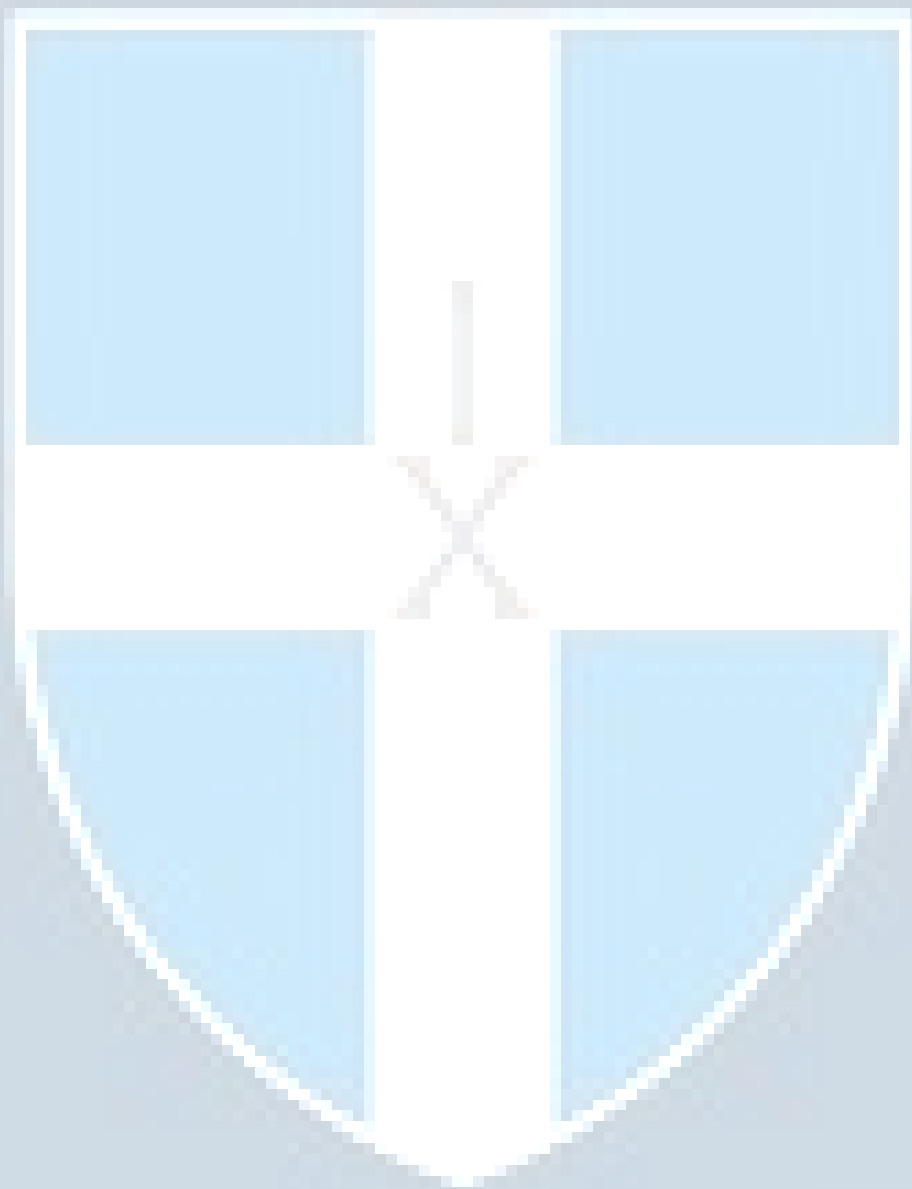


Year 7 Science

Glossary

This glossary contains the majority of the multi-structural material you will need to learn for Year 7 science.

How to use your glossary...



