

Biology I Advanced
Obj Chapter 7
Photosynthesis

1. Draw a diagram of a chloroplast. Label all structures and compartments.
2. Write an over-all chemical equation for photosynthesis. Use arrows to show the fate of each reactant. Indicate light energy on the equation.
3. Describe the overall purpose of photosynthesis. Name and describe the overall purpose of each of the two subpathways of photosynthesis.
4. Describe the role of chlorophyll in photosynthesis. Differentiate between types of chlorophyll and their ability to absorb light.
5. Describe each of the following molecules and explain its role in photosynthesis:

ATP	NADPH	Oxygen gas	ATP synthase	RuBP
Ribulose biphosphate	carboxylase	PGA	G3P (PGAL)	ETC proteins
6. Write alternate names for the light reactions. List the events of the light reactions.
7. Write alternate names for the dark reactions. List the events of the dark reactions.
8. Identify events of photosynthesis that involve the conversion of energy from one form to another.
9. Write a paragraph that describes chemiosmosis including the terms *active transport*, *concentration gradient*, *protonmotive force*, *ATP synthase*, and other pertinent terms. Indicate how compartmentalization plays a role in this process.
10. List molecules that can be synthesized by the plant from G3P (PGAL).
11. List factors that affect the rate of photosynthesis. Indicate how each would affect the rate.
12. Define these terms:

Photosystem	photoautotroph	CAM	C4 photosynthesis
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