter there is in a particular volume, or how close the particles are.

Evaporate: Change from liquid to gas at the surface of a liquid, at any temperature.

Boil: Change from liquid to a gas of all the liquid when the temperature reaches boiling point.

Condense: Change of state from gas to liquid when the temperature drops to the boiling point.

Melt: Change from solid to liquid when the temperature rises to the melting point.

Freeze: Change from liquid to a solid when the temperature drops to the melting point.

Sublime: Change from a solid directly into a gas.

Keywords

Solvent: A substance, normally a liquid, that dissolves another substance.

Solute: A substance that can dissolve in a liquid.

Dissolve: When a solute mixes completely with a solvent.

Solution: Mixture formed when a solvent dissolves a solute.

Soluble (insoluble): Property of a substance that will (will not) dissolve in a liquid.

Solubility: Maximum mass of solute that dissolves in a certain volume of solvent.

Pure substance: Single type of material with nothing mixed in.

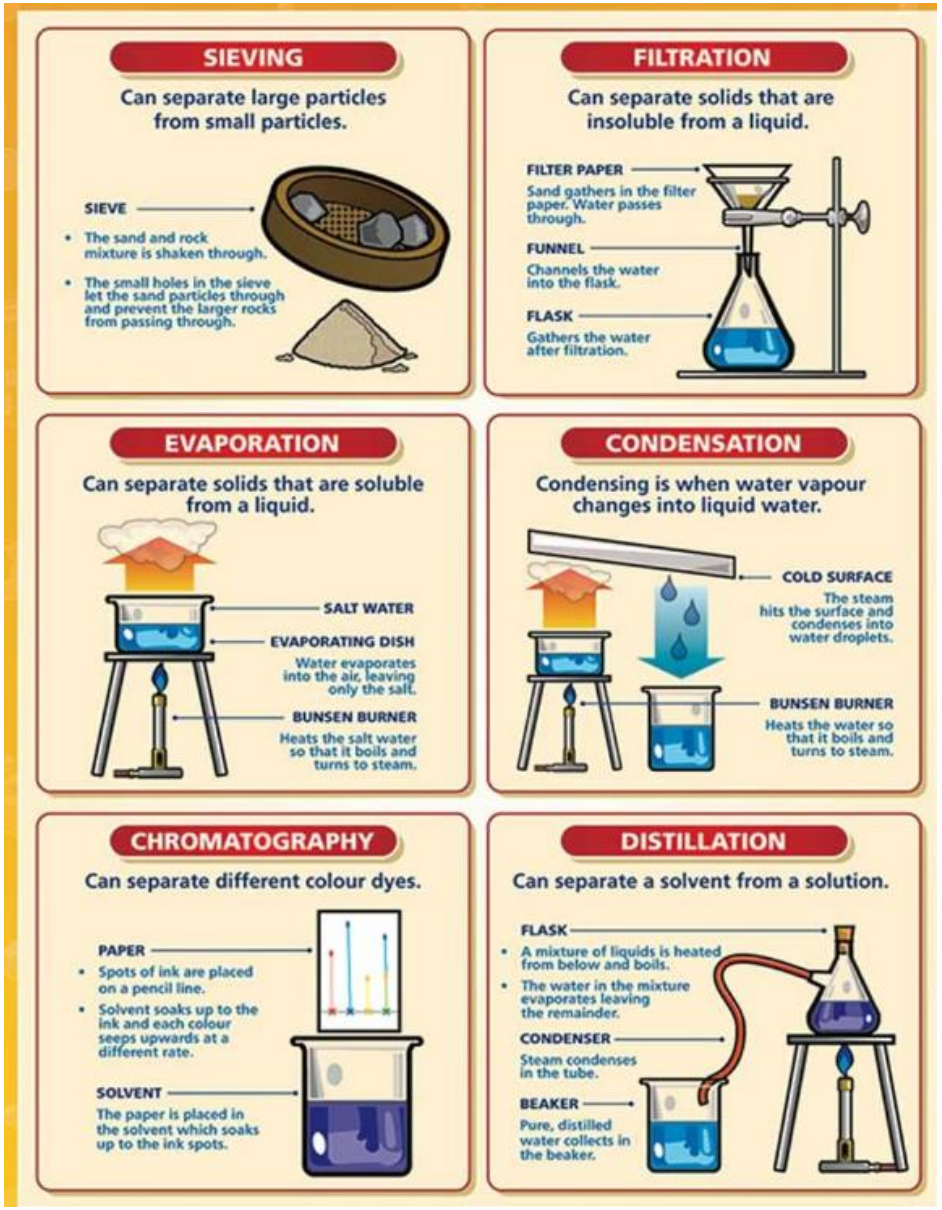
Mixture: Two or more pure substances mixed together, whose properties are different to the individual substances.

