

Unit 4 Test Review

Name: Answer Key Date: _____ Hr: _____ Test #: _____

1. Fill in the table.

	MONOCOTS	DICOTS
Seed Leaf	One	Two
Vascular Bundles	Scattered	Arranged in a ring
Venation	Parallel	Net-like
Flower Parts	Multiples of 3	4 to 5 petals

2. What is the female plant reproductive structure called? And what are its parts? Pistil:
Stigma, style, ovary
3. What is the male plant reproductive structure called? And what are its parts? Stamen:
Anther, Filament
4. What are heterotrophs? organisms that consume other organisms for energy
5. What are autotrophs? organisms that make their own food
6. What is the role of chlorophyll in photosynthesis? Absorb light energy
7. What is the equation for photosynthesis?
 $6\text{CO}_2 + 6\text{H}_2\text{O} + \text{light energy} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$
8. What are the two stages in photosynthesis and where does each take place? Light-Dependent - Thylakoid, Calvin Cycle - Stroma
light-independent
9. What are the inputs in the light-dependent reactions? light and water (H₂O)
10. What is produced by the light-dependent reactions? Oxygen
11. What are the products of the light reactions that provide energy for the Calvin Cycle? ATP and NADPH
12. Define granum. Stack of thylakoids
13. Define stroma. Region outside of the thylakoids/location of
14. Where is the stroma located? Region outside of the thylakoids
15. What is the first step of photosynthesis? Pigments in photosystem II absorb light
16. What are the inputs in the Calvin Cycle? CO₂
17. What is produced by the Calvin Cycle? C₆H₁₂O₆ glucose
18. What is the chemical equation for cellular respiration?
 $6\text{O}_2 + \text{C}_6\text{H}_{12}\text{O}_6 \rightarrow 6\text{H}_2\text{O} + 6\text{CO}_2 + \text{ATP}$
19. What are the reactants for cellular respiration? oxygen (O₂) and glucose (C₆H₁₂O₆)
20. What are the products for cellular respiration? water (H₂O), carbon dioxide (CO₂), ATP

21. What are the three steps of cellular respiration and in what order do they occur? Glycolysis → Krebs Cycle → Electron Transport
22. What happens in glycolysis? Net gain of 2 ATP, 2 molecules of pyruvic acid, a molecule of glucose is split
23. Where does glycolysis occur? Cytoplasm
24. When is energy released from ATP? a phosphate group is removed
25. What is the difference between ATP and ADP? ATP has 3 phosphate groups and ADP has 2 phosphate groups
26. How many ATP are produced in glycolysis? 2
27. What is the starting molecule for glycolysis? glucose
28. What is the starting molecule for the Krebs cycle? pyruvic acid
29. Where do the Krebs cycle and electron transport chain occur? Mitochondria
30. In what process does a 2-carbon molecule combine with a 4-carbon molecule to form citric acid? the Krebs Cycle
31. How many ATP are produced in cellular respiration using one molecule of glucose? 38
32. What are the two types of fermentation? Alcoholic, Lactic Acid
33. Where does lactic acid occur? Muscle cells
34. Which fermentation makes bread rise? Alcoholic Fermentation
35. What is produced during extensive exercise in the human body in the absence of oxygen? Lactic acid fermentation
36. What is the difference between aerobic and anaerobic? Aerobic - oxygen is present ; anaerobic - oxygen is NOT present

Additional

- The source of oxygen produced during photosynthesis is water.