Cell structure

A-Level Biology · Vocabulary in context

Word	Example
cell /sel/	Every living thing is made of at least one **cell**.
microscope /ˈmaɪkrəskəʊp/	Use a **microscope** to look at cells.
light microscope /laɪt ˈmaɪkrəskəʊp/	A **light microscope** uses light and glass lenses.
specimen /ˈspesɪmən/	Put the **specimen** on a glass slide.
temporary preparation /ˈtemprəri ˌprepəˈreɪʃn/	A **temporary preparation** is a slide for looking at cells today.
slide /slaɪd/	Put a thin piece of onion on a **slide**.
stain /steɪn/	Use a red **stain** to see the xylem.
cover slip /ˈkʌvə slɪp/	Lower the **cover slip** gently onto the slide.
magnification /ˌmægnɪfɪˈkeɪʃn/	The microscope gives a **magnification** of 400 times.
micrometre /ˈmaɪkrəʊmiːtə/	One **micrometre** is a thousandth of a millimetre.
nanometre /ˌnænəʊˈmiːtə/	A **nanometre** is a thousandth of a micrometre.
chloroplast /ˈklɔːrəʊplæst/	A **chloroplast** carries out photosynthesis.
photomicrograph /ˌfəʊtəʊˈmaɪkrəgræf/	A **photomicrograph** is a photo taken through a light microscope.

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electron micrograph /ɪˈlektrɒn ˈmaɪkrəgræf/	An **electron micrograph** shows tiny details inside a cell.
electron /ɪˈlektrɒn/	An **electron** has a negative charge.
eyepiece graticule /ˈaɪpiːs ˈgrætɪkjuːl/	Use an **eyepiece graticule** to measure the cell.
calibrate /ˈkælɪbreɪt/	**Calibrate** the probe before you use it.
stage micrometer /steɪdʒ maɪˈkrɒmɪtə/	A **stage micrometer** shows the real length of each graticule division.
resolution /ˌrezəˈluːʃn/	High **resolution** shows small details.
wavelength /ˈweɪvleŋθ/	The **wavelength** is the distance from one crest to the next.
electron microscope /ɪˈlektrɒn ˈmaɪkrəskəʊp/	An **electron microscope** shows much smaller details than a light microscope.
scanning /ˈskænɪŋ/	A **scanning** electron microscope shows the surface of an object in 3D.
transmission /trænˈsmɪʃn/	**Transmission** means the wave passes through.
ultrastructure	The electron microscope shows the **ultrastructure** of a cell, such as the folds inside a mitochondrion.
eukaryotic cell /juːkərɪˈɒtɪk sel/	A **eukaryotic cell**, like a human cell, has a nucleus and many small parts with their own membranes.
nucleus /ˈnjuːklɪəs/	The **nucleus** holds the cell's DNA.

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organelle /ˌɔːgəˈnel/	The nucleus is an **organelle**.
cytoplasm /ˈsaɪtəplæzəm/	Chemical reactions happen in the **cytoplasm**.
cell surface membrane /sel ˈsɜːfɪs ˈmembreɪn/	The **cell surface membrane** controls what goes into and out of the cell.
nuclear envelope /ˈnjuːklɪə ˈenvələʊp/	The **nuclear envelope** is a double membrane with small holes, called pores.
nucleolus /ˌnjuːklɪˈəʊləs/	The **nucleolus** is a dark spot in the nucleus where ribosomes are made.
rough endoplasmic reticulum /rʌf ˌendəʊˈplæzmɪk reˈtɪkjʊləm/	The **rough endoplasmic reticulum** is covered in ribosomes, which make proteins.
protein /ˈprəʊtiːn/	Meat, eggs and beans are rich in **protein**.
antibody /ˈæntɪbɒdi/	An **antibody** sticks to a matching antigen on a germ.
smooth endoplasmic reticulum /smuːð ˌendəʊˈplæzmɪk reˈtɪkjʊləm/	The **smooth endoplasmic reticulum** has no ribosomes and makes lipids.
lipid /ˈlɪpɪd/	Fats and oils are **lipids**, and they do not mix with water.
Golgi body /ˈgɒlgɪ ˈbɒdi/	The **Golgi body** packs proteins into small sacs to send them out of the cell.
vesicle /ˈvesɪkl/	A **vesicle** is a tiny sac that carries proteins around the cell.
secretion /sɪˈkriːʃn/	The **secretion** of saliva starts when you smell food.

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mitochondria /ˌmaɪtəˈkɒndrɪə/	**Mitochondria** release energy from food.
respiration /ˌrespɪˈreɪʃn/	**Respiration** releases energy from glucose.
energy /ˈenədʒi/	Food gives your body the **energy** it needs to move.
ribosome /ˈriːbəʊsəʊm/	The **ribosome** builds the protein.
amino acid /əˈmiːnəʊ ˈæsɪd/	Glycine is the simplest **amino acid**.
synthesise /ˈsɪnθəsaɪz/	Plants **synthesise** glucose from carbon dioxide and water.
lysosome /ˈlaɪsəʊsəʊm/	A **lysosome** holds enzymes that break down old parts of the cell.
enzyme /ˈenzaɪm/	The **enzyme** speeds up the reaction.
centriole /ˈsentrɪəʊl/	Before an animal cell divides, each **centriole** moves to one end of the cell.
microtubule /ˌmaɪkrəʊˈtjuːbjuːl/	A **microtubule** is a thin protein tube that helps pull chromosomes apart.
cilia /ˈsɪlɪə/	**Cilia** in your airways beat to move mucus up and out.
microvilli /ˈmaɪkrəʊvɪlaɪ/	**Microvilli** make the surface area even larger.
absorption /əbˈsɔːpʃn/	Most **absorption** of food happens in the small intestine.
photosynthesis /ˌfəʊtəʊˈsɪnθəsɪs/	Plants make sugar by **photosynthesis**.
cell wall /sel wɔːl/	A **cell wall** gives a plant cell its shape.

Word	Example
cellulose /'selju:ləʊs/	Plant cell walls are made of **cellulose**.
plasmodesmata /ˌplæzməʊd'smɑ:tə/	**Plasmodesmata** are thin channels through the walls between two plant cells.
vacuole /'vækju:əʊl/	A plant cell has a large **vacuole** full of watery sap.
tonoplast /'tɒnəplæst/	The **tonoplast** is the membrane around the vacuole in a plant cell.
prokaryotic cell /ˌprɒkərɪ'ɒtɪk sel/	A bacterium is a **prokaryotic cell**: its DNA is loose, not inside a nucleus. DNA
bacterium /bæk'tɪərɪəm/	A **bacterium** is a single cell with no nucleus.
unicellular /ˌju:nɪ'seljʊlə/	Bacteria and yeast are **unicellular**: each one is a single cell.
peptidoglycan /'peptɪdɒglɪkən/	Most bacteria have a cell wall made of **peptidoglycan**, not cellulose.
virus /'vaɪrəs/	A **virus** copies itself into other files.
non-cellular /nɒn 'seljʊlə/	Viruses are **non-cellular**: they are not made of cells.
nucleic acid /nju:'klɪɪk 'æsɪd/	DNA and RNA are both a **nucleic acid**. DNA RNA
capsid /'kæpsɪd/	The **capsid** is the protein coat around a virus's DNA or RNA. DNA RNA
envelope /'envələʊp/	Some viruses, such as flu, have an outer **envelope** made of membrane.

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Word	Example
phospholipid /'fɒsfəlɪpɪd/	A **phospholipid** has a head that likes water and two tails that do not.
host /həʊst/	A virus can only reproduce inside a **host** cell.