Key word	Definition
amoeba	A unicellular organism.
cell wall	The plant cell component that surrounds the cell, providing support.
cells	The smallest functional units in an organism – the building blocks of life.
chloroplasts	The plant cell component where photosynthesis takes place.
concentration	A measure of the number of particles of a substance in a given volume.
diffusion	The movement of liquid or gas particles from a place of high concentration to a place of low concentration.
euglena	Unicellular organism that performs photosynthesis.
flagellum	A tail-like structure that allows euglenas to move.
leaf cell	The plant cells that contain chloroplasts, where photosynthesis takes place.
microscope	An optical instrument used to magnify objects, so small details can be seen clearly.
nerve cell	An animal cell that transmits electrical impulses around the body.
nucleus	The cell component that controls the cell and contains genetic material.
observation	Carefully looking at an object or process.
organisms	Living things.
red blood cell	An animal cell that transports oxygen around the body.
root hair cell	A plant cell that takes in water and minerals from the soil.
specialised cell	A cell whose shape and structure enable it to perform a particular function.
sperm cell	A cell containing male genetic material.
unicellular	Consisting of just one cell.
vacuole	The plant cell component that contains cell sap and helps to keep the cell firm.

Key word	Definition
alveolus	A structure inside the lungs where gas exchange takes place with the blood.
antagonistic muscles	A pair of muscles that work together to control movement at a joint – as one muscle contracts, the other relaxes.
bone	A tissue that forms a hard structure, used to protect organs and for movement.
cartilage	The strong, smooth tissue that covers the end of bones to prevent them rubbing together.
condense	The change of state from gas to liquid.
diaphragm (breathing)	The sheet of muscle used in breathing.
exhale	Breathing out, to remove carbon dioxide.
gas exchange	The transfer of gases between an organism and its environment.
inhale	Breathing in, to take in oxygen.
joint	A part of the skeleton where two bones join together.
ligament	Joins two bones together.
lungs	The organ in which gas exchange takes place.
multicellular organism	An organism made up of many cells
newton	The unit of force, symbol N.
organ	A group of tissues working together to perform a function.
organ system	A group of organs working together to perform a function.
respiration	A chemical reaction where food and oxygen are converted into energy, water, and carbon dioxide.
respiratory system	The organs involved in gas exchange.
ribcage	The bones that protect the lungs.
skeleton	All the bones in an organism.
tendon	Joins a muscle to a bone.
tissue	A group of similar cells working together to perform a function.

Structure & function of body systems

Reproduction

Key word	Definition
adolescence	The period of time when a child changes into an adult.
anther	The part of a flower that produces pollen.
carpel	The female reproductive part of the flower.
cervix	The ring of muscle at the entrance to the uterus. It keeps the baby in place while the woman is pregnant.
cilia	Tiny hairs on the surface of cells.
condom	A barrier method of contraception, which prevents semen being released into the vagina.
contraception	A method of preventing pregnancy.
contraceptive pill	A chemical method of contraception.
ejaculation	When semen is released from the penis.
embryo	A ball of cells that forms when the fertilised egg divides.
fertilisation	The process where the nucleus of a sperm cell joins with the nucleus of an egg cell.
foetus	The name given to an unborn baby from eight weeks of development.
filament	The part of a flower that holds up the anther.
fluid sac	Contains fluid. This acts as a shock absorber, protecting the foetus from bumps.
fruit	The part of a plant that contains seeds.
gametes	Reproductive cells. The male gamete is a sperm cell and the female gamete is an egg cell.
germination	The period of time when a seed starts to grow.
implantation	The process where an embryo attaches to the lining of the uterus.
menstrual cycle	The monthly cycle during which the uterus lining thickens, and then breaks down and leaves the body if an egg is not fertilised.
ovary (human)	Contains egg cells.
ovary (plant)	The part of a flower that contains ovules.
oviduct	Tube that carries an egg to the uterus.
ovulation	The release of an egg from an ovary.

