

36. <b>active site</b>	where a substrate binds to an enzyme	17. <b>centi-</b>	metric prefix meaning one-hundredth (1/100)
68. <b>active transport</b>	the movement of a substance across a biological membrane against its concentration or electrochemical gradient, with the help of energy input and specific transport proteins.	79. <b>chlorophyll</b>	the principal pigment in plants
70. <b>adenosine triphosphate (ATP)</b>	an adenine-containing nucleoside triphosphate that releases free energy when its phosphate bonds are hydrolyzed. This energy is used to drive endergonic reactions in cells	59. <b>chloroplast</b>	organelle found in cells of plants and some other organisms that captures energy from sunlight and converts it into chemical energy
33. <b>adhesion</b>	force of attraction between different types of molecules	32. <b>cohesion</b>	attraction between molecules of the same substance
76. <b>aerobic</b>	"in air"	5. <b>control group</b>	group in an experiment that is exposed to the same conditions as the experimental group except for one independent variable
77. <b>anaerobic</b>	"without air"	12. <b>controlled experiment</b>	experiment in which only one variable in changed
29. <b>asexual reproduction</b>	a type of reproduction involving only one parent that produces genetically identical offspring by budding or by the division of a single cell or the entire organism into two or more parts.	37. <b>covalent bonds</b>	type of bond between atoms in which the electrons are shared
19. <b>atom</b>	the smallest unit of matter that retains the properties of an element	87. <b>cristae</b>	folds in the inner membrane of the mitochondrion; where the electron transport chain takes place
74. <b>autotroph</b>	an organism that obtains organic food molecules without eating other organisms; they use energy from the sun or from the oxidation of inorganic substances to make organic molecules from inorganic ones	47. <b>cytoplasm</b>	the entire contents of the cell exclusive of the nucleus and bounded by the plasma membrane; where glycolysis takes place
10. <b>bias</b>	a particular preference or point of view that is personal rather than scientific	3. <b>dependent variable</b>	variable that is observed and that changes in response to the independent variable; also called the responding variable
1. <b>biotechnology</b>	the industrial use of living organisms or their components to improve human health and food production	48. <b>diffusion</b>	the spontaneous tendency of a substance to move down its concentration gradient from a more concentrated to a less concentrated area
88. <b>calorie</b>	measure of heat energy in food; equivalent to 1000 calories; the amount of energy needed to raise the temperature of 1 gram of water 1 degree Celsius	42. <b>electron</b>	negatively charged particle; located in the space surrounding the nucleus
20. <b>carbohydrate</b>	a sugar (monosaccharide) or one of its dimers (disaccharides) or polymers (polysaccharides)	83. <b>electron transport chain</b>	series of electron carrier proteins that shuttle high-energy electrons during ATP-generating reactions
46. <b>cell</b>	a basic unit of living matter separated from its environment by a plasma membrane; the fundamental structural unit of life	54. <b>endocytosis</b>	the cellular uptake of macromolecules and particulate substances by localized regions of the plasma membrane that surround the substance and pinch off to form an intracellular vesicle
61. <b>cell membrane</b>	thin flexible barrier that surrounds all cells; regulates what enters & leaves the cell	67. <b>endoplasmic reticulum</b>	internal membrane system found in eukaryotic cells; place where lipid components of the cell membrane are assembled
71. <b>cellular respiration</b>	the most prevalent and efficient catabolic pathway for the production of ATP, in which oxygen is consumed as a reactant along with the organic fuel (sugars + O <sub>2</sub> --> H <sub>2</sub> O + CO <sub>2</sub> )	21. <b>enzyme</b>	a class of proteins serving as catalysts chemical agents that change the rate of a reaction without being consumed by the reaction
		55. <b>eukaryote</b>	an organism whose cells contain membrane-bound organelles and whose DNA is enclosed in a cell nucleus and is associated with proteins
		56. <b>exocytosis</b>	the cellular secretion of macromolecules by the fusion of vesicles with the plasma membrane

