GLOSSARY AND CREDITS

The cell is the basic unit of life. Your body has over a trillion cells, which all work to keep you alive. Cells produce the many different chemical reactions in the body that give you the energy to breathe, eat, sleep, and read this unit! How do cells produce this energy? You will learn about energy and how cells receive it, process it, and produce it, taking an in-depth look at photosynthesis and cellular respiration. You'll also see how energy flows in an ecosystem by studying food chains and webs.

VOCABULARY

activators	chemical mechanisms that activate or start a reaction
aerobic	occurring in the presence of oxygen
alcohol fermentation	the stage of respiration that occurs in anaerobic conditions in less complex organisms
anaerobic	occurring in the absence of oxygen
assimilation	cell activities associated with the utilization of food molecules and energy in life processes
autotroph	an organism that can make its own food
Calvin cycle	the dark reaction process of photosynthesis that uses carbon dioxide for the synthesis of carbohydrates
carotenoid pigment	a pigment ranging in color from yellow to red; helpful in capturing the Sun's light energy for use in photosynthesis
cellular respiration	a series of chemical reactions that break down sugars and produce energy
chlorophyll	a green pigment in plants that serves to trap the Sun's energy for photosynthesis

chloroplast	the tiny body that contains chlorophyll; part of the cell in which photosynthesis takes place
decomposers	bacteria and fungi that break down dead matter
dephosphorylation	when a phosphate is removed from a molecule; when a phosphate from ATP is removed to make ADP and a free phosphate molecule
ecosystem	the basic relationships that show how a community of plants, animals, and bacteria live and grow and how these living things are dependent on each other as well as the Sun, soil, and other nonliving parts of their environment; a cycle of relationships
electron transport chain	process that involves the third step in the chemical breakdown of glucose; transferring electrons to form ATP
entropy	the energy lost to disorder
fermentation	the stage of respiration that occurs in anaerobic conditions—for example, yeast fermentation
food chain	line of plants and animals that shows the order in which organisms are eaten
food web	a diagram that shows the connections among food chains in an ecosystem
glycolysis	process that involves the first step in the chemical breakdown of glucose; converting glucose to pyruvic acid
inhibitors	chemical mechanisms that prevent something from occurring
kinetic	related to or possessing motion
Krebs cycle	process that involves the second step in the chemical breakdown of glucose; converting pyruvic acid into carbon dioxide

Lactic Acid Fermentation	the stage of respiration that occurs in anaerobic conditions in animal cells
metabolic pathways	a chain of enzyme reactions within cells that break down or build molecules
metabolism	all of the chemical reactions in an organism required for maintenance of the processes of life
oxidation	a chemical reaction in which oxygen is combined with another substance
phosphorylation	when a phosphate is added to a molecule; when a phosphate is added to ADP to make ATP
photosynthesis	a process that involves the use of carbon dioxide and water in the production of glucose and oxygen using the Sun's energy
potential	possible; ability to go into action or perform work
primary consumer	organisms that eat producers
radiation	transfer of heat or energy through rays of various wavelengths
secondary consumer	organisms that eat primary consumers
tertiary consumer	predator that eats secondary consumers
thermodynamics	the study of energy and its transformations
Trophic Level	Feeding level within an ecosystem