Glenthorne High School
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An outstanding National Teaching School with a specialism in the Arts

B1 Key Word Glossary

active transport: the movement of substances from a dilute solution to a more concentrated solution against a concentration gradient, requiring energy from respiration

algae: simple aquatic organisms (protista) that make their own food by photosynthesis

alveoli: tiny air sacs in the lungs that increase the surface area for gaseous exchange

bacteria: single-celled prokaryotic organisms

cell membrane: the membrane around the contents of a cell that controls what moves in and out of the cell

cell wall: the rigid structure around plant and algal cells. It is made of cellulose and strengthens the cell

cellulose: the complex carbohydrate that makes up plant and algal cell walls and gives them strength

chlorophyll: the green pigment contained in the chloroplasts

chloroplasts: the organelles in which photosynthesis takes place

cytoplasm: the water-based gel in which the organelles of all living cells are suspended and most of the chemical reactions of life take place

diffusion: the spreading out of the particles of any substance in a solution, or particles in a gas, resulting in a net movement of particles from an area of higher concentration to an area of lower concentration down a concentration gradient

eukaryotic cells: cells from eukaryotes that have a cell membrane, cytoplasm, and genetic material enclosed in a nucleus

hypertonic (osmosis): a solution that is more concentrated than the cell contents

hypotonic (osmosis): a solution that is less concentrated than the cell contents

isotonic (osmosis): a solution that is the same concentration as the cell contents

mitochondria: the site of aerobic cellular respiration in a cell

nucleus: organelle found in many living cells containing the genetic information surrounded by the nuclear membrane

osmosis: the diffusion of water through a partially permeable membrane from a dilute solution (which has a high concentration of water) to a concentrated solution (with a low concentration of water) down a concentration gradient

partially permeable membrane: a membrane that allows only certain substances to pass through

permanent vacuole: space in the cytoplasm filled with cell sap

phloem: the living transport tissue in plants that carries dissolved food (sugars) around the plant

plasmolysis: the state of plant cells when so much water is lost from the cell by osmosis that the vacuole and cytoplasm shrink and the cell membrane pulls away from the cell wall

prokaryotic cells: from prokaryotic organisms have a cytoplasm surrounded by a cell membrane, and a cell wall that does not contain cellulose. The genetic material is a DNA loop that is free in the cytoplasm and not enclosed by a nucleus. Sometimes there are one or more small rings of DNA called plasmids

resolving power: a measure of the ability to distinguish between two separate points that are very close together

ribosomes: the site of protein synthesis in a cell

sperm: the male sex cells or gametes that carry the genetic material from the male parent

stomata: openings in the leaves of plants, particularly on the underside and opened and closed by guard cells, allowing gases to enter and leave the leaf

turgor: the pressure inside a plant cell exerted by the cell contents pressing on the cell wall

ventilation: movement of air or water into and out of the gas exchange organ, for example lungs or gills

xylem: the non-living transport tissue in plants that transports water from the roots to the leaves and shoots

adult stem cells: stem cells that are found in adults that can differentiate and form a limited number of cells

cell cycle: the three-stage process of cell division in a body cell that involves mitosis and results in the formation of two identical daughter cells

cloning: the production of identical offspring by asexual reproduction

differentiate: the process where cells become specialised for a particular function

embryonic stem cells: stem cells from an early embryo that can differentiate to form the specialised cells of the body

mitosis: part of the cell cycle where one set of new chromosomes is pulled to each end of the cell forming two identical nuclei during cell division

stem cells: undifferentiated cells with the potential to form a wide variety of different cell types

therapeutic cloning: a process where an embryo is produced that is genetically identical to the patient so the cells can then be used in medical treatments

zygote: the single new cell formed by the fusion of gametes in sexual reproduction