Filtration: Separating substances using a filter to produce a filtrate (solution) and residue.

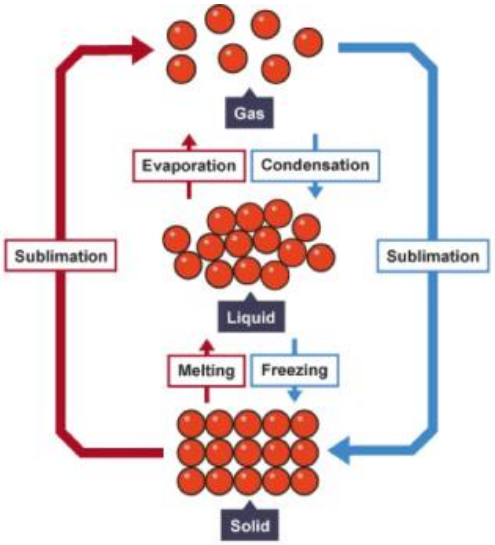
Distillation: Separating substances by boiling and condensing liquids.

Evaporation: A way to separate a solid dissolved in a liquid by the liquid turning into a gas.

Chromatography: Used to separate different coloured substances.



Solid	Liquid	Gas
The particles vibrate in a fixed position.	The particles are close together and move around each other.	The particles are far apart and move quickly in all directions.
The particles cannot move from place to place.	The particles are arranged in a random position.	The particles are arranged in a random way.
Particles have a fixed shape and cannot flow.	The particles flow and take the shape of the bottom of their container.	The particles flow and completely fill their container.
The particles cannot be compressed (squashed)	The particles cannot be compressed.	The particles can easily be compressed.



Reactions F Metals and non-metals Acids and Alkalis Y7 Term 2

Keywords

Metals: Shiny, good conductors of electricity and heat, malleable and ductile, and usually solid at room temperature.

Non-metals: Dull, poor conductors of electricity and heat, brittle and usually solid or gaseous at room temperature.

Displacement: Reaction where a more reactive metal takes the place of a less reactive metal in a compound.

Oxidation: Reaction in which a substance combines with oxygen.

Reactivity: The tendency of a substance to undergo a chemical reaction.

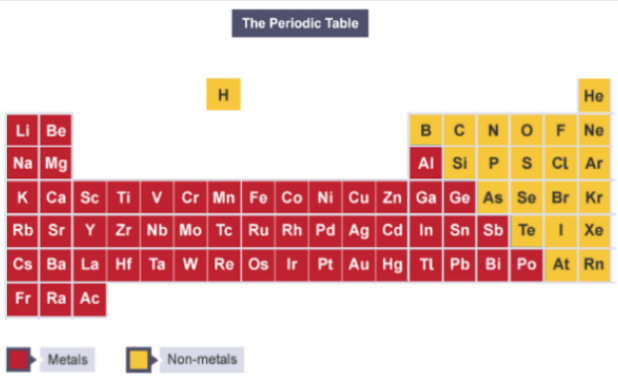
Keywords

pH: Scale of acidity and alkalinity from 0 to 14.

Indicators: Substances used to identify whether unknown solutions are acidic or alkaline.

Base: A substance that neutralises an acid – those that dissolve in water are called alkalis.

Concentration: A measure of the number of particles in a given volume.



Reactivity Series

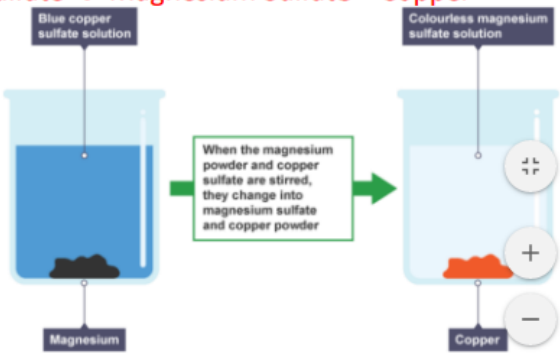
Some metals are very unreactive. This means they don't take part in chemical reactions. For example platinum. Some metals are very reactive and they take part in chemical reactions easily to form new substances.