ovule	The female gamete of a plant.
penis	The structure that carries sperm and semen out of the body.
period	Loss of uterus lining through the vagina.
petal	The brightly coloured part of a flower that attracts insects.
placenta	The organ where substances pass between the mother's and the foetus's blood. It acts as a barrier, stopping infections and harmful substances reaching the foetus.
pollen	The male gamete of a plant.
pollination	The transfer of pollen from the anther to the stigma.
puberty	The physical changes that take place during adolescence.
scrotum	The bag of skin that holds the testes.
seed	The structure that develops into a new plant.
seed dispersal	The movement of seeds away from the parent plant.
semen	Fluid containing sperm.
sepal	The special leaves found under the flower, which protect unopened buds.
sexual intercourse	The process where the penis releases semen into the vagina.
sperm cell	A cell containing male genetic material.
sperm duct	Tube that carries sperm from the testes to the penis.
stamen	The male reproductive part of the flower.
stigma	The part of a flower that is sticky to catch grains of pollen.
style	The part of a flower that holds up the stigma.
testes	The testes produces sperm and the male sex hormones.
umbilical cord	Connects the foetus to the placenta.
urethra	Tube that carries urine or sperm out of the body.
uterus	Where a baby develops until its birth.
vagina	Receives sperm during sexual intercourse. This is where the male's penis enters the female's body.

Particles & their behaviour

Key word	Definition
boiling	The change of state from liquid to gas that occurs when bubbles of the substance in its gas state form throughout the liquid.
boiling point	The temperature at which a substance boils.
change of state	The process by which a substance changes from one state to another.
collide	To bump into, or hit, a particle or surface.
condensation	Formed when a gas changes into a liquid.
diffusion	The movement of liquid or gas particles from a place of high concentration to a place of low concentration.
evaporate	The change of state from liquid to gas that occurs when particles leave the surface of the liquid only. It can happen at any temperature.
freezing	The change of state from liquid to solid.
gas	In the gas state, a substance can flow and can also be compressed.
liquid	In the liquid state, a substance can flow but cannot be compressed.
material	The different types of stuff that things are made from.
melting	The change of state from solid to liquid.
melting point	The temperature at which a substance melts.
mixture	A material whose properties are not the same all the way through.
particle	The tiny things that materials are made from.
property	A quality of a substance or material that describes its appearance or how it behaves.
solid	In the solid state, a substance cannot be compressed and it cannot flow.
states of matter	The three forms in which a substance can exist – solid, liquid, and gas.
sublime	The change of state from solid to gas.
substance	A material that is not a mixture. It has the same properties all the way through.

Elements, atoms and compounds

Key word	Definition
atom	The smallest part of an element that can exist.
chemical formula	A formula that shows the relative number of atoms of each element in a compound.
chemical symbol	A one- or two-letter code for an element that is used by scientists in all countries.
compound	A substance made up of atoms of two or more elements, strongly joined together.
element	A substance that cannot be broken down into other substances.
molecule	A group of two or more atoms, strongly joined together.
Periodic Table	A table of all the elements, in which elements with similar properties are grouped together.

Reactions

Key word	Definition
balanced symbol equation	In a balanced symbol equation, chemical formulae represent the reactants and products. The equation shows, how atoms are rearranged, and gives the relative amounts of reactants and products.
chemical reaction	A change in which atoms are rearranged to create new substances.
combustion	A chemical reaction in which a substance reacts quickly with oxygen and gives out light and heat.
conservation of mass	In a chemical reaction, the total mass of reactants is equal to the total mass of products. This is conservation of mass. Mass is conserved in chemical reactions and in physical changes.
decomposition	A chemical reaction in which a compound breaks down to form simpler compounds and/or elements.
discrete	A variable that can only have whole-number values.
endothermic change	An endothermic change transfers energy from the surroundings.
exothermic change	An exothermic change transfers energy to the surroundings.
fossil fuel	A fuel made from the remains of animals and plants that died millions of years ago. Fossil fuels include coal, oil, and natural gas.
fuel	A material that burns to transfer useful energy.
hazard	A possible source of danger.
non-renewable	Some fuels are non-renewable. They form over millions of years, and will one day run out.
oxidation	A chemical reaction in which substances react with oxygen to form oxides.
physical change	A change that is reversible, in which new substances are not made. Examples of physical changes include changes of state, and dissolving.
product	A substance that is made in a chemical reaction.
reactant	A starting substance in a chemical reaction.
risk	The chance of damage or injury from hazard.
word equation	A way of representing a chemical reaction simply. The reactants are on the lefts of an arrow, and the products are on the right. The arrow means reacts to make.

