

## Definitions and Concepts for OCR (B) Biology GCSE

### Topic 4: Using Food and Controlling Growth

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

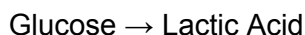
Definitions marked by '\*' are for separate sciences only

**Adult stem cell** - A stem cell found in the certain tissues (e.g. bone marrow, liver, heart) that can form some types of cell.

**Aerobic respiration** - A form of respiration that uses a plentiful supply of oxygen to release energy from glucose. It is shown by the following equation:



**Anaerobic respiration** - A form of respiration that releases energy from glucose when there is insufficient oxygen. Anaerobic respiration in animals is shown by the following equation:



\***Auxin** - A plant hormone that is responsible for cell elongation.

**Biomass** - The mass of all the living material present in a particular area or particular organism.

**Bolting** - Production of flowers in an attempt to reproduce before death. †

**Cancer** - A non-communicable disease in humans caused by changes in a person's DNA. The changes cause a cell to divide many times by mitosis, which can create a tumour. †

**Cell cycle** - A series of events that take place in a cell in preparation for cell division.

**Cell differentiation** - The process in which cells become specialised by switching genes off and on to form tissues with particular functions. †

**Cellular respiration** - A universal, continuously occurring chemical process that occurs in all living cells. It is exothermic and releases energy (in the form of ATP) from the breakdown of organic compounds such as glucose.

**Chloroplasts** - The organelles that are the site of photosynthesis. They contain chlorophyll (a green pigment) which absorbs light energy, and important enzymes for photosynthesis.

**Chromosome** - A long, coiled molecule of DNA that carries genetic information in the form of genes.

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**Consumer** - An organism that cannot produce its own food, so must obtain energy by feeding on the producer.

**Cytokinesis** - The last stage of the cell cycle in which two identical diploid daughter cells are formed.

**DNA (Deoxyribonucleic acid)** - A polymer made of two strands twisted around each other to form a double helix. It contains all the genetic information.

**\*Dormancy** - A period of time in which the seeds hibernate. This stops when they germinate.

**Electron microscope** - A microscope that uses electrons to produce an image of a specimen.

**Embryo** - An organism in its early stages of development.

**Embryonic stem cell** - A type of stem cell found in very early embryos that can differentiate into any cell type.

**\*Ethene** - A plant hormone that promotes fruit ripening.

**Eukaryotic cell** - A type of cell found in plants and animals that has a nucleus and other membrane-bound organelles.

**Exothermic reaction** - A reaction that releases energy, usually in the form of light or heat.

**Gamete** - Sex cells (sperm and egg cells) with half the usual number of chromosomes. They are involved in reproduction.

**\*Germination** - The process by which seeds develop into plants.

**\*Gibberellins** - Plant hormones that initiate germination and flowering.

**\*Gravitropism (or geotropism)** - The growth response of a plant to gravity.

**Hormone** - A chemical messenger secreted by the endocrine glands into the bloodstream and transported to receptors on target organs.

**Interphase** - The first stage of the cell cycle in which cells grow, new proteins are synthesised and chromosomes are replicated.

**Meiosis** - A form of cell division that produces four gametes. They are not genetically identical and contain half the number of chromosomes.

**Meristematic cell** - A type of cell that can differentiate into any plant cell type.

**Meristem tissue** - A plant tissue that contains many undifferentiated cells.



**Mitochondria** - The organelle that is the site of aerobic respiration. It contains enzymes required for cellular respiration.

**Mitosis** - A type of cell division that produces two identical diploid daughter cells, both of which contain a full set of chromosomes, from one parent cell. It is the second stage of the cell cycle and is important for growth, development and the replacement of damaged cells.

**Non-communicable disease** - A disease that cannot be transmitted as it is caused by environmental factors or is inherited. It is not caused by a pathogen.

**\*Phototropism** - The growth response of a plant to unilateral light.

**Root cuttings** - A method of cloning plants in which a root is cut from a parent plant and replanted in compost.

**Rooting powder** - A powder containing auxins. Plant cuttings are dipped into the powder before being replanted to stimulate growth.

**Stem cell** - A cell that is unspecialised and capable of differentiating into a range of different cell types.

**Undifferentiated cell** - A cell that is not specialised for its function e.g. stem cells.

**Yeast** - A unicellular organism that can anaerobically respire. Yeast anaerobically breaks down glucose to form ethanol and carbon dioxide.

✚ Definition taken from: [OCR Gateway Science Biology \(B\) Specification \(J257\) V3.1 \(January 2020\)](#)

