

CB2a Mitosis

Word	Pronunciation	Meaning
anaphase	<i>an-na-fays</i>	The stage of mitosis in which the separated chromosomes move away from each other.
asexual reproduction		Producing new organisms from one parent only. These organisms are genetically identical to the parent.
cancer cell		Cell that divides uncontrollably.
cell cycle		A sequence of growth and division that happens in cells. It includes interphase and mitosis, and leads to the production of two daughter cells that are identical to the parent cell.
clone		Offspring from asexual reproduction. All the cells in a clone are genetically identical to each other and to the parent's cells.
cytokinesis	<i>site-O-kY-nee-sis</i>	When the cytoplasm of the cell is separated as the cell membrane is pinched to divide the cell into two daughter cells.
daughter cell		New cell produced by cell division.
diploid	<i>dip-loyd</i>	A cell with two sets of chromosomes.
DNA replication	<i>rep-li-kay-shun</i>	The copying of the DNA within a cell.
haploid	<i>hap-loyd</i>	A cell with one set of chromosomes.
interphase	<i>in-ter-fays</i>	The stage when the cell prepares itself for the process of cell division, and DNA replication takes place. The cell also makes more of its sub-cellular structures.
metaphase	<i>met-a-fays</i>	The stage of mitosis when the chromosomes line up across the middle of the cell.
mitosis	<i>my-toe-sis</i>	The process of cells dividing to produce two daughter cells that are genetically identical to the parent.
multicellular	<i>mul-tee-sell-U-lar</i>	An organism that is made of many cells.
prophase	<i>prO-fays</i>	The stage of mitosis in which the nucleus starts to break down and spindle fibres appear.
spindle fibre	<i>spin-del fY-ber</i>	Filament formed in a cell during mitosis, which helps to separate chromosomes.
telophase	<i>tee-IO-fays</i>	The stage of mitosis in which the chromosomes arrive at opposite ends of the cell and the nucleus membrane reforms.
tumour	<i>tyoo-mer</i>	Lump formed of cancer cells.

CB2b Growth in animals

Word	Pronunciation	Meaning
differentiation	<i>diff-er-en-shi-ay-shun</i>	When a group of similar things, such as cells, become different in form from each other.
growth		A permanent increase in the number or size of cells in an organism.
percentile	<i>pur-sent-iyl</i>	A $\frac{1}{100}$ th division of a group. For example, 10 per cent of the data items are below the 10th percentile and 50 per cent are below the 50th percentile.

CB2c Growth in plants

Word	Pronunciation	Meaning
differentiate		To change into different types, for example when meristem cells differentiate into specialised cells such as xylem or root hair cells.
elongation		When something gets longer (such as a cell in a plant root or shoot before it differentiates into a specialised cell).
meristem		A small area of undifferentiated cells in a plant, such as near the shoot tips and root tips, where cells are dividing rapidly by mitosis.
root hair cell		Cell found on the surface of plant roots that has a large surface area to absorb water and dissolved mineral salts quickly from the soil.
xylem cell	<i>zy-lem sell</i>	Cell that joins with other xylem cells to form long, thick-walled vessels after they die. The vessels carry water and dissolved mineral salts through the plant.

CB2d Stem cells

Word	Pronunciation	Meaning
adult stem cell		Stem cell found in specialised tissue that can produce more of the specialised cells in that tissue for growth and repair.
cancer	<i>can-ser</i>	Disease caused by the uncontrolled division of stem cells in a part of the body.
embryonic stem cell		Stem cell from an early embryo that can produce specialised cells of many different types.
meristem cell		Stem cell found in a plant meristem.
rejection		When the immune system attacks and kills cells and tissue that come from another person, such as blood (after transfusion) or stem cells.
stem cell		Unspecialised cell that continues to divide by mitosis to produce more stem cells and other cells that differentiate into specialised cells.

CB2e The nervous system

Word	Pronunciation	Meaning
axon		The long extension of a neurone that carries an impulse away from the dendron or dendrites towards other neurones.
axon terminal		Small 'button' at the end of the branches that leave an axon.
central nervous system		The main part of the nervous system – the brain and spinal cord. Abbreviated to CNS.
CNS		Stands for central nervous system.
dendrite		A fine extension from a neurone, which carries impulses towards the cell body.
dendron		Large, long extension of a sensory neurone that carries impulses from dendrites towards the axon.
impulse		Electrical signal transmitted along a neurone.
myelin sheath	<i>my-ell-in sheeth</i>	Fatty covering around the axons of many neurones. It speeds up the transmission of impulses along their length and helps to insulate them from one another.
nerve cell		Another term for neurone.
nervous system		An organ system that contains the brain, spinal cord and nerves, and carries impulses around the body. This system helps us to sense and respond quickly to changes inside and outside our bodies.
neurone	<i>nyor-own</i>	A cell that transmits electrical impulses in the nervous system.
neurotransmission	<i>new-rO-trans-mish-un</i>	Impulses passing from neurone to neurone.
receptor cell	<i>re-sep-tor sell</i>	Cell that receives a stimulus and converts it into an electrical impulse to be sent to the brain and/or spinal cord.
response		Action that occurs due to a stimulus.
sense organ		Organ that contains receptor cells.
sensory neurone	<i>sens-or-ee nyor-own</i>	Neurone that carries impulses from receptor cells, towards the central nervous system.
spinal cord	<i>spy-nal cord</i>	Large bundle of nerves, leading from the brain and down the back.
stimulus		Change in a factor (inside or outside the body) that is detected by receptors. Plural: stimuli.

CB2f Neurotransmission speeds

Word	Pronunciation	Meaning
effector		Muscle or gland in the body that performs an action when an impulse from the nervous system is received.
motor neurone	<i>mO-ter nyor-own</i>	Neurone that carries impulses to effectors.
neurotransmitter	<i>new-rO-trans-mit-ter</i>	Substance that diffuses across the gap between two neurones at a synapse, and triggers an impulse to be generated in the neurone on the other side of the synapse.
reflex	<i>ree-flex</i>	Response to a stimulus that does not require processing by the brain. The response is automatic. Also called a reflex action.
reflex arc	<i>ree-flex ark</i>	Neurone pathway consisting of a sensory neurone passing impulses to a motor neurone (often via a relay neurone), which allows reflexes to occur.
relay neurone	<i>ree-lay nyor-own</i>	A short type of neurone, found in the spinal cord and brain. Relay neurones link with sensory, motor and other relay neurones.
synapse	<i>sY-naps</i>	Point at which two neurones meet. There is a tiny gap between neurones at a synapse, which cannot transmit an electrical impulse.