**CHAPTER 8: CELLULAR ENERGY RFC #2b**

\* Read the following questions, **THEN** read from Chapter 8 p. 226-227, **THEN** answer the following questions on your own paper in complete sentences. ***ANSWERS ARE NOT IN ORDER, YOU MUST READ FIRST!***

1. Why is phase two, the Calvin cycle, required in photosynthesis?
2. What is another name for the Calvin Cycle?
3. What is a phytochemist and what do they do?
4. Describe what is occurring in step 1 of the Calvin cycle. Be sure to include what is carbon fixation.
5. In the second step of the Calvin Cycle, what do ATP and NADPH supply **AND** what is the end product of step 2?
6. For the 3rd step of the Calvin Cycle, why do 2 G3P molecules leave the cycle?
7. What does the enzyme rubisco do in the final step of the Calvin Cycle?
8. Why is rubisco considered one of the most important biological enzymes?
9. How do plants use the sugars formed during the Calvin Cycle?
10. Looking at Figure 9, what compound(s) is energy stored at the end of the Calvin Cycle?
11. What type of environments decrease the ability of photosynthetic organisms to convert light energy to chemical energy?
12. What advantage do C4 plants have that enable them to survive in hot, dry climates such as sugarcane and corn?
13. CAM pathway plants are located in what type of environments?
14. What strategy do CAM pathway plants perform that is advantageous for their environments?
15. What do C4 and CAM pathways have in common?

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