Displacement Reactions

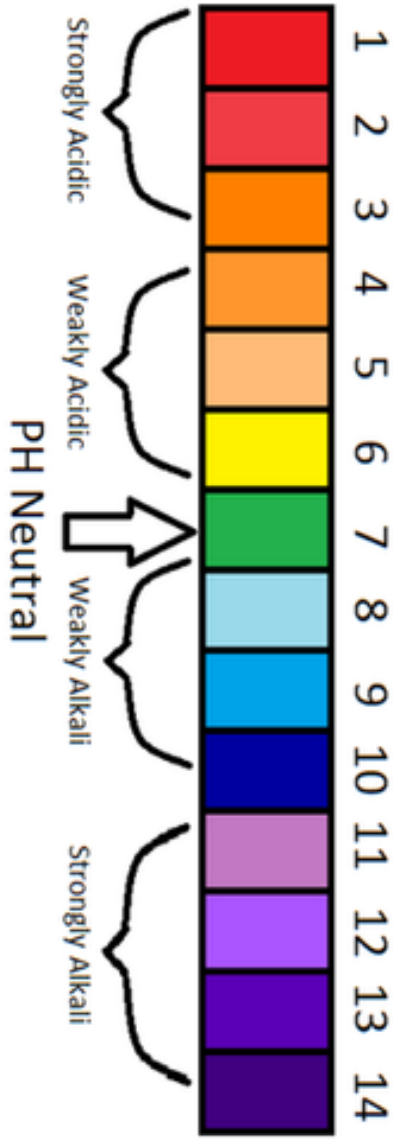
Displacement reactions involve a metal and a compound of a different metal. In displacement reactions, a more reactive metal will displace a less reactive metal from its compound.

Magnesium + Copper Sulfate → Magnesium Sulfate + Copper

Magnesium is more reactive than copper, so it displaces (pushes out) the copper within the compound.



Metals	Non-Metals
Shiny in colour, solids at room temperature (except mercury), high density, strong, malleable, good conductor of heat and electricity.	Dull in colour, can be solids, liquids or gases at room temperature, low density, brittle, poor conductors of heat and electricity.



EARTH G Earth structure Universe Y7 Term 2

Keywords

Rock cycle: Sequence of processes where rocks change from one type to another.

Weathering: The wearing down of rock by physical, chemical or biological processes.

Erosion: Movement of rock by water, ice or wind (transportation).

Minerals: Chemicals that rocks are made from.

Sedimentary rocks: Formed from layers of sediment, and which can contain fossils. Examples are limestone, chalk and sandstone.

Igneous rocks: Formed from cooled magma, with minerals arranged in crystals. Examples are granite, basalt and obsidian.

Metamorphic rocks: Formed from existing rocks exposed to heat and pressure over a long time. Examples are marble, slate and schist.

Strata: Layers of sedimentary rock.

