BIOLOGY DEFINITIONS

Adaptation
Characteristic of organisms that improves its chance of surviving in its environment

Tissue
A group of cells with similar structures which work together to perform a specific function

Diffusion
The movement of particles from a region of a higher concentration to a region of a lower concentration, down a concentration gradient

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Osmosis
The net movement of water molecule from a solution of higher water potential to a solution of lower water potential, through a partially permeable membrane.

Active Transport
The process in which energy is used to move the particles of a substance across a membrane against its concentration gradient, from a region of lower concentration to a region of higher concentration.

Hydrolysis
A reaction in which a water molecule is needed to break up a complex molecule into its smaller molecules

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Carbohydrates
Organic molecules made up of the elements, Carbon, Hydrogen and Oxygen. The hydrogen to oxygen atoms ratio is 2:1.

Fats

Organic molecules made up of the elements carbon, hydrogen and oxygen. But unlike carbohydrates, fats contain much less oxygen in proportion to hydrogen.

Proteins

Organic molecule which is made up of the elements, carbon hydrogen and Nitrogen. Another element, Sulphur, may be also present.

Catalyst

A substance that alters or speeds up a chemical reaction without itself taking part in that reaction or even being chemically changed at the end of the reaction.

Enzyme

An enzyme is a biological catalyst, which is a protein in nature that speeds up a chemical reaction without itself being changed or taking part in the reaction.

Denaturation

The change in the three dimensional structure of an enzyme or any other soluble protein caused by heat or chemicals such as acids or alkalis.

Nutrition

The process by which an organism obtains food and energy for growth, repair and maintenance of the body.

Peristalsis

The rhythmic, wave-like muscular concentration in the wall of the alimentary canal

Digestion

The process by which large food molecules are broken down into smaller, soluble molecules that can be absorbed into the blood cells (*Absorption*)

Absorption

The process whereby digested food substances are absorbed into the blood cell

Assimilation
The process whereby some of the absorbed food substances are converted into new protoplasm or used to provide energy

Deamination
The process by which amino groups are removed from amino acids and converted to urea.

Photosynthesis
The process in which light energy absorbed by chlorophyll is transformed into chemical energy. The chemical energy is used to synthesis carbohydrates from water and carbon dioxide. Water and carbon dioxide are the raw materials for photosynthesis. Oxygen is released during this process.

Phagocytosis
The process of engulfing or ingesting foreign particles such as bacteria, by the white blood cells.

Transpiration
The loss of water vapour from a plant, mainly through the stomata of the leaves.

Respiration
The breakdown (*oxidation*) of food substances with the release of energy in living cells.

Aerobic respiration
The breakdown of food substances in the presence of oxygen with the release of a large amount of energy. Carbon dioxide and water are released as waste products.

Anaerobic respiration
The breakdown of food substances in the absence of oxygen with the release of less energy.

Gas exchange
The exchange of gases between an organism and the environment.

Excretion
This is the removal of toxic substances from the body of an organism

Osmoregulation
The control of water and soluble concentration (levels) in the blood to maintain a constant potential in the body.

Homeostasis
This is the maintenance of a constant internal environment

Reflex action
An immediate response to a specific stimulus without conscious control

Reflex arc
This is the path taken by an impulse during a reflex action.

Focusing
The adjustment of the lens of the eye so that clear images at different distances are formed on the retina

Hormone
A chemical substance produced by the endocrine glands which is transported in the bloodstream to target organs where it exerts an effect and are eventually destroyed by the liver once they have performed their function.

Mitosis
A form of nuclear division that produces daughter nuclei containing the same number of chromosomes.

Meiosis
A form of nuclear division that produce daughter nuclei containing half the number of chromosomes as the parents.

Asexual Reproduction
The process resulting in the production of genetically identical offspring from one parent, without the fusion of gametes.

Sexual Reproduction
The fusion of two games to form a zygote. It produces genetically dissimilar offspring.

Pollination
The transfer if pollen grains form the anther to the stigma.

Self-pollination
The transfer of pollen grains from the anther to the stigma of the same flower or a different flower on the same plant

Cross-pollination
The transfer of pollen grains from one plant to the stigma of a flower in another plant of the same species

Puberty
The stage of human growth and development in which a person becomes physically mature.

Mono-hybrid inheritance
An inheritance involving only one pair of contrasting traits.

Chromosome
A thread-like structure in the nucleolus of a cell which is made up of deoxyribonucleic acid.

Gene
Is a small segment of DNA in a chromosome that controls a particular characteristic or protein in an organism.

Allele
These are genes that occupy the same position in a homologous chromosome and control the same characteristic.

Phenotype
This is the physical appearance of an organism.

Genotype
The is the genetic constitution in an organism

Multiple alleles
A term for a gene that exists in more than two alleles

Mutation
A sudden random change in the structure of a gene or in the chromosome number.

Genetic engineering
A technique used to transfer genes from one organisms to another. Individual genes may be cut off from the cells of one organism and inserted into the cells of another organism of the same or different species. The transferred gene express itself in the recipient organism.

Habitat
A place where organisms live

Population
This refers to organisms of the same species occupying an area.

Community
This refers to organisms of different species that live together and interact with one another.

Ecosystem
A natural unit made up of both Biotic and Abiotic factors

Food Chain
A series of organisms through which energy is transferred in the form of food.

Food web
A series of food chains or interconnection of food chains

Carbon sink

An area that store carbon compound for an indefinite period. It store more carbon than it releases

Pollution

The addition of a substance to the environment that damage it, making it undesirable or unfit for life. Substances that cause pollution are called pollutants.

Eutrophication

The process where water receives excess nutrients like phosphate and nitrates, which causes excessive growth or algae and water

Bioaccumulation

The process where certain chemicals like insecticides are not excreted, but are accumulated in the bodies of organisms

Bioamplification

The process where accumulated chemicals are passed along the food chain, increasing its concentration in the bodies of organisms along the trophic level

Biodiversity

The range of species that are present in a particular ecosystem.

Conservation

The protection and preservation of natural resources in the environment