Science glossary
Year 8

Term	Meaning
amino acids	molecular building blocks of protein
angiosperm	flowering plants that produce seeds
asexual reproduction	a reproduction process where a single parent organism produces offspring with identical genetic material
body system	a group of organs that work together to perform a function of the body
cell	the basic unit of living things
cell membrane	semi-permeable membrane that surrounds and encloses the contents of a cell
cell specialisation	differences in the structure and function of cells in multicellular organisms
cell theory	scientific theory outlining the fundamental role of the cell as the structural unit of organisms
cell wall	a specialised support structure surrounding the cell membrane of plant cells
chloroplast	a specialised cell organelle that is the site for photosynthesis
clone	offspring with identical genetic material to the parent organism
cytoplasm	clear substance that fills a cell and within which organelles exist
cytosol	the liquid part of a cell's cytoplasm around the organelles and other cellular components; where many of the metabolic processes occurring within the cell take place
dissection	to methodically cut open and view the internal organs of a once-living organism
energy	the ability to make things happen or cause changes; the capacity to do work; measured in joules (J)
endoplasmic reticulum	a specialised organelle in a cell that is the site for protein processing and packaging
epidermis	the outer layer of tissue covering an organism, composed of cells arranged in one or more layers, for example: skin, top and bottom of leaf
ethics	the principles of correct and decent action that apply when completing a task that will affect other people or the world around them
eukaryote	a unicellular or multicellular organism in which the cell or cells contain membrane-bound organelles, including nucleus, mitochondria, Golgi apparatus and chloroplast
evidence	data that is considered reliable and valid and which can be used to support a particular idea, conclusion or decision
external fertilisation	fertilisation of sex cells that occurs outside the body of the organism
fertilisation	the joining of the female and male sex cells

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gametes	a specialised reproductive cell of an organism
gestation	the period of growth of an organism from fertilisation to birth
gonads	organ responsible for the production of gametes
Golgi apparatus	a specialised cell organelle that combines simple molecules into more complex molecules and packages them inside vesicles for storage inside the cell or transport out of the cell
hormone	chemical produced by an organ which travels through the body to its site of action
humane	demonstrating compassion and sympathy to reduce or prevent any suffering of other organisms
internal fertilisation	the joining of male and female gametes inside the body of an organism
investigation	a scientific process of answering a question, exploring an idea or solving a problem that requires activities such as planning a course of action, collecting data, interpreting data, reaching a conclusion and communicating these activities
leaf	a specialised plant organ that is the main site for photosynthesis
lysosome	a specialised organelle in a cell that contains enzymes that help digest food molecules and break down worn out organelles and bacteria or viruses
mesophyll	the soft tissue in a leaf that is between the upper and lower epidermis; contains high concentration of chloroplasts and is the major photosynthetic tissue in a plant
microscope	a piece of equipment used for viewing enlarged images of specimens
microscope slide	a piece of thin glass that is used to place a specimen ready for viewing through a microscope
mitochondria	a specialised organelle of a cell that is the site of cellular respiration
mitosis	cell division including stages of DNA replication, resulting in two identical daughter cells
multicellular	composed of more than one cell
nucleus	*Biological sciences*: a specialised organelle that is the site of cellular control and contains genetic material (DNA)
observe/ observation	to examine and gather information using the senses (noun: observation) Students should not smell or taste a substance unless directed by their teacher.
offspring	organisms resulting from reproduction
organelle	a specialised structure in a cell that is enclosed by a membrane and performs a specific function
organ	a part of the body that has a specific function; usually made of more than one type of tissue
organelle	a specialised structure in a cell that is enclosed by a membrane and performs a specific function

Term	Meaning
organism	a living thing that can function independently an organism can grow and develop, reproduce, respond to stimuli and maintain internal conditions through homeostatic processes
phloem	a group of cells in vascular plants responsible for transporting the products of photosynthesis and other metabolic processes to growing tissues and storage tissues
photosynthesis	a chemical reaction within chloroplasts that uses carbon dioxide, water and light to produce glucose and oxygen
pollination	the transfer of pollen from the anther of one flower to the stigma of the same or a different flower
prokaryote	a unicellular organism in which the cell does not contain membrane-bound organelles; some prokaryotes form colonies, while others are solitary
reproduction	the process of organisms generating offspring to continue the existence of the species
respiration	the chemical process occurring in cells where carbohydrates react with oxygen to release energy, producing carbon dioxide and water as waste products
ribosome	a specialised organelle of a cell that is the site of protein synthesis
root	underpart of a plant that supports and secures the plant to the ground or to a growing surface and absorbs water and nutrients
starch grain	a small, granular structure that acts as an energy storage unit in the different parts of a plant
stem	a plant structure that supports other parts of the plant
stoma (stomata)	a tiny pore or opening mostly found in the lower epidermis of leaves, which allows gas exchange and transpiration of water (plural: stomata); surrounded by two specialised guard cells that open and close the pore due to water pressure in the cells
unicellular	an organism that is a single cell
vacuole	a specialised organelle inside cells for storage
validity	the extent to which tests measure what was intended; the extent to which data, inferences and actions produced from tests and other processes are accurate
vascular system	another name for the circulatory system
vascular tissue	the complex tissue in vascular plants responsible for transporting water and nutrients throughout the plant; consists primarily of phloem and xylem cells
wet mount slide	a type of microscope slide in which a specimen is immersed in a drop of water and a cover slip is applied
xylem	a group of cells in vascular plants that are responsible for transporting water and dissolved nutrients up through the plant from the roots