Photosynthesis:

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How Do Plants Make Food?

Use your text book to complete this reading guide. Pages 83-87.

1. Photosynthesis is the process by which plants use the \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ to make \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ from \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_.

2. How would a heterotrophic organism obtain food through photosynthesis?

3. Give an example of what you explained in #2.

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the process that converts energy of the sun, or \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, into carbohydrates, a type of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

5. What are the reactants of photosynthesis?

6. What are the products?

7. **List and explain** 3 types of organisms that can photosynthesize.

8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a green pigment in leaves that helps to capture solar energy.

9. What are stomata?

10.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the organelle in which photosynthesis takes place.

11. Describe the outer membrane of the chloroplast.

12. Describe the inner membrane of the chloroplast.

13. Draw a chloroplast and **label the thylakoid, inner membrane, outer membrane, and stroma**.

14.The overall chemical reaction for photosynthesis is?

15. \_\_\_\_\_\_\_\_\_\_\_\_\_ cycles through the processes of photosynthesis and cellular respiration.

16. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_process of photosynthesis does \_\_\_\_\_\_\_ happen in one step.

17. The \_\_\_\_\_\_\_\_\_\_\_\_\_ reactions are also called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ reactions because they only occur during \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. During these reactions \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ splits water to release \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and capture its energy.

18. Draw the chloroplast in the middle of page 85 and label the light dependent and independent reactions happening.

19. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Cycle is the light-independent reactions. During these reactions the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is converted into glucose which is a type of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

20. List the steps to the light reactions

Light reaction 1:

Light reaction 2:

Light reaction 3:

Light reaction 4:

Light reaction 5:

Light reaction 6:

21. **List the steps** to the Calvin Cycle