

**IGCSE
BIOLOGY
DEFINITION**

- 0610 -

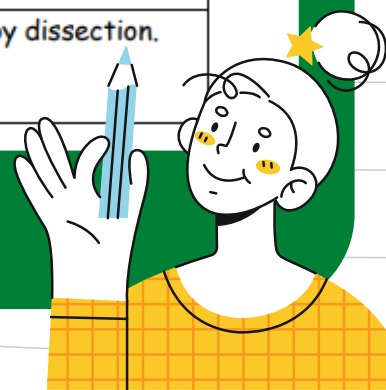
BY MS JOAN



Chapter 1 Characteristics and classification of living organisms

KEY	DEFINITION
movement	<ul style="list-style-type: none"> ✓ an action by an organism or part of an organism ✓ causing a change of position or place
respiration	<ul style="list-style-type: none"> ✓ the chemical reactions in cells ✓ that break down nutrient molecules and release energy for metabolism
sensitivity	<ul style="list-style-type: none"> ✓ ability to detect or sense stimuli in the internal or external environment ✓ and to make appropriate responses
growth	<ul style="list-style-type: none"> ✓ permanent increase in size and dry mass ✓ by an increase in cell number or cell size or both
excretion	<ul style="list-style-type: none"> ✓ removal from organisms of the waste products of metabolism (chemical reactions in cells including respiration), ✓ toxic materials, ✓ and substances in excess of requirements
nutrition	<ul style="list-style-type: none"> ✓ taking in of materials for energy, growth and development; ✓ plants require light, carbon dioxide, water and ions; ✓ animals need organic compounds and ions and usually need water
species	<ul style="list-style-type: none"> ✓ group of organisms that can reproduce ✓ to produce fertile offspring
binomial system	<ul style="list-style-type: none"> ✓ naming species as an internationally agreed system ✓ in which the scientific name of an organism is made up of two parts ✓ showing the genus and species
Morphology	<ul style="list-style-type: none"> ✓ the study of the form, or outward appearance, of organisms.
Anatomy	<ul style="list-style-type: none"> ✓ the study of their internal structure, as revealed by dissection.

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Chapter 2 Organisation of the organism

KEY	DEFINITION
tissue	<ul style="list-style-type: none"> ✓ a group of cells with similar structures, ✓ working together to perform a shared function ✓ Eg. Bone, nerve, muscle, epidermis, xylem
organ	<ul style="list-style-type: none"> ✓ a structure made up of a group of tissues, ✓ working together to perform specific functions ✓ Eg. Stomach, heart, lungs, intestines, brain, eyes
organ system	<ul style="list-style-type: none"> ✓ a group of organs with related functions, ✓ working together to perform body functions ✓ Eg. Nervous and circulatory system

Chapter 3 Movement in and out of cells

KEY	DEFINITION
diffusion	<ul style="list-style-type: none"> ✓ net movement of particles ✓ from a region of their higher concentration to a region of their lower concentration ✓ down a concentration gradient, ✓ as a result of their random movement
osmosis	<ul style="list-style-type: none"> ✓ net movement of water molecules ✓ from a region of higher water potential (dilute solution) ✓ to a region of lower water potential (concentrated solution), ✓ through a partially permeable membrane
active transport	<ul style="list-style-type: none"> ✓ the movement of particles through a cell membrane ✓ from a region of lower concentration ✓ to a region of higher concentration ✓ using energy from respiration

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Chapter 5 Enzymes

KEY	DEFINITION
catalyst	<ul style="list-style-type: none">✓ a substance that increases the rate of a chemical reaction✓ and is not changed by the reaction
enzymes	<ul style="list-style-type: none">✓ proteins that function as biological catalysts

Chapter 6 Plant nutrition

KEY	DEFINITION
photosynthesis	<ul style="list-style-type: none">✓ the process by which plants manufacture carbohydrates✓ from raw materials using energy from light
limiting factor	<ul style="list-style-type: none">✓ something present in the environment✓ in such short supply that it restricts life processes

