

SB1a Microscopes

Word	Pronunciation	Meaning
eyepiece lens		The part of the microscope you look down.
magnification	<i>mag-nif-ick-ay-shun</i>	How much bigger something appears compared with its actual size.
objective lens		The part of the microscope that is closest to the specimen.
resolution	<i>rez-O-loo-shun</i>	Smallest change that can be measured by an instrument. For example, in a microscope it is the smallest distance between two points that can be seen as two points and not blurred into one point.
stain		A dye used to colour parts of a cell to make them easier to see.

SB1b Plant and animal cells

Word	Pronunciation	Meaning
aerobic respiration	<i>air-O-bick</i>	A type of respiration in which oxygen is used to release energy from substances, such as glucose.
cell (surface) membrane		The membrane that controls what goes into and out of a cell. It is often called the cell surface membrane because eukaryotic cells contain other structures with membranes.
cell sap		Liquid found in the permanent vacuole in a plant cell.
cell wall		A tough layer of material around some cells, which is used for protection and support. It is stiff and made of cellulose in plant cells. Bacteria have a flexible cell wall.
chlorophyll	<i>klor-O-fill</i>	The green substance found inside chloroplasts. It traps energy transferred by light.
chloroplasts	<i>klor-O-plast</i>	A green disc containing chlorophyll, found in plant cells. Where the plant makes glucose, using photosynthesis.
chromosome	<i>krow-mO-sOwm</i>	A structure found in the nuclei of cells. Each chromosome contains one enormously long DNA molecule.
cytoplasm	<i>site-O-plaz-m</i>	The watery jelly inside a cell where the cell's activities take place.
DNA		A substance that contains genetic information. Short for deoxyribonucleic acid.
eukaryotic	<i>you-kar-ee-ot-ick</i>	A cell with a nucleus is eukaryotic. Organisms that have cells like this are also said to be eukaryotic.
field of view		The circle of light you see looking down a microscope.
mitochondrion	<i>my-tow-kon-dree-on</i>	A sub-cellular structure (organelle) in the cytoplasm of eukaryotic cells, where aerobic respiration occurs. Plural is mitochondria.
nucleus	<i>new-lee-us</i>	The 'control centre' of a eukaryotic cell.
ribosome	<i>rY-bow-sowm</i>	Tiny sub-cellular structure that makes proteins.

Word	Pronunciation	Meaning
scale bar		A line drawn on a magnified image that shows a certain distance at that magnification.
scientific paper		An article written by scientists and published in a science magazine called a journal. It is like an investigation report but usually shows the results and conclusions drawn from many experiments.
vacuole	<i>vack-you-oll</i>	A storage space in cells. Plant cells have a large, permanent vacuole that helps to keep them rigid.

SB1c Specialised cells

Word	Pronunciation	Meaning
acrosome	<i>ack-ro-sO'm</i>	A small vacuole in the tip of the head of a sperm cell, which contains enzymes.
adaptation	<i>add-app-tay-shun</i>	The features that something has to enable it to do a certain function (job).
adapted		If something has adaptations for a certain function (job), it is said to be adapted to that function.
ciliated epithelial cell	<i>sill-ee-ay-ted ep-ith-ee-lee-al sell</i>	A cell that lines certain tubes in the body and has cilia on its surface.
cilium	<i>sill-ee-um</i>	A small hair-like structure on the surface of some cells. Plural is cilia.
digestion	<i>dye-jes-jun</i>	A process that breaks molecules into smaller, more soluble substances.
diploid	<i>dip-loyd</i>	Describes a cell that has two sets of chromosomes.
egg cell		The female gamete (sex cell).
embryo	<i>em-bree-O</i>	The tiny new life that grows by cell division from a fertilised egg cell (zygote).
enzyme		A substance that can speed up some processes in living things (e.g. breaking down molecules).
epithelial cell	<i>ep-ith-ee-lee-al sell</i>	A cell found on the surfaces of parts of the body.
fertilisation	<i>fert-ill-l-zay-shun</i>	Fusing of a male gamete with a female gamete.
gamete	<i>gam-meet</i>	A cell used for sexual reproduction.
haploid	<i>hap-loyd</i>	Describes a cell that has one set of chromosomes.
microvillus	<i>my-crO-vill-us</i>	A fold on the surface of a villus cell. These folds increase the surface area so that digested food is absorbed more quickly. Plural is microvilli.
oviduct		A tube that carries egg cells from the ovaries to the uterus in females. Fertilisation happens here.
specialised cell	<i>spesh-ee-al-lz'd</i>	A cell that is adapted for a certain specific function (job).
sperm cell		The male gamete (sex cell).

