1 · Cell biology

AQA · GCSE · Biology · Vocabulary in context

Word	Example
eukaryotic /ˌjuːkərɪˈɒtɪk/	A typical **eukaryotic** cell keeps its chromosomes inside a nucleus.
nucleus /ˈnjuːklɪəs/	The **nucleus** holds the cell's DNA. DNA
prokaryotic /ˌprɒkərɪˈɒtɪk/	A **prokaryotic** cell has DNA without a surrounding nuclear membrane. DNA
cytoplasm /ˈsaɪtəplæzəm/	Chemical reactions happen in the **cytoplasm**.
mitochondrion	A liver cell has about a thousand of them, so each **mitochondrion** works hard.
ribosome /ˈriːbəʊsəʊm/	The **ribosome** builds the protein.
vacuole /ˈvækjuːəʊl/	A plant cell has a large **vacuole** full of watery sap.
chloroplast /ˈklɔːrəʊplæst/	A **chloroplast** carries out photosynthesis.
plasmid /ˈplæzmɪd/	A **plasmid** is a small ring of DNA in a bacterium. DNA
specialised cells /ˈspeʃəlaɪzd selz/	Nerve cells and red blood cells are **specialised cells**.
differentiation /ˌdɪfəˌrenʃɪˈeɪʃn/	During **differentiation**, a stem cell becomes a nerve cell or a muscle cell.
light microscope /laɪt ˈmaɪkrəskəʊp/	A **light microscope** uses light and glass lenses.
electron microscope /ɪˈlektrɒn ˈmaɪkrəskəʊp/	An **electron microscope** shows much smaller details than a light microscope.

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resolving power /rɪˈzɒlvɪŋ ˈpaʊə/	Greater **resolving power** lets us distinguish two closely spaced structures.
magnification /ˌmægnɪfɪˈkeɪʃn/	The microscope gives a **magnification** of 400 times. 400 times
binary fission /ˈbaɪnəri ˈfɪʃn/	**Binary fission** produces two bacterial cells from one.
nutrient broth	Bacteria can be grown in a **nutrient broth**.
colonies	Separate **colonies** appear as small spots on the agar.
agar /ˈeɪgɑː/	We grow bacteria on **agar** in a Petri dish.
aseptic technique /æˈseptɪk tekˈniːk/	**Aseptic technique** helps keep unwanted microorganisms out of a culture.
contamination /kənˌtæmɪˈneɪʃn/	Keep the fermenter clean to stop **contamination**.
microorganisms /ˌmaɪkrəʊˈɔːgənɪzəmz/	Stomach acid kills **microorganisms** in food.
sterilise /ˈsterəlaɪz/	**Sterilise** the loop by passing it through a flame.
Petri dishes	**Petri dishes** are sterilised before use.
culture media	Agar and nutrient broth are **culture media**.
inoculating loop	Use an **inoculating loop** to transfer bacteria to the agar.
antibiotics /ˌæntɪbaɪˈɒtɪks/	**Antibiotics** kill bacteria but not viruses.
antiseptics	**Antiseptics** kill microorganisms on the skin.

Word	Example
control /kən'trəʊl/	Use boiled enzyme as a **control**.
zone of inhibition	A wide **zone of inhibition** around the disc means the antibiotic works well.
resistant /rɪ'zɪstənt/	Some bacteria are **resistant** to antibiotics.
chromosomes /'krəʊməsəʊmz/	Humans have 46 **chromosomes** in each body cell.
genes /dʒi:nz/	**Genes** control your eye colour.
cell cycle /sel 'saɪkl/	The **cell cycle** has three stages: growth, copying DNA, and division.
mitosis /maɪ'təʊsɪs/	**Mitosis** makes two identical cells.
daughter cell /'dɔ:tə sel/	Each **daughter cell** gets a full set of chromosomes.
tumour /'tju:mə/	A **tumour** is a lump of cells that divide out of control.
stem cell /stem sel/	A **stem cell** can divide and turn into other kinds of cell.
undifferentiated	Stem cells are **undifferentiated** cells.
bone marrow	New blood cells are made in the **bone marrow**.
meristem /'merɪstəm/	**Meristem** tissue is found at the tips of roots and shoots.
embryonic stem cells	**Embryonic stem cells** can become most types of human cell.

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therapeutic cloning /ˌθerə'pju:tɪk 'kləʊnɪŋ/	**Therapeutic cloning** makes stem cells with the same genes as the patient.
rejected	Cells from a donor may be **rejected** by the patient's immune system.
ethical /'eθɪkl/	Some people have **ethical** concerns about changing genes.
diffusion /dɪ'fju:ʒn/	The smell of perfume spreads across a room by **diffusion**.
concentration gradient /ˌkɒnsən'treɪʃn 'greɪdɪənt/	Oxygen moves down a **concentration gradient**, from high to low.
gas exchange /gæs eks'tʃeɪndʒ/	**Gas exchange** happens in the leaves.
blood plasma	Urea diffuses from cells into the **blood plasma**.
osmosis /ɒz'məʊsɪs/	Water enters the root by **osmosis**.
partially permeable membrane /'pɑ:ʃəli 'pɜ:məbl 'membreɪn/	Water crosses a **partially permeable membrane** by osmosis.
solute /'sɒlju:t/	Salt is the **solute** in salt water.
active transport /'æktɪv 'trænspɔ:t/	**Active transport** uses energy to move ions into root cells.
root hair	Each **root hair** gives the root a bigger surface for taking in water.
mineral ion /'mɪnərəl 'aɪɒn/	Plants take in each **mineral ion**, such as nitrate, from the soil.

Word	Example
surface area to volume ratio /ˈsɜːfɪs ˈeərɪə tə ˈvɒljuːm ˈreɪʃɪəʊ/	A small cell has a large **surface area to volume ratio**, so materials move in quickly.
multicellular /ˌmʌltɪˈseljʊlə/	Humans are **multicellular**: we are made of trillions of cells.
exchange surfaces	The lungs and gills are **exchange surfaces**.
single-celled /ˈsɪŋgl seld/	Bacteria are **single-celled**.
ventilation /ˌventɪˈleɪʃn/	Breathing gives **ventilation**: it brings fresh air into the lungs.
alveoli /ˈælvɪəlɪ/	Gas exchange happens in the **alveoli**.
capillaries /ˈkæpɪlərɪz/	**Capillaries** carry blood close to every cell.
small intestine /smɔːl ɪnˈtestɪn/	Most food is absorbed in the **small intestine**.
gills /gɪlz/	**Gills** take oxygen from the water.

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