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Chapter 7 Human nutrition

KEY	DEFINITION
ingestion	<ul style="list-style-type: none"> ✓ taking of substances, ✓ e.g. food and drink, into the body through the mouth
mechanical digestion	<ul style="list-style-type: none"> ✓ breakdown of food into smaller pieces ✓ without chemical change to the food molecules
chemical digestion	<ul style="list-style-type: none"> ✓ breakdown of large, insoluble molecules ✓ into small, soluble molecules
absorption	<ul style="list-style-type: none"> ✓ movement of small food molecules and ions ✓ through the wall of the intestine into the blood
assimilation	<ul style="list-style-type: none"> ✓ movement of digested food molecules ✓ into the cells of the body where they are used, ✓ becoming part of the cells
egestion	<ul style="list-style-type: none"> ✓ passing out of food that has not been digested or absorbed, as faeces, through the anus

Chapter 8 Transport in plants

KEY	DEFINITION
transpiration	<ul style="list-style-type: none"> ✓ loss of water vapour from plant leaves ✓ by evaporation of water at the surfaces of the mesophyll cells followed ✓ by diffusion of water vapour through the stomata
translocation	<ul style="list-style-type: none"> ✓ movement of sucrose and amino acids in phloem: ✓ from regions of production (source) ✓ to regions of storage OR to regions where they are used in respiration or growth (sink)

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Chapter 10 Diseases and immunity

KEY	DEFINITION
pathogen	✓ disease-causing organism
transmissible disease	✓ disease in which the pathogen ✓ can be passed from one host to another
active immunity	✓ defence against a pathogen ✓ by antibody production in the body

Chapter 12 Respiration

KEY	DEFINITION
aerobic respiration	✓ chemical reactions in cells ✓ that use oxygen to break down nutrient molecules to release energy
anaerobic respiration	✓ chemical reactions in cells ✓ that break down nutrient molecules to release energy without using oxygen

Chapter 13 Excretion in humans

KEY	DEFINITION
deamination	✓ the removal of the nitrogen-containing part of amino acids ✓ to form urea

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Chapter 14 Coordination and response

KEY	DEFINITION
synapse	<ul style="list-style-type: none"> ✓ a junction between two • neurones
sense organs	<ul style="list-style-type: none"> ✓ groups of receptor cells ✓ responding to specific stimuli: light, sound, touch, temperature and chemicals
hormone	<ul style="list-style-type: none"> ✓ chemical substance, ✓ produced by a gland and carried by the blood, ✓ which alters the activity of one or more specific target organs
homeostasis	<ul style="list-style-type: none"> ✓ maintenance of a constant internal environment
gravitropism	<ul style="list-style-type: none"> ✓ response in which parts of a plant ✓ grow towards or away from gravity
phototropism	<ul style="list-style-type: none"> ✓ a response in which parts of a plant ✓ grow towards or away from the direction from which light is coming

Chapter 15 Drugs

KEY	DEFINITION
drug	<ul style="list-style-type: none"> ✓ any substance taken into the body ✓ that modifies or affects chemical reactions in the body

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Chapter 16 Reproduction

KEY	DEFINITION
asexual reproduction	<ul style="list-style-type: none"> ✓ process resulting in the production of genetically identical offspring ✓ from one parent
sexual reproduction	<ul style="list-style-type: none"> ✓ process involving the fusion of the nuclei of two gametes (sex cells) ✓ to form a zygote ✓ and the production of offspring that are genetically different from each other
fertilisation	<ul style="list-style-type: none"> ✓ fusion of gamete nuclei
pollination	<ul style="list-style-type: none"> ✓ transfer of pollen grains from the anther to the stigma
self-pollination	<ul style="list-style-type: none"> ✓ transfer of pollen grains from the anther of a flower to the stigma ✓ of the same flower or different flower ✓ on the same plant
cross-pollination	<ul style="list-style-type: none"> ✓ transfer of pollen grains from the anther of a flower to the stigma ✓ of a flower on a different plant of the same species
sexually transmitted infection	<ul style="list-style-type: none"> ✓ infection that is transmitted ✓ via body fluids through sexual contact

