

BIOLOGY TERMS AND CONCEPTS TO KNOW: 2010-2011

1. Prokaryote – unicellular organism; bacteria; lacks a true nucleus but does contain dna; cell membrane and often a flagellum
2. Eukaryote –plant, animal, protozoa and fungal cells; complex and organized; organelles; true nucleus
3. Element – pure chemical substance consisting of just one type of atom
4. Carbon – element found in all living organisms
5. Nitrogen – element found in proteins and DNA; cycled through ecosystems via nitrogen fixing bacteria
6. Oxygen – element in living things, needed for cellular respiration in plants and animals
7. Biotic Factor – living factors ie. Plants, animals, bacteria, protozoans, yeast...etc
8. Abiotic Factor – nonliving factors ie. Wind, rain, pH, temperature, salinity..etc
9. Atom -the smallest component of an element having the chemical properties of the element
10. Molecule – groups of atoms held together by chemical bonds; organic molecules, ex. Glucose, sucrose, amylase
11. Monomer -a simple compound whose molecules can join together to form polymers; ex. Glucose is a monomer
12. polymer -A polymer is a large molecule (macromolecule) composed of repeating structural units typically connected by covalent chemical bonds; cellulose is a complex carbohydrate
13. Carbohydrate – organic molecule that contains C, H, and O; provide organisms with quick energy; glucose is a carbohydrate
Used in cellular respiration to make ATP energy; Largely exist in plants, plants use the sunlight to make glucose in photosynthesis
subunits =monosaccharides, ex. glucose
14. Fat – lipids; organic molecule consisting of glycerol and fatty acids; provide long term energy; make up the lipid bilayer of
The cells membrane; fat provides insulation and protection in the body; ex. Oil; wax; butter; glycerol
Saturated (difficult for your body to break down) and unsaturated fats (healthier for you)
15. Protein – organic molecule; C, H, O, N; subunits = amino acids; made in the cell by the ribosome;
made from the instructions of the cells DNA therefore proteins carry out the expressions of our genes;
found in our cell membrane (“protein doors”); found in meat and beans; Enzymes are proteins
16. Nucleic acid – found in DNA and RNA; used to make proteins in your cells; genotype
Subunit = nucleotides
17. Glycerol – subunit of a lipid
18. Glucose – subunit of a carbohydrate; monosaccharide; created in plants via photosynthesis; broken down in eukaryotic
Cells in the mitochondria via cellular respiration
19. Nucleotide – subunit of a nucleic acid; consists of a sugar, phosphate and nitrogen base
20. Sucrose – carbohydrate; complex sugar; table sugar

21. Fructose - Fructose is a simple monosaccharide found in many foods. It is a white solid that dissolves readily in water. Honey, tree fruits, berries, melons, and some root vegetables contain significant amounts of the fructose
22. Cellulose – complex carbohydrate found in plants; stems and leaves of plants; plants store the glucose they make in Photosynthesis as cellulose
23. Starch – carbohydrate in plants; plants can store the glucose they make as starch; pasta and breads
24. Wax –lipid (fat)
25. Enzyme – protein that speeds up chemical reactions in the body
26. Dehydration synthesis – removing a water molecule to create a chemical reaction; monomers come together to make a polymer
27. Hydrolysis- adding a water molecule to create a reaction; polymer → monomers
28. Active site – place on an enzyme where a substrate attaches
29. Substrate – substance an enzyme breaks down
30. denature – when an enzyme changes its shape
31. Catalyst (catalyze)- an agent that speeds up a chemical reaction; ex. Adding heat, mixing, or enzyme presence
32. Mitochondria- organelle in plant and animal cells where cellular respiration occurs; oxygen and glucose is broken down To make ATP energy, water, and carbon dioxide waste
33. Golgi bodies – modifies and packages proteins and lipids; gets them ready for export so they can move to where they need To go in order to carry out their function
34. Lysosome – vesicle that contains digestive enzymes
35. Endoplasmic reticulum- looks like a set of winding tubes; ribosomes are attached to the Rough ER; ribosomes are the site of protein production; the ER transports the proteins made
36. centriole - pair of small cylindrical cell organelles near the nucleus in animal cells; composed of microtubules and form the asters during mitosis
37. Vacuole – sack that stores water and nutrients; larger in plant cells
38. Microtubule - all tubes made of protein and found in cells and is part of the cytoskeleton
39. Microfilament - actin filaments are the thinnest filaments of the cytoskeleton found in the cytoplasm of all eukaryotic cells.
40. Cilia- Tiny hairs that are used by cells to create a water current
41. flagella - a tail-like projection that protrudes from the cell body of certain prokaryotic and eukaryotic cells and functions in locomotion
42. Cell wall - A cell wall is a tough, usually flexible but sometimes fairly rigid layer that surrounds Plant cells. It is located outside the cell membrane and provides these cells with structural

