

## Definitions and Concepts for AQA Biology GCSE

### Topic 1: Cell Biology

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*Definitions in **bold** are for higher tier only*

*Definitions marked by '\*' are for separate sciences only*

**Active transport:** The movement of substances from a more dilute solution to a more concentrated solution (against a concentration gradient) with the use of energy from respiration.

**Adult stem cell:** A type of stem cell that can form many types of cells.

**Agar jelly:** A substance placed in petri dishes which is used to culture microorganisms on.

**Cell differentiation:** The process where a cell becomes specialised to its function.

**Cell membrane:** A partially permeable barrier that surrounds the cell.

**Cell wall:** An outer layer made of cellulose that strengthens plant cells.

**Chloroplast:** An organelle which is the site of photosynthesis.

**Chromosomes:** DNA structures that are found in the nucleus which are made up of genes.

**Concentration gradient:** The difference in concentration between two areas.

**Diffusion:** The spreading out of the particles of any substance in solution, or particles of a gas, resulting in a net movement from an area of higher concentration to an area of lower concentration. †

**Embryonic stem cell:** A type of stem cell that can differentiate into most types of human cells.

**Eukaryotic cell:** A type of cell found in plants and animals that contains a nucleus.

**Magnification:** How much bigger an image appears compared to the original object.

**Meristematic cells:** A type of stem cell that can differentiate into any type of plant cell.

**Mitochondria:** An organelle which is the site of respiration.



**Mitosis:** A type of cell division which produces two genetically identical daughter cells from one parent cell.

**Nucleus:** An organelle found in most eukaryotic cells that contains the genetic material of the cell and controls the activities of the cell.

**Organelle:** A specialised structure found inside a cell.

**Osmosis:** The diffusion of water from a dilute solution to a concentrated solution through a partially permeable membrane.

**Plasmid:** Loops of DNA found in the cytoplasm of prokaryotic cells.

**Prokaryotic cell:** A type of cell found in bacteria that does not contain a nucleus.

**Resolution:** The ability to distinguish two different points in a specimen.

**Specialised cells:** Cells that are adapted to perform a specific function.

**Stem cell:** An undifferentiated cell that can divide to produce many specialised cells of the same type.

**Surface area:** The amount of contact an object has with its environment.

**Surface area to volume ratio (SA:V):** The size of the object compared with the amount of area where it contacts its environment.

**The cell cycle:** A series of stages preparing the cell for division.

**Therapeutic cloning:** Producing an embryo that has the same genes as a patient.

**Vacuole:** An organelle that stores cell sap.

Definitions denoted with a '+' taken from: [AQA GCSE Biology Specification, 8461, Version 1.0.2.1, April 2016](#)

