Guided Reading Notes (*Photosynthesis*)-**Section 8.1-8.3**

Name _____
Date _____ Period ____

Section 8.1

1. What is the chemical equation for photosynthesis?

2. Explain the experiment that confirmed Van Niel's hypothesis that the oxygen a plant expels as a photosynthesis byproduct has come from water.

3. Create a visual summary of what happens to the atoms in photosynthesis. (See figure 8.4)

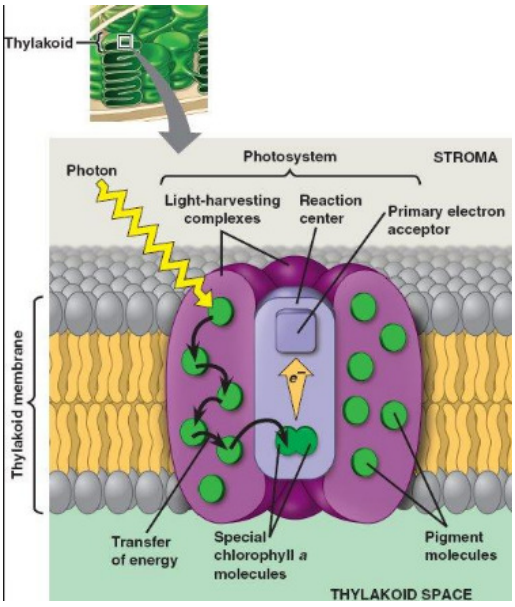
4. Key paragraph that summarized the light reactions. (See last paragraph on p. 158) and fill in the blanks.

   The light reactions are the steps of photosynthesis that convert _____ energy into _____ energy. _____ is split, providing a source of _____ and protons and giving off _____ as a by-product. Light absorbed by _____ drives a transfer of _____ and hydrogen ions from _____ to an acceptor called _____, where they are temporarily stored.

Section 8.2

5. How are chlorophyll a and chlorophyll b used in photosynthesis?

6. Create a descriptive caption for the visual below.



7. Which comes first: photosystem I or photosystem II? WHY?

8. How do chemiosmosis in the mitochondria and chloroplast compare? (Summarize what's happening!)

9. Look at figure 8.16, what are the 2 products that are carried to the Calvin Cycle?

Section 8.3

10. Is the Calvin cycle a catabolic or anabolic pathway? Why? (What's being built or broken?)

11. What are the 3 phases of the Calvin Cycle and what is the key goal of each step?

12. What distinguishes C_3 plants (the most common type) from a C_4 plant or CAM plant? What's unique about these other two types of plants?

13. Read through p. 171—"The Importance of Photosynthesis: A Review" and summarize the key points below.

Last task—check out "Figure 8.9 Inquiry" on p. 161. Caption the diagram parts and rewrite the conclusion.