

Science Vocabulary List, Year 7

Students are explicitly taught vocabulary as part of their lessons using our 'say it, write it, test it' approach.

Autumn		Spring		Summer	
Keyword	Definition	Keyword	Definition	Keyword	Definition
Cell membrane	the boundary between the cell and its surroundings, controlling what enters and leaves the cell; from Latin 'membrum' - 'limb'	Trachea	the windpipe; the tube carrying air between the larynx and the lungs	Gametes	a reproductive cell such as ovum or sperm; gametes are haploid cells, and each cell carries only one copy of each chromosome
Nucleus	cell organelle that contains the genetic material; from Latin meaning kernel of a nut	Alveoli	tiny pockets in the lung surface	Fertilisation	the act of the male sperm cell and the female ovum joining and combining their genetic material, forming a zygote
Mitochondria	the tiny structures in cells where glucose and oxygen are turned into energy	Vital lung capacity	The maximum amount of air exhaled in one breath	Foetus	the unborn baby after around 8 weeks of pregnancy
Microscope	an instrument producing magnified images of small objects, often too small to be seen by the unaided eye	Solute	a substance that is dissolved	Placenta	a flat, circular organ in the uterus of pregnant mammals, which provides food and oxygen for the foetus through the umbilical cord; from Latin - 'flat cake'
Antagonistic muscles	two muscles working together, when one contracts the other relaxes	Solvent	a substance that is able to dissolve other substances	Drug	A substance that has an effect on the body
Tendon	a strong cord of fibrous tissue which fixes a muscle to a bone	Soluble	can be dissolved	Mixture	a substance that contains more than one type of particle that are not chemically bonded
Particles	the smallest possible amount of matter - even atoms are made of particles	Insoluble	unable to be dissolved	Filtration	a process used to separate insoluble substances from a liquid; like sand and water
Atom	the smallest part of an element, which cannot be divided further (literally means 'cannot be cut')	Diffusion	the process of particles of a substance moving from a high concentration to a low concentration	Evaporation	the process of turning from liquid into vapour (gas)
Element	a substance made of only 1 type of atom; from Latin - 'principle'	Concentration	strength of a solution (amount of solute per unit volume of solution)	Chromatography	A separation technique used to separate mixtures of coloured soluble substances
Compound	a substance made of 2 or more atoms chemically bonded	Dilute	something with a small amount of one substance in a particular area	Distillation	a process that separates out a mixture according to different solubilities
Force	A push or a pull that creates a change in shape, size or movement	Concentrated	something with a large amount of one substance in a particular area	Solar system	the process of heating a solution and collecting the condensed vapour to separate a solute and solvent
Contact Force	A force that has to be touching to affect an object.	Sedimentary	formed from deposited particles of rock, sand, minerals, etc.	Galaxy	a collection of stars held together by gravity; our galaxy is called the Milky Way; from Greek 'galaxias' - 'milky'
Non contact force	A force that does not need to be touching to affect an object.	Metamorphic	rocks formed from other rocks whose chemicals and minerals have been changed through pressure or heat, e.g. shale becomes slate due to pressure	Satellite	a moon, planet or machine that orbits a planet or star, also see satellites; from Latin 'satelles' - 'attendant, follower'
Balanced	Equal or the same	Igneous	(rock) formed from cooled and solidified magma or lava	Moon	The natural satellite of the earth, visible (chiefly at night) by reflected light from the sun.
Compressed	Squashed	Reactant	any of the chemical substances mixed together to create a reaction		

Science Vocabulary List, Year 8

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Keyword	Definition	Keyword	Definition	Keyword	Definition
Enzyme	a special protein that breaks large molecules into small molecules, helping fast digestion	Respiration	the chemical breakdown of nutrients within cells to release energy	Chloroplast	packets of chlorophyll in plant cells needed for photosynthesis, to make energy
Fossil fuels	the collective name for coal, oil and gas, these natural resources are formed from the remains of plants and animals that died millions of years ago; from Latin 'fossilise' - 'dug up'	Aerobic	using or needing oxygen	Stomata	tiny pores in the surfaces of leaves which allow gas to flow in and out; from Greek 'stoma' - 'mouth'
Deforestation	the act of cutting down and clearing forest areas for other use	Anaerobic	not needing oxygen	Guard cells	Paired cells in the epidermis of a plant that control the opening and closing of stomata on a leaf.
Atmosphere	the layer of gases surrounding the earth or other planets	Fermentation	the break-down of sugar by micro-organisms such as yeast, making alcohol, carbon dioxide, etc.	Xylem	a cell in a plant which transports water and minerals from roots to leaves
Resource	Things that we use such as water, material, food, wood.	Vacuole	a space in a plant cell which is surrounded by a membrane and contains cell sap to help keep the cell turgid	Alkali	A substance with particular chemical properties including turning litmus blue and neutralising or effervescing with acids
Recycling	the process of treating waste material to make it suitable for reuse	Cell wall	a tough outer layer of the cell, which contains cellulose to provide strength and support to the plant.	Acid	A substance with particular chemical properties including turning litmus red, neutralizing alkalis, and dissolving some metals
Energy	The ability to do work, different forms of energy exist such as thermal and chemical energy.	Photosynthesis	the process by which green plants and some other organisms use sunlight to create glucose and oxygen from water and CO ₂	Neutral	not acid or alkaline, with a pH of around 7; not positively or negatively charged
Closed system	Where nothing can enter or exit	Current	the rate of flow of electric charge in a circuit	Corrosive	can wear away the surface of a another substance by chemical reactions
Thermal	relating to heat	Potential difference	the difference between the electrical potential at two different points	Waves	Waves transfer energy from one place to another without transferring matter
Conduction	the transmission of heat or electricity directly through a substance	Conductor	a material which allows heat or electricity to travel easily along it	Longitudinal wave	A wave that moves in the same direction as the direction in which the particles are vibrating
Convection	the process of warm air or liquid rising and cold sinking	Insulator	a material which does not allow heat or electricity to travel easily along it	Oscillation	the vibrations in waves which move energy; regular swinging movements about a central point
Thermal equilibrium	Where two objects of different temperatures reach the same temperature either by one cooling down or one warming up	Renewable energy	sources of energy that can be replaced as fast as it is used, e.g. solar or wind energy	Frequency	the number of waves produced; greater frequency means higher pitch

