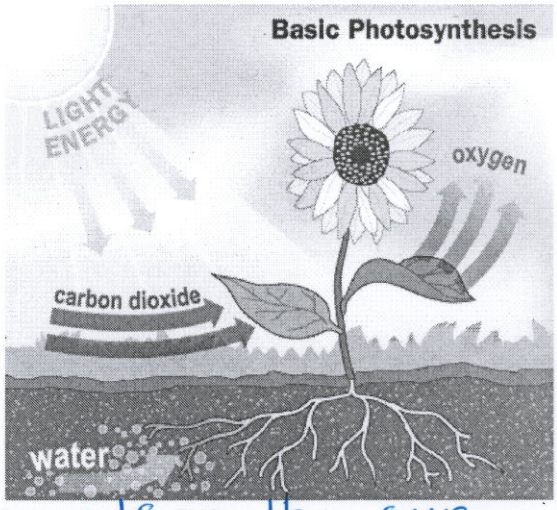
Name: _____ Pd._____ Date_____

PHOTOSYNTHESIS

Concepts and Challenges: The Diversity of Life

Directions: Read the pages indicated below. Then, answer the questions in complete answers.

Chapter 4 / Section 4: Photosynthesis (*pages 76-77*)



1. Why do living things need energy?
   all living things need energy in order to function
2. How do plants obtain energy?
   photosynthesis
3. An insect eats a leaf. Explain how the insect depends on the sun for energy? The leaf depends on the sun and the insect depends on the leaf... therefore, the insect depends on the sun.
4. What chemical equation sums up the events of photosynthesis? (Figure 4-11)
   Use the following terms and symbols: CO_2, O_2, Glucose (sugar), Sun's Energy, H_2O, +, +

   CO_2 + H_2O → (sun's energy) Glucose + O_2

5. What are the substances needed for photosynthesis (Raw Materials)? What are the substances produced by photosynthesis (Byproducts)?

Raw Materials	Byproducts
carbon dioxide (CO_2)	Glucose ($C_6H_{12}O_6$)
water (H_2O)	Oxygen (O_2)
	* a little bit of water (from excess in plant)

6. Which of the byproducts in the chart in #5 are used by the plant to create energy for its cells?
   GLUCOSE (sugar)
7. Would you expect a plant to produce more oxygen on a cloudy day or a sunny day? Explain.
   sunny day... because the plant will recieve more direct sunlight and will be able to photosynthesize at a more effective rate.
8. Which plant would have a greater mass?
   A. A plant that has NOT gone through photosynthesis
   (B) A plant that HAS gone through photosynthesis
   Then...
   Explain your answer: the plant creates and stores glucose after photosynthesis has occurred.