Cells and Homeostasis Vocabulary

Unicellular organism: An organism having only one cell but carries out all life functions

Multicellular: An organism with many cells, each of which is specialized to carry out various life functions

Energy: is the ability to do work and/or maintain life in an organism.

Photosynthesis: is a process that green plants use to make sugars.

An Organelle: is a tiny structure within a cell that carries out a specific function to maintain life.

Development: is a process in which an organism goes through predictable stages as it matures.

An Adaptation: Physical structures or behavior that makes one organism more successful

A mutation: is any change in the genetic code that results in a physical or behavioral change.

Homeostasis: refers to maintaining stable internal conditions such as heart rate or temperature.

ADENOSINE TRIPHOSPHATE (ATP)is the major source of readily available energy in cells. ATP is produced in the mitochondria when sugar and oxygen are chemically combined. The energy released is transferred to a chemical known as ADP to make ATP.

AMOEBA: A type of unicellular organism that has no definite outer shape.

CELL DIVISION: The process that results in two cells being formed from one cell.

CELL MEMBRANE: Outer layer of the cell that helps control what comes into and what goes out of the cell. (AKA plasma membrane.)

CELL WALL: The tough layer outside the cell membrane in plants and bacteria. Wood is little more than the cell walls of trees.

CENTRIOLES: Cytoplasmic structures in animal cells that play a role in cell division by aiding spindle formation.

CHLOROPLASTS: Organelles in plant and algae cells that contain the green pigment chlorophyll that captures the suns energy. Chloroplasts are the place where plants make sugar.

CHLOROPHYLL: The green chemical, chlorophyll, found in chloroplasts that transfers light energy to chemical energy.

CHROMATIN: Chromatin is made up of the tangled, threadlike, coils of chromosomes. Chromatin contains DNA plus certain proteins.

CHROMOSOMES: Chromosomes are worm–shaped structures that "condense" from chromatin before cells divide. Chromosomes contain DNA and protein. Human body cells have two full sets of 23 different chromosomes.

CYTOPLASM: All the protoplasm located outside the nucleus but within the cell membrane.

DEOXYRIBONUCLEIC ACID (DNA): A long chemical shaped like a twisted ladder. The plans for running and reproducing cells are chemically stored in the DNA. DNA is found mostly in the nucleus but small amounts have also been found in the mitochondria and chloroplasts.

ENDOPLASMIC RETICULUM: A network of tubular passageways surrounding the nuclear membrane used in transporting proteins. Called "ER" and may be rough due to having ribosomes attached or be smooth. Smooth ER also makes some lipids.

ENZYMES: Proteins that control the rates of chemical reactions in cells. Digestive enzymes such as pepsin and trypsin are produced by specialized cells to break down food in the digestive tract.

EUKARYOTIC CELLS: Cells that possess nuclei and other membrane bound organelles.

FOOD VACUOLE: A small sac created when the cell membrane surrounds a food particle.

GENETIC CODE: The chemical language of the cell. DNA stores its plans in the genetic code language.

GOLGI COMPLEX: Made up of stacks of membranes that help process, package and deliver proteins from the endoplasmic reticulum.

LYSOSOMES: Organelles rarely found in plants that contain digestive enzymes which break down food and digest worn out cell parts.

MITOCHONDRIA: (Singular: Mitochondrion ) The organelles where chemically stored energy in food is released.

NUCLEAR: Refers to the cell nucleus.

NUCLEUS: (Plural: Nuclei) a rounded structure located in the cytoplasm that acts as the control center for the entire cell.

NUCLEOLUS: “Little Nucleus.” The area of the nucleus where ribosomes are made. Cells can have more than one nucleolus.

ORGANELLES: “Little Organs.” Certain structures in the cytoplasm where specific tasks are carried out.

PLASMA MEMBRANE: Another name for the cell membrane.

PROKARYOTIC CELLS: Cells of very primitive organisms such as bacteria and blue–green algae that lack nuclei.

PROTEINS: Chemicals made up of long chains of amino acids. Proteins build living material, help carry out chemical reactions, fight disease, and help transport things out of the cell.

RIBOSOMES: The organelles where proteins are made from amino acids.

VACUOLE: In plant cells the vacuole is a large sac that contains liquid. Selectively permeable membrane: a membrane that only allows certain substances to pass through.

Passive transport: the movement of substances across the plasma membrane without the use of the cell’s energy.

Diffusion: the movement of substances across a cell membrane from an area of high concentration to an area of lower concentration.

Osmosis: water across the plasma membrane from areas of high concentration of solute (the dissolved substance in the water) to areas of lower concentration (less of the dissolved substance in the water.)

Facilitated transport: occurs when a carrier molecule (similar to a tunnel) in the plasma membrane allows a substance to pass through it moving from the higher to the lower concentration of the substance but uses no energy in the process.

Carrier proteins: special proteins that form tunnel-like openings in cell membranes that make is easier for large molecules to diffuse.

Active transport: transport requires the use of the cell’s energy (ATP) and special carrier molecules to move substances across the plasma membrane.

Receptor Mediated Transport: when substances bind to specialized molecules on the cell surface before being engulfed

Endocytosis: the process by which large particles are brought into the cell. Amoeba feed by endocytosis.

Exocytosis: the process by which large particles leave the cell.

Pinocytosis: cells surrounding and absorbing liquids

Plasma (cell) membrane: flexible barrier that regulates what substances enter or leave a cell.

Isotonic: when the concentration of dissolved substances is the same on both sides of the membrane.

Hypotonic: a solution surrounding a cell has a lower concentration of the dissolved substance than the cell itself.

Hypertonic: a solution surrounding a cell has a higher concentration of the dissolved substance than the cell itself.

Solute: the dissolved substance in a solution.

Solvent: the dissolving substance in a solution Frequently is water.

SOURCE

http://cms.gavirtualschool.org/Shared/Science/BiologyI/Cells/3_Cell_and_Homeostasis_Vocabulary_KEY.pdf