SB1d Inside bacteria

Word	Pronunciation	Meaning
chromosomal DNA		DNA found in chromosomes but the term is often used to describe the large loop of DNA found in bacteria.
DNA		A substance that contains genetic information. Short for deoxyribonucleic acid.
flagellum	<i>flaj-ell-um</i>	A tail-like structure that rotates, allowing a unicellular organism to move. Plural is flagella.
index		A small raised number after a unit or another number to show you how many times to multiply it by itself. For example, 10^3 means multiply 10 together 3 times ($10 \times 10 \times 10$).
plasmid	<i>plaz-mid</i>	A small loop of DNA found in the cytoplasm of bacteria.
plasmid DNA	<i>plaz-mid</i>	DNA found in plasmids.
prokaryotic	<i>pro-kar-ee-ot-ick</i>	A cell with no nucleus is prokaryotic. Organisms such as bacteria, which have cells like this, are also said to be prokaryotic.
standard form		A very large or very small number written as a number between 1 and 10 multiplied by a power of 10. Example: $A \times 10^n$ where A is between 1 and 10 and n is the power of 10.

SB1e Enzymes and nutrition

Word	Pronunciation	Meaning
biological catalyst	<i>bio-loj-i-cal cat-a-list</i>	A substance found in living organisms that speeds up reactions (an enzyme).
catalyst	<i>cat-a-list</i>	A substance that speeds up the rate of a reaction, without itself being used up.
digest	<i>die-jest</i>	To break down large molecules into smaller subunits, particularly in the digestive system.
monomer		A small molecule that can join with other molecules like itself to form a polymer.
polymer		A substance made up of very long molecules containing repeating groups of atoms. (Formed by joining monomer molecules together.)
product		A substance formed in a reaction.
substrate		A substance that is changed during a reaction.
synthesis	<i>sinth-eh-sis</i>	To build a large molecule from smaller subunits.

SB1f Testing foods

Word	Pronunciation	Meaning
Benedict's solution		A bright blue chemical reagent that turns orange or red when warmed with a solution of reducing sugars.
biuret test		A test that uses copper sulfate solution and potassium hydroxide solution to test for proteins. The blue of the copper sulfate solution turns purple in the presence of proteins.
calorimeter		Equipment used to measure the energy released from a substance by burning it.
chemical reagent	<i>ree-ay-jent</i>	A substance or mixture used in chemical analysis or reactions.
iodine solution		A yellow-orange solution that turns black-blue when in contact with starch.
precipitate		Insoluble substance formed when two soluble substances react together.
reducing sugar		A simple sugar, such as glucose or fructose, that reacts with (reduces) Benedict's solution and changes its colour.

SB1g Enzyme action

Word	Pronunciation	Meaning
active site		The space in an enzyme where the substrate fits during an enzyme-catalysed reaction.
denatured		A denatured enzyme is one where the shape of the active site has changed so much that its substrate no longer fits and the reaction can no longer happen.
lock-and-key model		Model that describes the way an enzyme catalyses a reaction when the substrate fits within the active site of the enzyme.
specific	<i>spe-sif-ick</i>	Where an enzyme only reacts with one kind of substrate.

SB1h Enzyme activity

Word	Pronunciation	Meaning
optimum pH		The pH at which an enzyme-catalysed reaction works fastest.
optimum temperature		The temperature at which an enzyme-catalysed reaction works fastest.

SB1i Transporting substances

Word	Pronunciation	Meaning
active transport		The movement of particles across a cell membrane from a region of lower concentration to a region of higher concentration (<i>against</i> the concentration gradient). The process requires energy.
diffusion	<i>diff-you-zshun</i>	When particles spread and mix with each other without anything moving them. Diffusion into and out of cells occurs for particles that are small enough to pass through the cell surface membrane.
concentration	<i>con-sen-tray-shun</i>	The amount of a solute dissolved in a certain volume of solvent. Measured in units such as g/cm ³ .
concentration gradient		The difference between two concentrations. There will be an overall movement of particles <i>down</i> a concentration gradient, from higher concentration to lower concentration.
osmosis	<i>oz-mO-sis</i>	The overall movement of solvent molecules in a solution across a partially permeable membrane, from a dilute solution to a more concentrated one.
passive		A process that does not require energy is passive. A passive process is the opposite of an active process (which requires energy).
semi-permeable		Describes something that will allow certain particles to pass through it but not others. Another term for 'partially permeable'.
solute	<i>sol-yoot</i>	The solid that has dissolved in a liquid to make a solution.
solvent		The liquid in which a substance dissolves to make a solution.