Acids and alkalis

Key word	Definition
acid	An acid is a solution with a pH value less than 7.
alkali	An alkali is a soluble base.
base	A base is a substance that neutralises an acid.
concentrated	A solution is concentrated if it has a large number of solute particles per unit volume (litre or cubic metre).
corrosive	A substance is corrosive if it can burn your skin or eyes.
dilute	A solution is dilute if it has a small number of solute particles per unit volume (litre or cubic metre).
indicator	A substance that changes colour to show whether a solution is acidic or alkaline.
litmus	An indicator. Blue litmus paper goes red on adding acid. Red litmus paper goes blue on adding alkali.
neutral	A solution that is neither alkaline nor acidic. Its pH is 7.
neutralisation	In a neutralisation reaction, an acid cancels out a base or a base cancels out an acid.
pH scale	The pH scale shows whether a substance is acidic, alkaline, or neutral. An acid has a pH below 7. An alkaline solution has a pH above 7. A solution of pH 7 is neutral.
salt	A salt is a compound in which the hydrogen atoms of an acid are replaced by atoms of a metal element.
universal indicator	An indicator that changes colour to show the pH of a solution. It is a mixture of dyes.

Forces

Key word	Definition
air resistance	The force on an object moving through the air that causes it to slow down (also known as drag).
balanced	Forces acting on an object that are the same size but act in opposite directions.
compress	To squash into a smaller space.
contact force	A force that acts when an object is in contact with a surface, air, or water.
deform	To change shape.
drag force	The force acting on an object moving through air or water that causes it to slow down.
driving force	The force that is pushing or pulling something.
elastic limit	The point beyond which a spring will not return to its original length when the force is removed.
electrostatic force	The force acting between two charged objects.
equilibrium	Balanced.
extension	The amount by which an object gets longer when a force is applied.
field	A region where something feels a force.
friction	The force that resists movement because of contact between surfaces.
gravity	A non-contact force that acts between two masses.
Hooke's Law	The law that says that if you double the force on an object the extension will double.
interaction pair	When two objects interact there is a force on each one that is the same size but in opposing directions.
kilogram (kg)	A unit of mass, symbol kg.
lubrication	A substance that reduces friction between surfaces when they rub together.
magnetic force	The force between two magnets, or a magnet and a magnetic material.
mass	The amount of matter (stuff) a thing is made up of.
newton (N)	The unit of force, symbol N.
newtonmeter	A piece of equipment used to measure weight in newtons.
non-contact force	A magnetic, electrostatic, or gravitational force that acts between objects not in contact.

pull	A type of force.
push	A type of force.
reaction	The support force provided by a solid surface like a floor.
resistive forces	Any forces that act to slow down a moving object.
streamlined	Shaped to reduce resistance to motion from air or water.
tension	A stretching force.
unbalanced	Opposing forces on an object that are unequal.
water resistance	The force on an object moving through water that causes it to slow down (also known as drag).
weight	The force of the Earth on an object due to its mass.