Science Vocabulary List, Year 9

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Autumn		Spring		Summer	
Keyword	Definition	Keyword	Definition	Keyword	Definition
Pathogen	a bacterium, virus, or other microorganism that can cause disease	Displacement	the result of a reaction, when an element of a compound is removed and replaced by a more reactive one	Coronary artery	A blood vessel that supplies blood to the heart muscle
Bacteria	single-celled microorganisms; plural of bacterium	Extension	a part that is added to something to enlarge or prolong it	Communicable	another through a variety of way, e.g. contact with blood and bodily fluids or breathing in an airborne virus
Antibody	a protein found in the blood that fights bacteria	Proportional	keeping to the same ratio, keeping the same relationship with something else	Non-communicable	a condition that is not transmissible directly from one person to another, e.g. Parkinson's disease, strokes and most heart diseases
Cilia	tiny hair-like structures on the surface of some cells which vibrate to help move the surrounding fluid along	Moment	measurement of force used to push an object around a pivot, e.g. shutting a door	Risk factor	Something that increases the likelihood of developing a disease
Charge	a quantity of electricity that is related to the balance of electrons and protons in an object	Terminal velocity	the constant speed reached when the force pushing an object equals the air resistance against it, so that there is no acceleration	Cancer	A disease caused by normal cells changing so that they grow and divide in an uncontrolled way
Power	the amount or rate of energy transferred per second; unit of measurement - watts	Friction	a force that opposes motion through direct contact; the resistance caused during the action	Benin Tumour	a growth of cells in a membrane that is sometimes harmful
Appliance	a piece of equipment for a particular task	Atmospheric pressure	the pressure exerted on a surface by the weight of the air; measured in pascals	Malignant tumour	a growth of cells that is not bound in a membrane and so is likely to be harmful
kWh	a unit of energy for calculating electricity bills	Altitude	the height of someone or something above ground-level or sea-level	Carcinogen	a substance which can cause cancer
Resistance	a force opposing the flow of an electric current	Up thrust	Upwards forces from water or air	Limiting factor	a resource that determines the rate of a process; e.g. with little sunlight, photosynthesis slows or does not happen
Collision theory	explains why different reactions occur at different rates, and suggests ways to change the rate of a reaction	Differentiation	the process of cells becoming specialised for their roles	Oxygen debt	the amount of oxygen needed to break down and remove lactic acid, and replace the body's reserves of oxygen

Activation energy	the energy needed to start a reaction	Stem cell	cells that have not yet become specialised for a specific function	Protist	any single-celled, eukaryotic organism that is not plant, animal, bacteria or fungi.
Catalyst	a piece of equipment for a particular task	Gene	a short section of DNA that is the genetic code for a characteristic	Transmission	action or process of transferring something from one spot to another
Diffusion	the process of particles of a substance moving from a high concentration to a low concentration	Gamete	a reproductive cell such as ovum or sperm; gametes are haploid cells, and each cell carries only one copy of each chromosome	Antigen	a bacteria that is harmful to the body, making the body produce antibodies to fight it
Osmosis	the movement of water through a semi-permeable membrane from a less-concentrated solution to a more-concentrated solution	Chromosome	a thread of nucleic acids and protein found in the nucleus of most living cells, carrying genetic information	Antitoxin	substance produced by white blood cells that neutralises toxins
Active transport	the carrying of dissolved molecules across a cell membrane from a lower to a higher concentration	Mitosis	cell division resulting in two daughter cells with identical sets of chromosomes	Vaccine	a small dose of a dead or inactive disease triggering white blood cells to produce antibodies; from Latin 'vacca' - 'cow': cowpox was used as the first vaccine against smallpox
Partially permeable membrane	a thin material that allows some small molecules to pass through it, e.g. water	Amylase	enzyme that converts starch into simple sugars	Antibiotic	a type of medicine which is used to destroy or prevent the growth of bacteria
Concentration	strength of a solution (amount of solute per unit volume of solution)	Protease	an enzyme which breaks down protein into amino acids	Antibiotic resistance	When bacteria evolves new characteristics that mean they cannot be killed by antibiotics
Concentration gradient	in diffusion, a concentration gradient is when particles spread from an area of high concentration to an area of low concentration	Lipase	an enzyme which breaks down fat into fatty acids and glycerol	Blind trial	a clinical trial where participants don't know if they're getting the treatment or the placebo until the trial is over
Unicellular organism	a living thing that is just one cell	Bile	produced by your liver and stored in the gall bladder. This is released into the small intestine to break down large molecules of fat into smaller ones.	Double blind trial	a clinical trial where participants nor the researcher knows if they're getting the treatment or the placebo until the trial is over
		Plasma	the yellow-coloured liquid of the blood in which the blood cells are suspended	Placebo	a substance or procedure with no actual effect, used as a control