Keywords

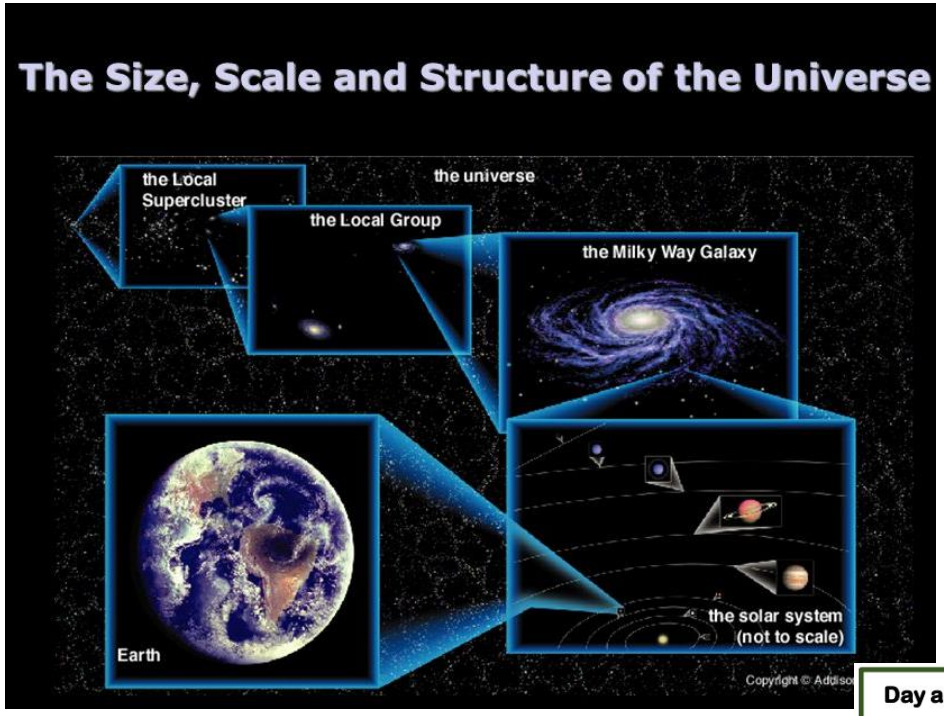
Galaxy: Collection of stars held together by gravity. Our galaxy is called the Milky Way.

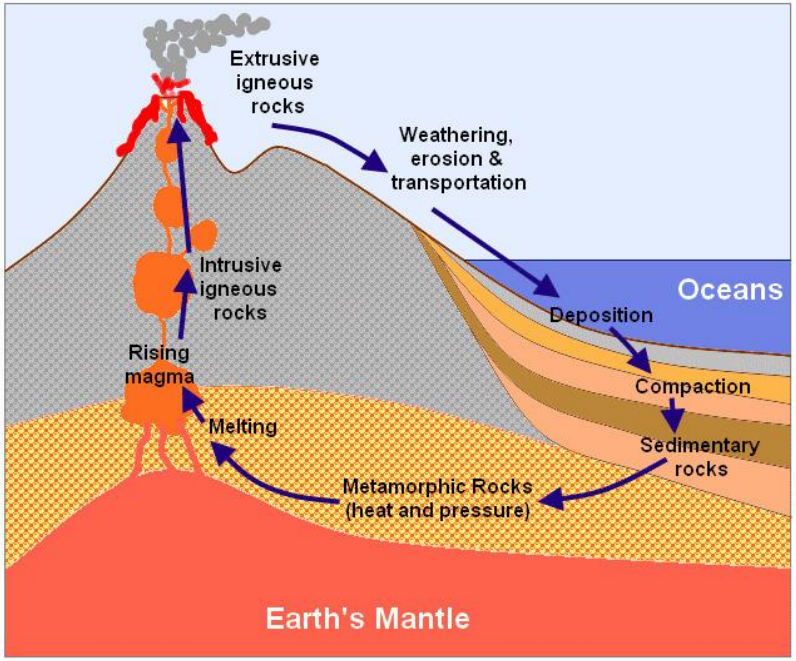
Light year: The distance light travels in a year (over 9 million, million kilometres).

Stars: Bodies which give out light, and which may have a solar system of planets.

Orbit: Path taken by a satellite, planet or star moving around a larger body. Earth completes one orbit of the Sun every year.

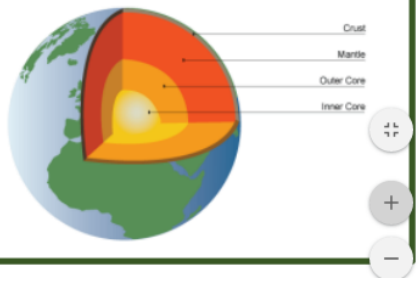
Exoplanet: Planet that orbits a star outside our solar system.





