

CHAPTER 8.1—8.2: Photosynthesis—Light Reactions

1. What role do autotrophs fill in the biosphere?

2. Indicate the role of each structure within the leaf:

a. stomates _____

b. thylakoid membranes _____

c. stroma _____

3. What is the source of oxygen released from photosynthesis?

4. In the overview of photosynthesis, indicate the most significant function of:

a. Light reaction _____

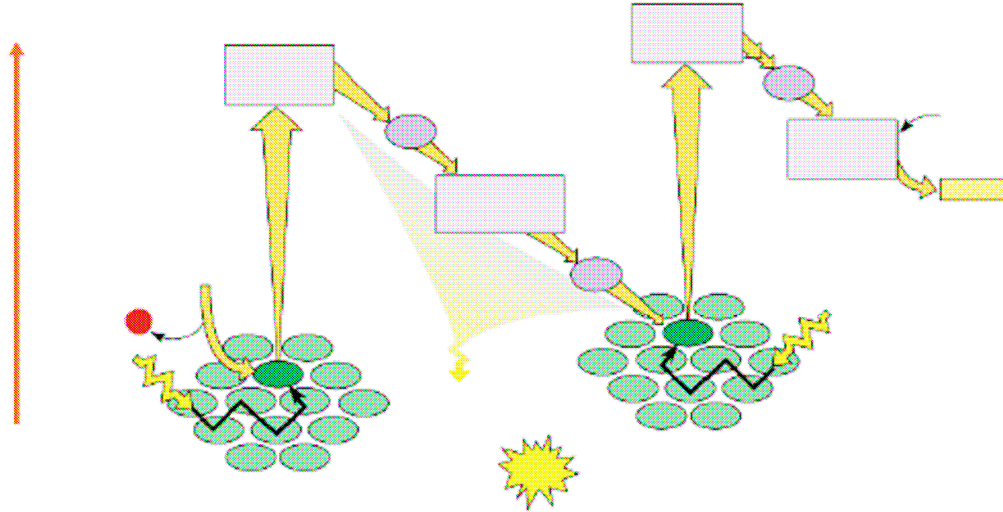
b. Calvin cycle _____

5. Light is a form of energy known as _____ and visible light has a wavelength range of _____ .

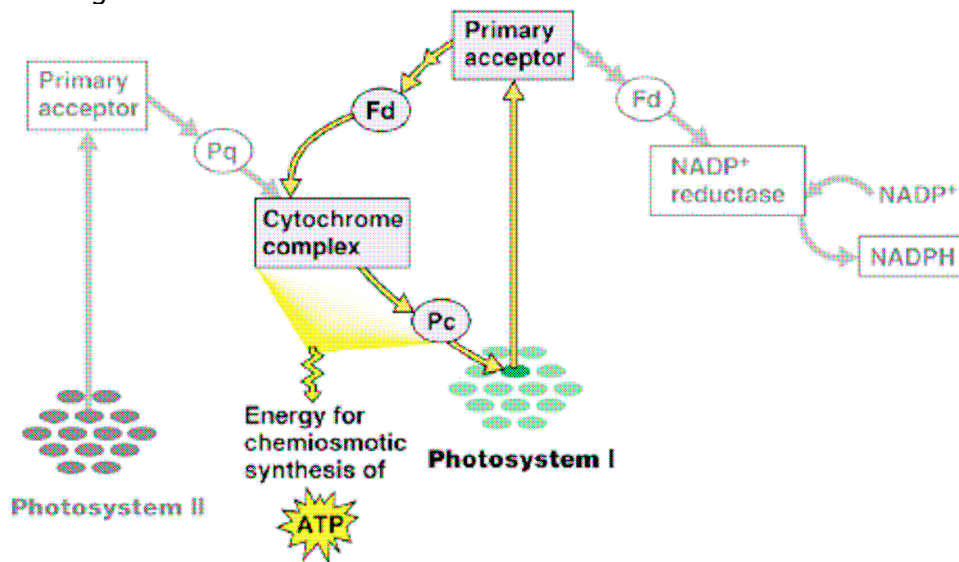
6. The porphyrin ring of chlorophyll contains the element _____

7. What does chlorophyll do when excited by photons? _____

8. Label the diagram and explain the difference between Photosystem I and Photosystem II.



9. With 2 different colored pencils, follow the energy paths of both noncyclic and cyclic electron flow in the diagram.



10. How does cyclic differ from noncyclic photophosphorylation?

Name: _____

Note Set 19

11. To generate ATP, chloroplasts rely on the ETC to _____
and ATP is synthesized when: _____

12. Within the thylakoid membrane and stroma, indicate what happens to each of the following:

a. water _____

b. high energy electrons _____

c. H^+ _____

d. oxygen _____

e. $NADP^+$ _____

f. ADP _____

13. Where in the chloroplast is the H^+ concentration highest? _____