Sound

Key word	Definition
amplifier	A device for making a sound louder.
amplify	To increase the amplitude of a sound so that it sounds louder.
amplitude	The distance from the middle to the top or bottom of a wave.
audible range	The range of frequencies that you can hear.
auditory canal	The passage in the ear from the outer ear to the ear drum.
auditory nerve	An electrical signal travels along the auditory nerve to the brain.
cochlea	Snail-shaped tube in the inner ear with the sensory cells that detect sound.
compression	The part of a longitudinal wave where the air particles are close together.
crest	The top of a wave.
decibel	A commonly used unit of sound intensity or loudness (dB).
diaphragm	The part of the microphone that vibrates when a sound wave hits it.
ear	The organ of the body that detects sound.
eardrum	A membrane that transmits sound vibrations from the outer ear to the middle ear.
echo	A reflection of a sound wave by an object.
energy	Energy is needed to make things happen.
hertz	The unit of frequency (Hz).
incident wave	The wave coming from a source of light.
infrasound	Sound below a frequency of 20 Hz.
inner ear	The semi-circular canals that help you to balance, and your cochlea.
kilohertz	1 kilohertz (kHz) = 1000 hertz (Hz)
longitudinal	A wave where the vibrations are in the same direction as the direction the wave moves.
loudness	How loud you perceive a sound of a certain intensity to be.
medium	The material that affects light or sound by slowing it down or transferring the wave.
microphone	A device for converting sound into an electrical signal.

middle ear	The ossicles (small bones) that transfer vibrations from the outer ear to the inner ear.
oscillation	Something that moves backwards and forwards.
oscilloscope	A device that enables you to see electrical signals, like those made by a microphone.
ossicles	The small bones of the middle ear (hammer, anvil, and stirrup) that transfer vibrations from the eardrum to the oval window.
outer ear	The pinna, auditory canal, and eardrum.
oval window	The membrane that connects the ossicles to the cochlea.
pinna	The outside part of the ear that we can see.
pitch	A property of sound determined by its frequency.
rarefaction	The part of a longitudinal wave where the air particles are spread out.
receiver	The device that absorbs the sound waves.
reflected wave	The wave that is reflected from a surface.
reflection	The change in direction of a ray or wave after it hits a surface and bounces off.
reverberation	The persistence of a sound for a longer period than normal.
sound	A series of compressions and rarefactions that move through a medium
speed of light	The distance light travels in one second (300 million m/s).
speed of sound	The distance sound travels in one second (330 m/s).
superpose	When waves join together so that they add up or cancel out.
transmitter	A device that gives out light or sound.
transverse	The vibrations are at right angles to the direction the wave moves.
trough	The bottom of a wave.
ultrasound	Sound at a frequency greater than 20 000 Hz, beyond the range of human hearing.
vacuum	A space in which there is no matter.
vibration	Backwards and forwards motion of the parts of a liquid or solid.
vocal chords	The pieces of skin that vibrate to produce sound.

Light

Key word	Definition
absorb	Taken into a material.
angle of incidence	The angle between the incident ray and the normal line.
angle of reflection	The angle between the reflected ray and the normal line.
brain	The organ in the human body that processes signals from receptors.
charge-coupled device (CCD)	A grid of pixels at the back of a digital camera that absorbs light and produces an image.
continuous	A variable that has values that can be any number.
converging	Bringing rays of light together.
convex	A lens that produces converging rays of light.
cornea	The transparent layer at the front of the eye.
diffuse reflection	Reflection from a rough surface.
dispersion	The splitting up of a ray of light of mixed wavelengths by refraction into its components.
emit	To give out.
endoscope	A medical instrument for seeing inside the human body.
eye	Organ of sight, which focuses and detects light.
filter	A piece of material that allows some radiation (colours) through but absorbs the rest.
focal point	The point at which the rays refracted by a convex lens cross over.
focus	Another name for the focal point.
frequency	The number of complete waves or vibrations produced in one second (measured in hertz).
image	The point from which rays of light entering the eye appear to have originated.
incident ray	The ray coming from a source of light.
inverted	Upside down.
iris	The coloured part of your eye.
law of reflection	The angle of incidence is equal to the angle of reflection.
lens	A device made of shaped glass that focuses light rays from objects to form an image.