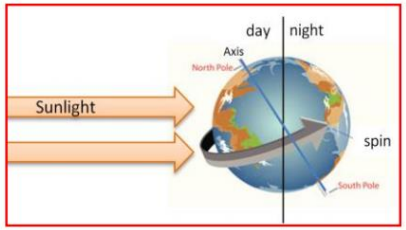
Earth Structure

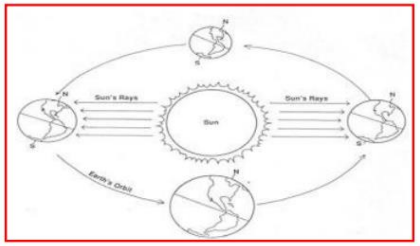
Inner Core: Solid iron and nickel
Outer core: Liquid layer of iron and nickel
Mantle: classed as a liquid.
Crust: Land is made of **continental crust**, made mostly from ***granite.*** The layer beneath the ocean bed is made of **oceanic crust**, which is made mainly from ***basalt.***



Day and Night

The Earth rotates (spins) round on its axis once in 24hours. We spin into the light – **day** - and then back out again – **night**





The Earth orbits the Sun ***once every 365 days***. Planets further out from the Sun travel more slowly and take longer to go round once. The Earth's axis is tipped over in space. In Britain we get different ***seasons*** because sometimes we are tilted towards the Sun and sometimes away.

ORGANISMS H Movement Cells Y7 Term 1

Keywords

Joints: Places where bones meet.

Bone marrow: Tissue found inside some bones where new blood cells are made.

Ligaments: Connect bones in joints.

Tendons: Connect muscles to bones.

Cartilage: Smooth tissue found at the end of bones, which reduces friction between them.

Antagonistic muscle pair: Muscles working in unison to create movement.

Keywords

Cell: The unit of a living organism, contains parts to carry out life processes.

Uni-cellular: Living things made up of one cell.

Multi-cellular: Living things made up of many types of cell.

Tissue: Group of cells of one type.

Organ: Group of different tissues working together to carry out a job.

Diffusion: One way for substances to move into and out of cells.

Structural adaptations: Special features to help a cell carry out its functions.

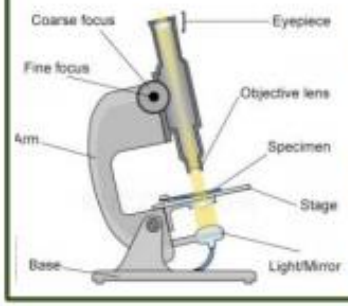
Cell membrane: Surrounds the cell and controls movement of substances in and out.

Nucleus: Contains genetic material (DNA) which controls the cell's activities.

Vacuole: Area in a cell that contains liquid, and can be used by plants to keep the cell rigid and store substances.

Mitochondria: Part of the cell where energy is released from food molecules.

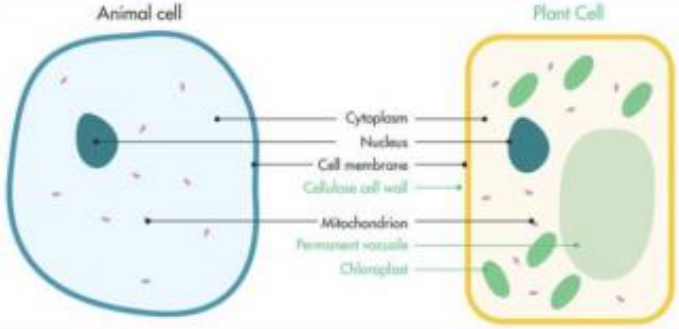
Cell wall: Strengthens the cell. In plant cells it is made of cellulose.

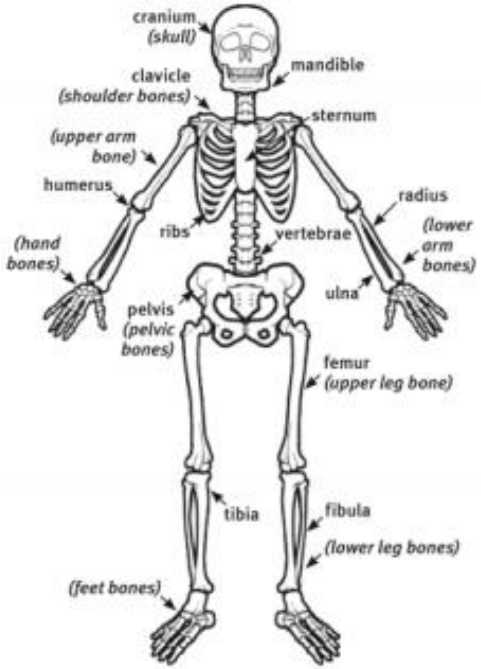


Light Microscope: A device which uses light and a series of lenses to produce a magnified image of an object.

