

Definitions

MRS GREN

- Movement- It is an action caused by an organism or part of an organism causing change of place or position.
- Respiration- it is the chemical reaction in cell that break down nutrient molecules and release energy for metabolism
- Sensitivity- is the ability to detect or sense stimuli in the external or internal environment and make appropriate responses
- Growth- is the permanent increase in size or dry mass by an increase in cell size or cell number or both
- Reproduction- process that makes more of the same kind of organism
- Excretion- process of removal of waste products of metabolism (chemical reaction in cell such as respiration), toxic materials and substances in excess of requirements.
- Nutrition- the taking in of substances for energy, growth and development. Plants require light, CO₂, water and mineral ions. Animals require organic substances , ions and water
- Species- group of organisms that can interbreed with each other and produce fertile offspring
- Binominal system- is the internationally agreed system in which the scientific name of an organism is made up of 2 parts showing the genus and species.
- Tissue-group of cells of similar structure working together to perform the same function
- Organ- collection of different tissues working together to perform specific function
- Organ system- group of organs with related functions working together to perform body functions
- Diffusion- Is the random movement of particles from a region of higher concentration to a region of lower concentration, down the concentration gradient.
- Osmosis- is the movement of particles from region of higher water potential (dilute solution) to a region of lower water potential (concentrated solution), through the semi permeable membrane.
- Active transport- movement of particles from a region of lower concentration to a region of higher concentration using energy from respiration through the semi permeable membrane.

- Catalyst- Substances that increase the rate of chemical reaction without being changed by the reaction.
- Enzymes- proteins that are biological catalyst that speed up chemical reactions
- Photosynthesis- the process by which plants manufacture carbohydrates from raw materials using energy from sunlight
- Carbondioxide + water (in presence of sunlight and chlorophyll) glucose + oxygen

$$6\text{CO}_2 + \text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$$
- Limiting factor – Something present in the environment in such a short supply that it restricts life process
- Ingestion – taking substances (food and drink) into the body through the mouth
- Mechanical digestion- breakdown of food into smaller pieces without chemical change in food molecules.
- Chemical digestion – breakdown of large, insoluble molecules into small soluble molecules.
- Absorption- movement of small molecules and ions through the wall of the intestine into the blood
- Assimilation- movement of digested food molecules into the cells of the body where they are used, becoming part of the body
- Egestion- the passing of food molecules into the cell of the body where they are being used, becoming part of the cell
- Egestion- passing out of food that has not been digested or absorbed as faeces through the anus
- Transpiration- loss of water vapor from plant leaves by evaporation of water at the surface of

the mesophyll cells followed by diffusion of water vapor through the stomata

- Translocation – it is the movement of sucrose and amino acids in phloem from the regions of production (source) to the region of storage or the region where they are used in respiration or growth (sink).
- Pathogen – a disease causing organism
- Transmissible disease- disease in which the pathogen can be passed from one host to another
- Active immunity- defense against a pathogen by antibody production in the body
- Passive immunity – short term defense against a pathogen by antibodies acquired from another individual (mother to infant)
- Aerobic respiration – chemical reaction in cell that use oxygen to break down nutrient molecules to release energy
- Glucose + oxygen Carbondioxide + water
- $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$
- Anaerobic respiration- the chemical reaction in cells that break down nutrient molecules to release energy without using oxygen
- $C_6H_{12}O_6 \rightarrow 2C_2H_5OH + 2CO_2$ (Glucose ethanol + Carbondioxide in present of yeast and favorable condition)
- Deamination – removal of nitrogen containing part of amino acids to form urea
- Synapse – junction between two neurons
- Sense organ – group of receptor cells responding to specific stimuli : light, sound, touch, temperature and chemicals

- Hormones- chemical substance, produced by a gland and carried by the blood, which alters the activity of one or more specific target organs
- homeostasis – maintenance of a constant internal environment
- Asexual reproduction – process resulting in the production of genetically identical offspring from one parent
- Sexual reproduction – the process involving the fusion of the nuclei of two gametes (sex cells) to form zygote and the production of offspring that are genetically different from each other.
- Fertilization – the fusion of two gamete nuclei
- Pollination – transfer of pollen grains from the anther to the stigma
- Self-pollination – the 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 – 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 diseases – the infection that is transmitted via body fluids through sexual contact
- Inheritance – the transmission of genetic information from generation to generation
- Chromosomes – thread like structure in DNA carrying genetic information in the form of genes
- Gene – a length of DNA that codes for a protein
- Allele- a version of a gene
- Haploid nucleus – a nucleus containing single set of unpaired chromosomes

- Diploid nucleus- nucleus containing two sets of chromosomes
- Mitosis- the nuclear division giving rise to genetically identical cell
- Meiosis – the nuclear division giving rise to cells that are genetically different
- Meiosis – reduction division in which the chromosome number is halved from the diploid to haploid resulting in genetically different cell
- Genotype – the genetic make- up of an organism in terms of alleles present
- Phenotype – as the observable features of an organism
- Homozygous – having two identical allele of a particular gene
- Heterozygous – having two different alleels of a particular gene
- Dominant – an allele that is expressed if it is present
- Recessive allele – an allele that is only expressed when there is no dominant allele of the gene present
- Sex- linked characteristics – characteristics in which a gene responsible is located on a sex chromosome and that this makes it more common in one sex than in the other
- Variation – difference between individuals of the same species
- Mutation- genetic change
- Gene mutation – A change in the base sequence of DNA
- Adaptive feature – an inherited feature that helps an organism to survive and reproduce in the environment
Adaptive feature – inherited functional features of an organism that increase its fitness

- Fitness – The probability of an organism surviving and reproducing in the environment in which it found
- Food chain – it shows the transfer of energy from one organism to the next, starting with a producer
- Trophic level – the position of an organism in a food chain, food web, pyramid of number or biomass
- Food web- The network of interconnected food chains
- Producer – organism that makes their own food, usually using energy from sunlight, through photosynthesis
- Consumer – organism that gets its energy by feeing on other organisms
- Herbivore – organism that gets its energy by feeing on plants
- Carnivore – organism that gets its energy by feeding on other animals
- Omnivore – organisms that gets its energy by feeing on both animals and plants
- Decomposers – organisms that gets its energy by breaking down dead or organic waste material of plants and animals
- Population – Group of organism of the same species living in the same area at the same time
- Community – all the population of different species in an ecosystem
- Ecosystem – Unit containing the community of organisms and their environment interacting together (decomposing log, lake)
- Genetic engineering- changing the genetic material of an organism by removing, changing or inserting individual genes

- Sustainable resources – Resources which is produced as rapidly as it is removed from the environment so it doesn't not run out
- Sustainable development – development proving the needs of an increasing population without harming the environment