78. <b>fermentation</b>	process that forms either lactic acid or ethyl alcohol when no oxygen is present
72. <b>glycolysis</b>	the splitting of glucose into pyruvate. The one metabolic pathway that occurs in all living cells, serving as the starting point for fermentation or aerobic respiration
15. <b>gram</b>	basic metric unit of mass
75. <b>heterotroph</b>	an organism that obtains organic food molecules by eating other organisms or their by-products
8. <b>homeostasis</b>	relatively constant internal physical and chemical conditions that organisms maintain
39. <b>hydrogen bonds</b>	weak attraction between a hydrogen atom and another atom
6. <b>hypothesis</b>	possible explanation for a set of observations or possible answer to a scientific question
2. <b>independent variable</b>	factor in a controlled experiment that is deliberately changed; also called manipulated variable
4. <b>inference</b>	a logical interpretation based on prior knowledge & experience
38. <b>ionic bonds</b>	chemical bond formed when one or more electrons are transferred from one atom to another
44. <b>isotope</b>	one of several forms of a single element which contains the same number of protons but different numbers of neutrons
18. <b>kilo-</b>	metric prefix meaning one thousand (1000)
80. <b>Kreb's cycle</b>	second stage of cellular respiration in which pyruvic acid is broken down into carbon dioxide in a series of energy-extracting reactions; also called the citric acid cycle
82. <b>light dependent reactions</b>	set of reactions in photosynthesis that use energy from light to produce ATP and NADPH
81. <b>light independent reactions</b>	set of reactions in photosynthesis that do not require light; energy from ATP NADPH is used to build high energy compounds such as sugar; also called the Calvin cycle
22. <b>lipid</b>	one of a family of compounds including fats phospholipids and steroids that are insoluble in water; made up of glycerol and fatty acids
14. <b>liter</b>	basic metric unit of volume
66. <b>lysosome</b>	cell organelle that breaks down lipids carbohydrates and proteins into small molecules that can be used by the rest of the cell
86. <b>matrix</b>	innermost compartment of the mitochondrion; where the Kreb's cycle takes place

9. <b>metabolism</b>	the combination of chemical reactions through which an organisms build up or breaks down materials; the totality of an organism's chemical processes, consisting of catabolic and anabolic pathways
13. <b>meter</b>	basic metric unit of length
16. <b>milli-</b>	metric prefix meaning one-thousandth (1/1000)
58. <b>mitochondrion</b>	cell organelle that converts the chemical energy stored in food into compounds that are more convenient for the cell to use
23. <b>molecule</b>	two or more atoms held together by covalent bonds
24. <b>monomer</b>	the subunit that serves as the building block of a polymer
64. <b>multicellular</b>	organism consisting of many cells; most protists fungi plants and animals
43. <b>neutron</b>	particles with no charge; located with protons in the nucleus
25. <b>nucleic acid</b>	a polymer consisting of many nucleotide monomers; serves as a blueprint for proteins and, through the actions of proteins, for all cellular activities. The two types are DNA and RNA
45. <b>nucleotide</b>	subunit of which nucleic acids are composed; made up of a 5-carbon sugar a phosphate group and a nitrogenous base
60. <b>nucleus</b>	in cells: structure (surrounded by the nuclear envelope) that contains the cells genetic material in the form of DNA which is found in a dense region called the nucleolus
11. <b>observation</b>	process of noticing or describing events or process in a careful orderly way
49. <b>organ</b>	a specialized center of body function composed of several different types of tissues
50. <b>organelle</b>	one of several formed bodies with a specialized function, suspended in the cytoplasm and found in eukaryotic cells
51. <b>organism</b>	an individual living thing such as a bacterium, fungus, protist, plant or animal
52. <b>osmosis</b>	The diffusion of water across a selectively permeable membrane
69. <b>passive transport</b>	the diffusion of a substance across a biological membrane.
63. <b>phagocytosis</b>	a type of endocytosis in which extensions of the cytoplasm surround a particle and [package it within a food vacuole

73.	<b>photosynthesis</b>	the conversion of light energy to chemical energy that is stored in glucose or other organic compounds; occurs in plants, algae, and certain prokaryotes ( $\text{H}_2\text{O} + \text{CO}_2 \xrightarrow{\text{light}} \text{sugars} + \text{O}_2$ )
26.	<b>polymer</b>	a large molecule consisting of many identical or similar monomers linked together
35.	<b>product</b>	elements or compounds produced by a chemical reaction
57.	<b>prokaryotic cell</b>	A type of cell with a membrane-enclosed nucleus and membrane-enclosed organelles, present in protists, plants, fungi, and animals; also called eukaryote.
27.	<b>protein</b>	a three-dimensional biological polymer constructed from a set of 20 different monomers called amino acid
41.	<b>proton</b>	positively charged particle; located with the neutrons in the nucleus
34.	<b>reactant</b>	elements or compounds that enter into a chemical reaction
62.	<b>ribosome</b>	cell organelle consisting of RNA and protein found throughout the cytoplasm in a cell; the site of protein synthesis
30.	<b>sexual reproduction</b>	a type of reproduction in which two parents give rise to offspring that have unique combinations of genes inherited from the gametes of the two parents.
28.	<b>solute</b>	a substance that is dissolved in a solution
31.	<b>solvent</b>	dissolving substance in a solution
85.	<b>stroma</b>	fluid portion of the chloroplast; outside of the thylakoids; where the light independent reactions take place
7.	<b>theory</b>	well-tested explanation that unifies a broad range of observations and hypotheses and enables scientists to make accurate predictions about new situations
84.	<b>thylakoid</b>	saclike photosynthetic membranes found in the chloroplast; arranged in stacks called grana; where the light reactions take place
53.	<b>tissue</b>	an integrated group of cells with a common structure and function
65.	<b>unicellular</b>	organism consisting of one cell; prokaryotes (bacteria) & some protists
40.	<b>van der Waals forces</b>	slight attraction that develops between oppositely charged regions of nearby molecules