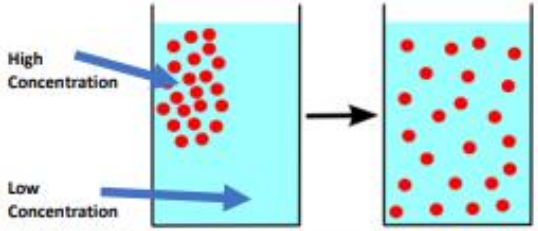
Magnification = How much bigger a sample/object appears under the microscope than it is in real life.

Total magnification = Eyepiece lens x Objective lens

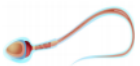
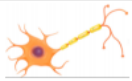




Diffusion: The movement of particles from an area of high concentration to an area of low concentration.
Substances diffuse into and out of cells.



Antagonistic Muscles:
- Muscles work by getting shorter.
- Muscles can only pull and can't push.
- Muscles work in pairs.
- When you raise your forearm, the biceps contract and the triceps relax.
- When you lower your forearm, the biceps relax and the triceps contract.

Red Blood Cell	Sperm Cell	Egg Cell	Root Hair Cell	Palisade Cell	Nerve Cell
					
Carries blood around the body. **Adaptations**: No nucleus, large surface area and biconcave shape.	Carries the male genes. **Adaptations**: Tail for swimming, mitochondria for energy, acrosome to break down the egg cell.	Carries the female genes. **Adaptations**: Lots of mitochondria. Outer layer hardens once fertilised.	Take in water from the soil. **Adaptations**: Long & thin; large surface area for maximum water absorption. Thin cell walls.	Production of food for the plant. **Adaptations**: Tall and thin. Lots of chloroplasts to absorb sunlight for photosynthesis.	Carry signals around the body. **Adaptations**: Long axon. Myelin sheath.

ECOSYSTEMS I Interdependence Plant reproduction Y7 Term 2

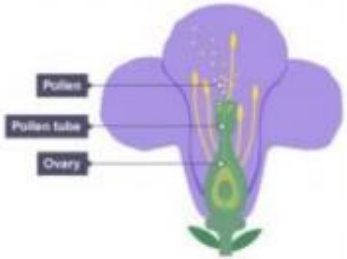
Pollination

During plant reproduction, pollen grains need to move from the anther of one flower to the stigma of another flower. This is called pollination. Pollination can occur by either insects or the wind.

Feature	Insect-pollinated	Wind-pollinated
Petals	Large and brightly-coloured – to attract insects	Small, often dull green or brown – no need to attract insects
Scent and nectar	Usually scented and with nectar – to attract insects	No scent or nectar – no need to attract insects
Number of pollen grains	Moderate - insects transfer pollen grains efficiently	Large amounts – most pollen grains are not transferred to another flower
Pollen grains	Sticky or spiky - sticks to insects well	Smooth and light – easily carried by the wind without clumping together
Anthers	Inside flower, stiff and firmly attached - to brush against insects	Outside flower, loose on long filaments – to release pollen grains easily
Stigma	Inside flower, sticky - pollen grains stick to it when an insect brushes past	Outside flower, feathery – form a network to catch drifting pollen grains

Fertilisation

After pollination the pollen makes a pollen tube down the style to the ovary. The nucleus of the pollen cell travels down the tube to the ovum – when the cell join, this is fertilisation. The cell made when the pollen and ovum fuse will become the seed, which can become a new plant. Plants then form fruits, often from the ovary walls.



Keywords

Pollen: Contains the plant male sex cells found on the stamens.

Ovules: Female sex cells in plants found in the ovary.

Pollination: Transfer of pollen from the male part of the flower to the female part of the flower on the same or another plant.

Fertilisation: Joining of a nucleus from a male and female sex cell.

Seed: Structure that contains the embryo of a new plant.

Fruit: Structure that the ovary becomes after fertilisation, which contains seeds.

Carpel: The female part of the flower, made up of the stigma where the pollen lands, style and ovary.