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Chapter 17 Inheritance

KEY	DEFINITION
inheritance	<ul style="list-style-type: none"> ✓ transmission of genetic information ✓ from generation to generation
chromosome	<ul style="list-style-type: none"> ✓ thread-like structure of DNA, ✓ carrying genetic information in the form of genes
gene	<ul style="list-style-type: none"> ✓ length of DNA that codes for a protein
allele	<ul style="list-style-type: none"> ✓ a version of a gene
haploid nucleus	<ul style="list-style-type: none"> ✓ nucleus containing a single set of unpaired chromosomes, ✓ e.g. in gametes
diploid nucleus	<ul style="list-style-type: none"> ✓ nucleus containing two sets of chromosomes, ✓ e.g. in body cells
mitosis	<ul style="list-style-type: none"> ✓ nuclear division ✓ giving rise to genetically identical cells
meiosis	<ul style="list-style-type: none"> ✓ reduction division ✓ in which the chromosome number ✓ is halved from diploid to haploid resulting in genetically different cells
genotype	<ul style="list-style-type: none"> ✓ genetic make-up of an organism in terms of the alleles present
phenotype	<ul style="list-style-type: none"> ✓ observable features of an organism

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homozygous	<ul style="list-style-type: none"> ✓ having two identical alleles of a particular gene
heterozygous	<ul style="list-style-type: none"> ✓ having two different alleles of a particular gene
dominant	<ul style="list-style-type: none"> ✓ allele that is expressed if it is present
recessive	<ul style="list-style-type: none"> ✓ allele that is only expressed ✓ when there is no dominant allele of the gene present
sex-linked characteristic	<ul style="list-style-type: none"> ✓ characteristic in which the gene responsible is located on a sex chromosome ✓ and that this makes it more common in one sex than in the other

Chapter 18 Variation and selection

KEY	DEFINITION
variation	<ul style="list-style-type: none"> ✓ differences between individuals ✓ of the same species
gene mutation	<ul style="list-style-type: none"> ✓ a change in the base sequence of DNA
adaptive feature	<ul style="list-style-type: none"> ✓ inherited functional features of an organism ✓ that increase its fitness
fitness	<ul style="list-style-type: none"> ✓ the probability of an organism ✓ surviving and reproducing in the environment in which it is found
adaptation	<ul style="list-style-type: none"> ✓ process, resulting from natural selection, ✓ by which populations become more suited to their environment over many generations

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Chapter 19 Organisms and their environment

KEY	DEFINITION
food chain	<ul style="list-style-type: none"> ✓ showing the transfer of energy ✓ from one organism to the next, beginning with a producer
trophic level	<ul style="list-style-type: none"> ✓ the position of an organism in a food chain, food web, pyramid of numbers or pyramid of biomass
food web	<ul style="list-style-type: none"> ✓ a network of interconnected food chains
producer	<ul style="list-style-type: none"> ✓ an organism that makes its own organic nutrients, ✓ usually using energy from sunlight, ✓ through photosynthesis
consumer	<ul style="list-style-type: none"> ✓ an organism that gets its energy ✓ by feeding on other organisms
herbivore	<ul style="list-style-type: none"> ✓ an animal that gets its energy ✓ by eating plants
carnivore	<ul style="list-style-type: none"> ✓ an animal that gets its energy ✓ by eating other animals
decomposer	<ul style="list-style-type: none"> ✓ an organism that gets its energy ✓ from dead or waste organic material
population	<ul style="list-style-type: none"> ✓ a group of organisms of one species, ✓ living in the same area, at the same time
community	<ul style="list-style-type: none"> ✓ all of the populations of different species in an ecosystem
ecosystem	<ul style="list-style-type: none"> ✓ a unit containing the community of organisms and their environment,

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	✓ interacting together, e.g. a decomposing log, or a lake
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Chapter 20 Biotechnology and genetic engineering

KEY	DEFINITION
genetic engineering	<ul style="list-style-type: none">✓ changing the genetic material of an organism✓ by removing, changing or inserting individual genes

Chapter 21 Human influences on ecosystems

KEY	DEFINITION
sustainable resource	<ul style="list-style-type: none">✓ one which is produced as rapidly✓ as it is removed from the environment✓ so that it does not run out
sustainable development	<ul style="list-style-type: none">✓ development providing for the needs✓ of an increasing human population✓ without harming the environment

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