

Photosynthesis Vocabulary

Directions: Match the terms with the definitions below.

photons
stoma
phloem
granum
carbon

chloroplast
xylem
thylakoid
stroma
chlorophyll

1. After sucrose is manufactured in the leaf, it is carried via the _____ to feed the rest of the plant.
2. You can find the element _____ in diamonds, coal, and wood.
3. A plant can lose a lot of water during a hot day, which is why each _____ closes during the hottest part of the day, and opens in the cooler evenings.
4. _____ absorbs most of the colors of light waves, except the green, which bounces back off.
5. The thylakoid membranes are found in stacks called _____.
6. Water travels from the ground up through the plant's stem through the _____.
7. The light reactions take place inside the chloroplast within the _____ membrane.
8. The organelle that harvests light energy is the _____.
9. The _____ is the watery matrix where the dark reactions of photosynthesis take place.
10. _____ originate on the sun's surface and travel to earth in waves.

Photosynthesis Quiz

Directions: Write the letter of the best answer in the space provided, or write true or false for each statement.

1. _____ Which of the following is the best definition of a photon?
 - a. package of light energy that travels in waves
 - b. burst of fire found on the sun
 - c. ultraviolet light
 - d. oxidation of energy

2. _____ True or False? Photosynthesis is the process of converting light energy to chemical energy.

3. _____ True or False? Photosynthesis takes place mainly in a plant's stem and root system.

4. _____ Which of the following is the chemical equation representing photosynthesis?
 - a. $ADP-3 + pi-2 + H + H_2O$
 - b. $ATP-4 + H_2O$
 - c. $6 CO_2 + 6 H_2O \rightarrow C_6H_{12}O_6 + 6 O_2$
 - d. $ADP + 6 H_2O \rightarrow C_6H_{12}O_5 + 6 H_2O$

5. _____ Which of the following is the substance that allows photosynthesis to occur?
 - a. sucrose
 - b. chlorophyll
 - c. lactose
 - d. all of the above

6. _____ What are the two life-sustaining by-products of photosynthesis?
 - a. sunlight and oxygen
 - b. carbon dioxide and oxygen
 - c. water and oxygen
 - d. oxygen and sugar

7. _____ What are the openings found on the underside of the leaf called?
 - a. stroma
 - b. stomata
 - c. chloroplast
 - d. palisade mesophyll

8. _____ What is the organelle called where photosynthesis takes place?
- a. chlorophyll
 - b. epidermis
 - c. thylakoid membrane
 - d. chloroplast
9. _____ Where do the light reactions of photosynthesis take place?
- a. the inner membrane of the chloroplast
 - b. the thylakoid membrane
 - c. the Calvin-Benson cycle
 - d. the electron of NADPH
10. _____ The light harvesting reaction centers of the chloroplast are known as _____.
- a. a hydrogen molecule
 - b. an oxidation
 - c. a photosystem
 - d. a phloem
11. _____ The sugar assembly takes place in the _____.
- a. stroma
 - b. granum
 - c. mesophyll
 - d. all of the above
12. _____ True or False? It takes six molecules of water plus six molecules of carbon dioxide to produce one molecule of sugar plus six molecules of oxygen.
13. _____ True or False? ATP is produced as a result of the build-up of hydrogen ions.
14. _____ True or False? The light reactions are also known as the Calvin – Benson cycle.