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VOCABULARY LIST

NAME _____

Matter and Energy: Organization of Living Systems

Vocabulary List

The following words and terms used in the program may be unfamiliar to you. Try to listen for these terms while viewing the program. Pay close attention so you can later include them in your scientific descriptions, observations, and creative writing assignment activities.

Active sites - a groove on the surface of an enzyme that helps to catalyze a substrate.

ADP (adenosine diphosphate) - a molecule made up of adenosine and two phosphates.

Atom - the basic unit of matter.

ATP (adenosine triphosphate) - a molecule made up of adenosine and three phosphates.

Autotrophs - organisms that can produce their own food, such as plants and some microorganisms.

Calvin-Benson Cycle - a stage in the photosynthesis process.

Carbohydrate - a basic food group found in pasta, bread, and vegetables.

Carbon dioxide - a molecule in air necessary for photosynthesis. When there is too much carbon dioxide in the atmosphere, it can lead to the Greenhouse Effect and global warming.

Carnivore - an animal that only feeds on animal tissue.

Catalyze - to speed up a chemical reaction. Catalysts in cells are proteins called enzymes.

Cellular respiration - the chemical process in the cells in which glucose is broken down to capture ATP.

Chlorophyll - clusters of molecules found in the thylakoids of plant cells.

Chloroplasts - an organelle in the cells of leaves of plants where photosynthesis takes place.

DNA (deoxyribonucleic acid) - the molecule that contains hereditary material in the nucleus of every cell of an organism.

Electron transport chain - a phase in the process of cellular respiration.

Endergonic reactions - reactions in cells that build chemical bonds consuming energy.

Enzymes - proteins in cells that catalyze chemical reactions.

Exergonic reactions - reactions in cells that break down chemical bonds releasing energy.

Glucose - a sugary liquid produced by plants where ATP is stored.

Glycerol - found in lipids and other foods.

Glycolysis - part of the process of cellular respiration.

Heterotrophs - organisms that cannot produce their own food and consume autotrophs.

Krebs Cycle - a series of chemical reactions in cellular respiration.

Lipids - organic compounds consisting of fats.

Metabolism - the chemical process in living organisms in which food is processed into simpler substances so that it will release energy.

Mitochondria - an organelle in eukaryotic cells whose primary function is to convert glucose into ATP that can be used as energy.

Molecules - particles made up of two or more atoms.

Organelles - structures found in eukaryotic cells.

Photocenters - clusters of chlorophyll molecules in the thylakoids of plant cells.

Photons - quantum of light energy.



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Matter and Energy: Organization of Living Systems

VOCABULARY LIST (cont.)

Vocabulary List (cont.)

Photosynthesis - a process carried out by green plants and some microorganisms in which carbon dioxide, water, and sunlight are converted into ATP and glucose, releasing oxygen as a byproduct.

Protein - a fundamental building substances of living organisms.

Pyruvate - a three-carbon molecule that is yielded when glucose is broken down in the cellular respiration process.

Substrates - molecules entering into reactions with enzymes.

Thylakoids - flattened sacks within the chloroplasts of leaf cells where photosynthesis takes place.