	support and protection, and also acts as a filtering mechanism.
43.	Chloroplast – organelle found in plants cells; site of photosynthesis; plant cells usually have multiple centrioles
44.	Nucleus – organelle where DNA is located; chromosomes contain the nucleic acid; humans have 46 chromosomes
45.	ribosome – site of protein synthesis
46.	Endosymbiotic theory - the theory concerns the origins of mitochondria and plastids (e.g. chloroplasts), which are organelles of eukaryotic cells. According to this theory, these organelles originated as separate prokaryotic organisms that were taken inside the cell and later became part of the cell
47.	Plant cell – eukaryotic cell that is different from animals in that it has a cell wall and chloroplasts; generally a large vacuole
48.	Animal cell - eukaryotic cell that has mitochondria but no cell wall and no chloroplasts
49.	Diffusion – the movement of smaller particles into or out of a cell with the concentration gradient (movement from high to low concentration until equilibrium is reached)
50.	Osmosis – the diffusion of water; movement of water from high to low concentration until equilibrium is reached
51.	Active transport – transport into or out of the cell that occurs against the concentration gradient REQUIRES ENERGY
52.	Endocytosis - process by which cells absorb molecules (such as proteins) from outside the cell by engulfing it with their cell membrane; type of active transport
53.	Photosynthesis – the process in which plant cells obtain food; occurs in the chloroplast; sunlight, carbon dioxide and water react to produce glucose (food) and oxygen ; the plants can use this glucose to perform cellular respiration
54.	Stomata - pore, found in the leaf and stem epidermis that is used for gas exchange.
55.	respiration - respiration (or just breathing) is defined as the transport of oxygen from the outside air to the cells within tissues, and the transport of carbon dioxide in the opposite direction.
56.	Cellular respiration – occurs at the mitochondria of all eukaryotic cells; how cells use oxygen and glucose to produce ATP energy, carbon dioxide (waste) and water
57.	Anaerobic cellular respiration
58.	Meiosis
59.	Mitosis
60.	Asexual reproduction
61.	Cell cycle
62.	DNA
63.	DNA Replication

64. Protein Synthesis

65. Transcription

66. Translation

67. Mutation

68. Dominant

69. recessive

70. Heterozygous

71. Homozygous

72. Genotype

73. Phenotype

74. dominant

75. Law of segregation

76. Law of independent assortment

77. Zygote

78. Virus

79. Pharynx

80. Esophagus

81. Stomach

82. Small intestine

83. Large intestine

84. Rectum

85. Gallbladder

86. Heart

87. Arteries

88. Veins

89. Capillaries

90. Red blood cells

91. Kidney

92. Liver

93. Nose

94. Larynx

95. Trachea

96. Lungs

97. Alveoli

98. Brain

99. Spinal cord

100. Sensory neurons

101. Motor neurons

102. Skeletal muscle

103. Smooth muscle

104. Cardiac muscle

105. Bone

106. Cartilage

107. Ligaments

108. Tendons

109. Gonads

110. thyroid
111. Homeostasis
112. evolution
113. adaptation
114. Natural selection
115. producer
116. Food web
117. Food chain
118. Energy pyramid
119. Consumer
120. Trophic level
121. Symbiosis
122. Mutualism
123. Commensalisms
124. Competition
125. Decomposer
126. Nitrogen fixing bacteria
127. succession
128. independent variable
129. dependent variable
130. control group