

Cell structure	
Cell membrane	Surrounds the cell and controls the passage of substances into and out of the cell.
Cell wall	Found outside the cell membrane in plant and bacterial cells, provides support for the cell.
Chloroplast	Found in plant cells. Contain chlorophyll that absorbs light for photosynthesis.
Cytoplasm	Where most of the chemical reactions take place in a cell.
Domain	Name given to the groups suggested by Woese. There are three domains: Archae, Bacteria and Eukaryota.
Eukaryote	Type of cell that contains a nucleus
Mitochondria	Where aerobic respiration takes place.
Nucleus	Contains DNA and controls cell activities.
Plasmid	Small rings of DNA found in bacterial cells.
Prokaryote	Cells without a nucleus.
Ribosomes	Where protein synthesis occurs.
Vacuole	Found in plant cells. Contain a fluid called cell sap.

Microscopy	
Electron microscope	A microscope that uses electron beams in place of light to give a higher magnification.
Light microscope	An instrument that uses visible light and lenses to magnify a specimen.
Magnification	How many times larger something appears.
Micrograph	Another word for a microscope image.
Resolving power	The ability to distinguish between two points.
Magnification of image	Magnification = $\frac{\text{size of image}}{\text{size of real object}}$
Total magnification	Magnification = magnification of eyepiece x magnification of objective lens

Organisation	
Cell	The basic unit of living things.
Differentiation	When cells become specialised to do a particular job.
Organ	A group of tissues working together to perform a specific function.
Organ system	Groups of organs that work together e.g. digestive system.
Specialised	Cells that have a particular job/function.
Tissue	A group of cells with a similar structure and function.
Translocation	The movement of sugars in plants.
Transpiration	The movement of water through the plant and leaves.
Epidermis (plant)	A single layer of cells that forms the outer layer.
Palisade	Tissue found in the upper layer of the leaf, packed with chloroplasts for photosynthesis.
Spongy mesophyll	Tissue found in the lower layer of the leaf, with spaces between the cells to allow gases to diffuse.
Xylem	Water travels through xylem tissue from the roots to the leaves.
Phloem	Sugars are transported through the phloem cells.

Guard cells	Cells which surround the stomata and control its opening and closing.
Stomata	Tiny pores in the epidermis of the leaf.
Cell division	
Adult stem cell	Stem cells found in some adult tissues. They are partly specialised and can become a range of different type of cell, but not all.
Asexual reproduction	Reproduction involving only one parent, producing genetically identical offspring.
Benign	Type of tumour that is slow growing, not cancerous and usually easy to remove.
Cancer	A condition resulting from changes in cells that leads to their uncontrolled growth, division and spread.
Carcinogen	Chemicals and other agents that cause cancer.
Chromosome	Long strands of DNA found in cells. Human body cells have 46 chromosomes.
Daughter cell	The cells that are produced in cell division.
Embryonic stem cell	Stem cells found in early embryos. They are unspecialised and can become any type of cell in the body.
Gene	A short section of DNA that contains the instructions for making a protein.
Malignant	Type of tumour that grows quickly and can spread through other tissues. These tumours can lead to the formation of secondary tumours elsewhere.
Meristem	Region of plant tissue in which stem cells are produced and so where much of the plant growth occurs.
Mitosis	Type of cell division that produces two new (identical) cells.
Mutation	A change in the DNA of a cell.
Stem cell	Unspecialised cells that can produce many different types of cells
Therapeutic cloning	Producing stem cells with the same genes as the patient.
Tumour	Name given to the growths produced from extra cells.
Zygote	Another term for a fertilised egg cell.

Transport	
Concentration gradient	A difference in concentration between two areas next to each other.
Diffusion	The net movement of particles from an area of high concentration to an area of lower concentration.
Passive transport	Happens due to the random motion of particles. No energy is required.