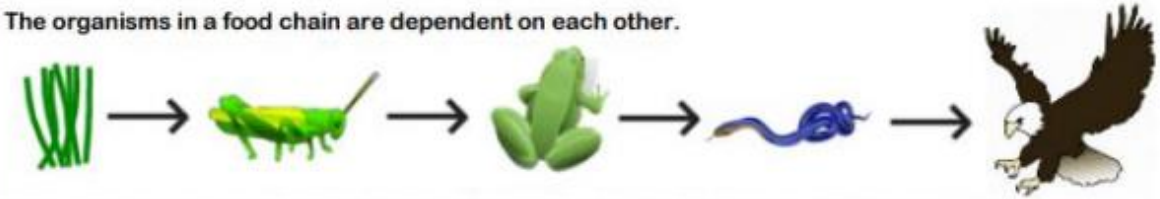
Seed Dispersal

Plants compete with each other for factors including light, water, space, minerals in the soil. Seeds must be dispersed or spread away from each other and from the parent plant. This is to reduce competition between parent plant and new plants.

Method	Detail	Examples
Wind	Seeds have lightweight parts, wings or parachutes	Dandelion, sycamore
Animals (inside)	Brightly coloured and tasty fruits contain seeds with indigestible coats, so that the seeds pass through the animal's digestive system undamaged	Tomato, plum, raspberry, grape
Animals (outside)	Fruits have hooks that attach them to the fur of passing animals	Goose grass, burdock
Self-propelled	Have a pod that bursts open when ripe, throwing the seeds away from the plant	Pea pod

Food Webs & Interdependence

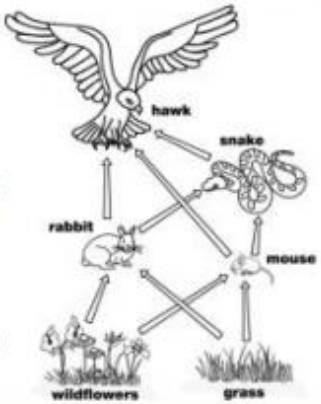
The organisms in a food chain are dependent on each other.



For example, grass is eaten by the caterpillar, which eaten by the frog, which is eaten by the snake, which in turn is hunted by the bird.

The grass is the producer in this food chain, and producers are at the start of all food chains. The grass captures the energy from the sunlight to photosynthesise and make glucose. The glucose provides energy for the grass to grow. When the caterpillar eats the grass, some of the energy left in the grass is transferred to the caterpillar. This energy is passed down the food chain.

Changes in the number of one organism in an area – its population can affect other organisms in the same food chain.
The number of plants in an area can be affected by the amount of rain, sunlight, minerals and space available to grow.
The number of animals can be affected by the availability of food habitats, mates, water and disease.



Keywords

Food web: Shows how food chains in an ecosystem are linked.

Food chain: Part of a food web, starting with a producer, ending with a top predator.

Ecosystem: The living things in a given area and their non-living environment.

If the population of mice caught a disease, then there would be more competition between the Hawk and Snake to catch the Rabbit. This could then cause the number of Rabbits to decrease.

GENES J Variation Human Reproduction Y7 Term 1

Keywords

Gamete: The male gamete (sex cell) in animals is a sperm, the female an egg.

Fertilisation: Joining of a nucleus from a male and female sex cell.

Ovary: Organ which contains eggs.

Testicle: Organ where sperm are produced.

Oviduct, or fallopian tube: Carries an egg from the ovary to the uterus and is where fertilisation occurs.

Uterus, or womb: Where a baby develops in a pregnant woman.

Ovulation: Release of an egg cell during the menstrual cycle, which may be met by a sperm.

Menstruation: Loss of the lining of the uterus during the menstrual cycle.

Reproductive system: All the male and female organs involved in reproduction.

Penis: Organ which carries sperm out of the male's body.

Vagina: Where the penis enters the female's body and sperm is received.

Foetus: The developing baby during pregnancy.

Gestation: Process where the baby develops during pregnancy.

Placenta: Organ that provides the foetus with oxygen and nutrients and removes waste substances.

Amniotic fluid: Liquid that surrounds and protects the foetus.

Umbilical cord: Connects the foetus to the placenta.

Keywords

Species: A group of living things that have more in common with each other than with other groups.

Variation: The differences within and between species.

Continuous variation: Where differences between living things can have any numerical value.

Discontinuous variation: Where differences between living things can only be grouped into categories.

Inherited Variation

Variation in characteristics that is a result of genetic information from parents.

