

Photosynthesis Unit Test Review Questions

Name _____

1. What is the process that produces glucose/sugars from carbon dioxide and water?
2. What kinds of organisms perform photosynthesis? What kinds of organisms do not?
3. The reactants of photosynthesis are...
4. The products of photosynthesis are...
5. The energy source plants use to accomplish photosynthesis is...
6. Photosynthesis occurs in the _____ of the plant, and in the _____ of the plant cells.
7. Where do plants store food they do not immediately use?
8. How does a perennial plant or tree (one that lives for many seasons) survive through the winter months, after its leaves have fallen off?
9. The green chemical pigment that captures the sun's energy like a solar panel is called _____.
10. Inside the plant, glucose is combined with other nutrients/minerals to produce:
11. Glucose storage molecules are called _____.
12. What process breaks down glucose to releases ATP energy for the plant?
13. Where does a plant get the carbon dioxide it needs for photosynthesis?
14. Where does a plant get the water it needs for photosynthesis?
15. What happens to the oxygen produced by photosynthesis?
16. How do you know that plants use energy?
17. What is the role of plants and the food they make in the food chain?
18. Chlorophyll in the plant transforms solar/light energy into _____ energy that the plant can use.
19. Plants are _____ in the food chain, because they make their own food.
20. What are three functions of plant roots
21. What are three functions of the plant stem?
22. How is the Law of Conservation of Matter demonstrated in the photosynthesis reaction?
23. What are three pieces of evidence that determine that photosynthesis is a chemical reaction?
24. What cell structure is a doorway for gases to enter and exit the leaf? Which gases enter from and which gases exit the leaf to the atmosphere.
25. Draw the molecules of the reactants of photosynthesis. (just one of each)

ANSWER KEY TO PHOTOSYNTHESIS REVIEW QUESTIONS

1. photosynthesis
2. plants and some kinds of bacteria perform photosynthesis. Animals, insects, viruses and most bacteria do not.
3. carbon dioxide and water
4. glucose and oxygen
5. sunlight
6. leaf, chloroplast
7. roots, stem, leaves and fruits
8. Plants draw energy from the food they have stored over the winter when they cannot do photosynthesis.
9. chlorophyll
10. carbohydrates (including sugars and starches), cellulose, proteins and lipids
11. starches
12. cell respiration
13. air/atmosphere
14. moisture in the soil, through the roots
15. excess oxygen is released through the stomata
16. plants use energy to grow and reproduce
17. plants provide food for all organisms in a food chain: herbivores that eat plants and the carnivores that eat the herbivores.
18. chemical energy
19. plants are producers
20. roots anchor the plant in the ground, absorb water and minerals from the soil and store food.
21. stems hold the plant up, transport water and nutrients, and store food
22. In photosynthesis, the Law of Conservation says that the 6 Carbon atoms, 12 Hydrogen atoms and 18 Oxygen atoms present in the reactants are still present in the products; they are just rearranged into new molecules. No atoms are lost or gained in the reaction.
23. formation of a gas (Oxygen), change in energy (absorbs light), new substance formed (glucose and oxygen gas)
24. stomata; carbon dioxide enters, water vapor and oxygen gas exit
25. Carbon dioxide: $O=C=O$

Water:

