Photosynthesis

Name: _______________________________ Date: ________________

1. During the photochemical reactions that occur during photosynthesis, light energy is used primarily to
   A. chemically combine carbon and oxygen  B. chemically combine hydrogen and carbon dioxide
   C. split water into hydrogen and oxygen  D. split methane into glucose molecules

2. The raw materials used by green plants for photosynthesis are
   A. oxygen and water  B. oxygen and glucose
   C. carbon dioxide and water  D. carbon dioxide and glucose

3. Which statement correctly describes part of the photosynthetic process in plants?
   A. Oxygen is used in the dark reactions.  B. Carbon dioxide is released in the dark reactions.
   C. Water is split in the light reactions.  D. Alcohol is produced by the light reactions.

4. Most of the oxygen that enters the atmosphere results from the process of
   A. respiration  B. fermentation  C. transpiration  D. photosynthesis

5. An important function of chlorophyll molecules during photosynthesis is
   A. absorbing and storing water in root cells  B. converting water into carbon dioxide
   C. absorbing certain wavelengths of light energy  D. converting chemical bond energy to light energy

6. In the reactions of photosynthesis, simple sugar molecules are manufactured in the
   A. chloroplasts  B. mitochondria  C. stomates  D. vacuoles
Photosynthesis

7. Which process is an outcome of photosynthesis?
   A. Complex molecules are broken down to form simple molecules.
   B. Water is absorbed into the root hairs.
   C. Light energy is converted into chemical energy.
   D. Water is transported through vascular tissue.

8. Which organelles must be present within a cell of a geranium leaf for respiration and photosynthesis to occur?
   A. cell wall and lysosome
   B. mitochondrion and chloroplast
   C. centrosome and nucleus
   D. endoplasmic reticulum and ribosome

9. Which substances must a green plant obtain from its environment to carry on photosynthesis?
   A. glucose and water
   B. oxygen and chlorophyll
   C. carbon dioxide and water
   D. carbon dioxide and oxygen

10. Which is a raw material required by plants for the light reactions of photosynthesis?
    A. glucose
    B. water
    C. oxygen
    D. PGAL

11. Photosynthesis is the process by which
    A. the potential energy of glucose is transferred to ATP molecules
    B. glucose is gradually broken down to form lactic acid or alcohol
    C. two glucose molecules combine to form maltose and water
    D. light energy is converted into the chemical energy of glucose
Photosynthesis

12. Carbon fixation is represented by

A. light reactions, only
B. dark reactions, only
C. both light reactions and dark reactions
D. neither light reactions nor dark reactions

13. Which reactions require oxygen as a raw material?

A. light reactions, only
B. dark reactions, only
C. both light reactions and dark reactions
D. neither light reactions nor dark reactions

14. The picture shown represents some metabolic activities in a chloroplast. Which substance diffuses in the direction of arrow 1 after it is formed in the structure represented in area A?

A. carbon dioxide
B. glucose
C. oxygen
D. starch

15. Which organelle is correctly paired with its function?

A. nucleus—provides carbohydrates for fermentation
B. chloroplasts—serves as a site for photosynthesis
C. centriole—synthesizes digestive enzymes
D. lysosome—packages cellular products
16. One immediate cause of a decrease in the rate of photosynthesis is a reduction in the availability of

A. carbon dioxide  
B. carbon monoxide  
C. hydrogen  
D. nitrogen
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