Examples include:

- Eye colour
- Hair colour
- Lobed or lobeless ears
- Ability to roll your tongue.

Environmental Variation

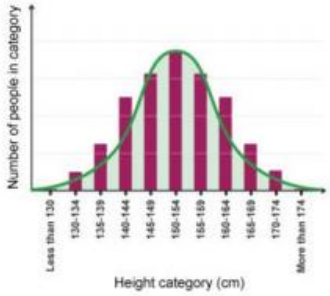
Characteristics of animal and plant species can be affected by factors such as climate, diet, accidents, culture and lifestyle.

If you eat too much food then you will become heavier.

Variation caused by the surroundings is called environmental variation. Examples include your language and religion.

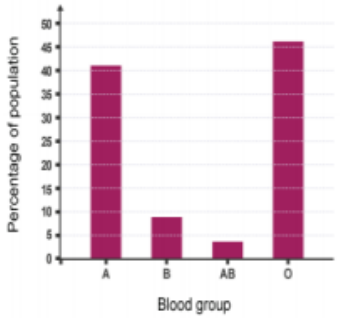
Continuous Variation

Human height is an example. It ranges from the smallest person on Earth to the tallest. Continuous variation shows characteristics that change gradually over time.



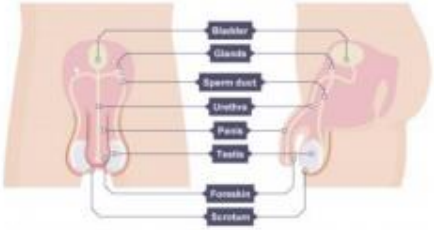
Discontinuous Variation

A characteristic of any species with only a limited number of possible values. Eye colour and blood group are examples.



The Male Reproductive System

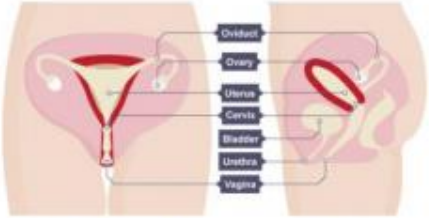
The testes produce millions of make gametes (sex cells) called sperm. The sperm pass through sperm ducts, and mix with fluids produce by the glands. The penis passes urine and semen out of the males body. The urethra is the tube which carries the urine or semen.



The Female Reproductive System

The two ovaries contain hundreds of undeveloped female gametes. These are called ova (one is called an ovum). Women have these cells in their body from birth.

Each ovary is connected to the uterus by an oviduct, sometimes known as the fallopian tube. Every month, an egg develops, becomes mature and is released from an ovary.



- The uterus is where a baby develops until its birth.
- The cervix is a ring of muscle at the lower end of the uterus. It keeps the baby in place while the woman is pregnant.
- The vagina is a muscular tube that leads from the cervix to the outside of the woman's body.

Fertilisation

Fertilisation is when a sperm cell and ovum fuse. Sperm cells are released into the female reproductive system during sexual intercourse (ejaculation). Only one sperm cell breaks through the cell membrane and enters the ovum.

The Menstrual Cycle

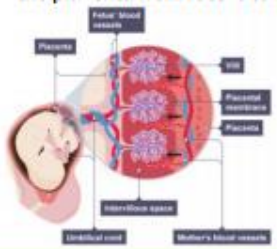
The menstrual cycle prepares the female body for pregnancy by causing eggs (ova) to mature and be released. The process lasts for 28 days.

Days 1-5	• 'period' happens (menstruation), where uterus lining breaks down.
Days 6-13	• Uterus lining builds up (thickens) to prepare for pregnancy. The egg (ovum) matures in the ovary
Day 14	• Egg (ovum) released from the ovary and travels down the oviduct
Days 15-28	• Uterus lining stays thick, in case the egg is fertilised

Foetus Development & Placenta

The foetus relies upon its mother as it develops.

- Protection against knocks and bumps.
- Oxygen
- Nutrients (food & Water)

The placenta is an organ responsible for providing oxygen and nutrients, and removing waste substances. It grows into the wall of the uterus and is joined by the foetus by the umbilical cord.

- Oxygen and nutrients diffuse from mother to foetus.
- Carbon dioxide and other waste substances diffuse across the placenta from foetus to mother.