

## Grade 11 Biology Exam Review: CELLS and DIGESTION

1. \_\_\_\_\_ Herbivores lack canines.
2. \_\_\_\_\_ The major building block of DNA is the nucleotide.
3. \_\_\_\_\_ Photosynthesis is performed by animal cell organelles called chloroplasts.
4. \_\_\_\_\_ Amyloplasts and leukoplasts are examples of plastids.
5. \_\_\_\_\_ Amino acids are the building blocks of carbohydrates.
6. \_\_\_\_\_ The cardiac sphincter controls entry of materials to the stomach.
7. \_\_\_\_\_ The layer of the esophagus most distal to the lumen is the muscularis.
8. \_\_\_\_\_ Total magnification of a light microscope = ocular mag./objective mag.
9. \_\_\_\_\_ The major building block of the cell membrane is the phospholipid.
10. \_\_\_\_\_ Phospholipids have a hydrophobic phosphate head group and 2 hydrophilic lipid tails.
11. \_\_\_\_\_ Cell identity is performed by glycoproteins in the cell membrane.
12. \_\_\_\_\_ Oxygen is needed for all 3 stages of cell respiration.
13. \_\_\_\_\_ The stages of cell respiration in correct order is: Glycolysis, ETS, Krebs's cycle.
14. \_\_\_\_\_ The organelle that produces the most ATP is the mitochondrion.
15. \_\_\_\_\_ More mitochondria would be found in fat tissue than in heart tissue.
16. \_\_\_\_\_ Enzymes to destroy ingested cellular material are found in the nucleolus.
17. \_\_\_\_\_ Proteins are produced by ribosomes which normally attach to the ER.
18. \_\_\_\_\_ Ions, water, and food are stored in vacuoles in the ER.
19. \_\_\_\_\_ There are 5 major animal tissues including epithelial tissue which lines cavities.
20. \_\_\_\_\_ If a disaccharide is split, 2 monosaccharides and 1 water molecule are produced.
21. \_\_\_\_\_ Monosaccharides are linked by dehydration synthesis reactions.
22. \_\_\_\_\_ Adenosine tripyruvate is the major high energy molecule produced in cell respiration.
23. \_\_\_\_\_ Energy is constantly provided to living things from the sun and plants use the energy to make carbon compounds which cycle from organism to organism.
24. \_\_\_\_\_ Stomach acids entering the duodenum are neutralized by pancreatic lipase.
25. \_\_\_\_\_ CCK (cholecystikinin) causes the gall bladder to release its stored bile.
26. \_\_\_\_\_ Bile aids in the digestion of fat.
27. \_\_\_\_\_ Lipase breaks down fat into 3 glycerols and 1 fatty acid.
28. \_\_\_\_\_ A cell placed in a hypotonic solution will swell as it gains solutes.
29. \_\_\_\_\_ Passive transport requires energy for molecules to move down the concentration gradient.
30. \_\_\_\_\_ Polysaccharides like starch are made of many monosaccharides like maltose.
31. \_\_\_\_\_ The endoplasmic reticulum transports materials throughout the cytoplasm.
32. \_\_\_\_\_ Physical and chemical digestion begin in the stomach and most absorption of nutrients occurs in the small intestine by the villi.
33. \_\_\_\_\_ The term "lateral" refers to "side" and "ventral" refers to "belly".
34. \_\_\_\_\_ Villi are finger-like extensions of the mucosa found in the stomach and small intestine.
35. \_\_\_\_\_ The removal of a defective gene and insertion of a functional gene is called amniocentesis.
36. \_\_\_\_\_ In the mouth, the tongue rolls food into a bolus for swallowing.
37. \_\_\_\_\_ Primitive cells which lack a membrane-bound nucleus are called eukaryotes.
38. \_\_\_\_\_ Centrioles produce spindle fibres which attach to the centromeres of chromosomes.
39. \_\_\_\_\_ Oxygen is not required for fermentation reactions and humans normally perform alcoholic fermentation of glucose in anaerobic conditions.
40. \_\_\_\_\_ Fermentation reactions in humans occur in the cytoplasm and produce 2 ATP.
41. \_\_\_\_\_ Blockage of the bile duct by gall stones can cause jaundice during which the skin turns black.
42. \_\_\_\_\_ The esophagus, stomach, and small intestine all have 2 muscle layers in the muscularis.
43. \_\_\_\_\_ Glycoproteins are molecules in the membrane composed of protein and fat.
44. \_\_\_\_\_ Glucose + fructose ----> maltose.
45. \_\_\_\_\_ Many amino acids linked together ----> protein.
46. \_\_\_\_\_ Glycerol + 3 fatty acids ----> triglyceride.
47. \_\_\_\_\_ In DNA, the bases are attached to the phosphate groups.
48. \_\_\_\_\_ Lactose ----> glucose and galactose.
49. \_\_\_\_\_ The enzyme ligase splits the DNA molecule apart and gyrase adds new nucleotides to the separated strands.

50. \_\_\_\_\_ Most ATP is produced by the ETS (which occurs in the matrix of mitochondria) during cell respiration.
51. \_\_\_\_\_ Glycolysis is the first stage of cell respiration which breaks down glucose into pyruvate in the cytoplasm and produces 2 ATP.
52. \_\_\_\_\_ The sodium-potassium pump is an example of facilitated diffusion and moves 2 Na<sup>+</sup> ions out of a cell and 3 K<sup>+</sup> ions into a cell.
53. \_\_\_\_\_ Facilitated diffusion is the movement of charged materials (ie. Na<sup>+</sup>) down a concentration gradient directly through the phospholipid bilayer.
54. \_\_\_\_\_ Phagocytosis is a type of endocytosis and requires ATP.
55. \_\_\_\_\_ Pepsin digests proteins in the stomach in requires a basic pH.
56. \_\_\_\_\_ Trypsinogen is the inactive form of trypsin which acts in the small intestine and breaks down fats.
57. \_\_\_\_\_ Proteins can be detected using Biuret solution which turns purple in a positive test.
58. \_\_\_\_\_ Starch can be detected using Benedict's solution which, when heated, turns orange-red.
59. \_\_\_\_\_ True herbivores lack incisors and have short digestive tracts.
60. \_\_\_\_\_ Actual size of a specimen = # of specimens fitting across/field of view used.