light-time	Distance measured in terms of how far light travels in a given time.
luminous	Gives out light.
medium	The material that affects light or sound by slowing it down or transferring the wave.
non-luminous	Objects that produce no light.
normal	An imaginary line at right angles to a surface where a light ray strikes it.
opaque	Objects that absorb, scatter, or reflect light and do not allow any light to pass through.
optic nerve	A paired sensory nerve that runs from each eye to the brain.
photoreceptors	Specialised cells that are sensitive to light.
pinhole camera	A simple camera made of a box with a small hole at the front and a screen at the back.
pixel	A picture element found at the back of a digital camera.
plane	A mirror with a flat, reflective surface.
primary colour	The colours red, blue, and green.
prism	A triangular-shaped piece of glass used to produce a spectrum of light.
pupil	The hole in the front of your eye where light goes in.
real (image)	An image that you can put on a screen; the image formed in your eyes.
reflect	Bounce off.
reflected ray	The ray that is reflected from a surface.
refraction	The change in direction of a ray or wave as a result of its change in speed.
retina	The layer of light sensitive cells at the back of the eye.
secondary colour	Colours that can be obtained by mixing two primary colours.
source	Things that emit (give out) light or sound.
spectrum	A band of colours produced when light is spread out by a prism.
specular reflection	Reflection from a smooth surface.
tertiary colour	A colour made by mixing three primary colours.
translucent	Objects that transmit light but diffusing (scattering) the light as it passes through.

transmit	When light or other radiation passes through an object.
transparent	Objects that transmit light and you can see through them.
vacuum	A space in which there is no matter.
virtual	An image that cannot be focused onto a screen.
wave	A vibration that transfers energy.



Space

Key word	Definition
artificial satellite	A manmade spacecraft.
asteroid	Lumps of rock orbiting the Sun left over from when the Solar System formed.
astronomer	A scientist who studies space.
axis	The imaginary line that the Earth spins around.
comet	Dust particles frozen in ice that orbit the Sun.
constellation	A collection of stars that make a pattern in the sky.
day	The time it takes a planet to make one full spin on its axis.
dwarf planet	A small lump of rock in orbit around the sun.
Earth	A rocky inner planet, third from the Sun in the Solar System.
ellipse	A squashed circle or oval shape.
exoplanets	Planets in orbit around a star other than our Sun.
galaxy	A number of stars and the solar systems around them grouped together.
gas giant	An outer planet in the Solar System made mainly from gas.
gravity	A non-contact force that acts between two masses.
lunar eclipse	An eclipse that happens when the Earth comes between the Sun and the Moon.
Mars	A rocky inner planet, fourth from the Sun in the Solar System.
Mercury	A rocky inner planet, closest to the Sun in the Solar System.
meteor	A piece of rock or dust that makes a streak of light in the night sky.
meteorite	A stony or metallic object that has fallen to Earth from outer space.
Milky Way	The galaxy containing our Sun and Solar System.
Moon	A rocky body orbiting Earth; it is Earth's only natural satellite.
natural satellite	A moon in orbit around a planet.
night	The period on one section of the Earth or other planet when it is facing away from the Sun.
orbit	The path taken by one body in space around another.

partial eclipse	A solar eclipse where only part of the Sun is covered by the Moon.
phases of the Moon	Shape of the Moon as we see it from the Earth.
planet	Any large body that orbits a star in a Solar System.
season	Changes in the temperature during the year as the Earth moves around its orbit.
solar eclipse	An eclipse where the Moon comes between the Sun and the Earth.
Solar System	The Sun and the planets and other bodies in orbit around it.
star	A body in space that gives out its own light.
Sun	The star at the centre of our Solar System.
terrestrial	Made of rock.
total eclipse	An eclipse where all of the Sun is covered by the Moon.
Universe	Everything that exists.
Venus	A rocky inner planet, second from the Sun in our Solar System.
year	The length of time it takes for a planet to orbit the Sun.