Name _____ Class _____ Date _____

Skills Worksheet

Active Reading

p. 97–103

Section: Photosynthesis

Read the passage below. Then answer the questions that follow.

Photosynthesis is directly affected by various environmental factors. The most obvious of these factors is light. In general, the rate of photosynthesis increases as light intensity increases until all of the pigments are being used. At this saturation point, the rate of photosynthesis levels off because pigments cannot absorb any more light. The carbon dioxide concentration affects the rate of photosynthesis in a similar manner. Once a certain concentration of carbon dioxide is present, photosynthesis cannot proceed any faster.

Photosynthesis is most efficient within a certain range of temperatures. Like all metabolic processes, photosynthesis involves many enzyme-assisted reactions. Enzymes operate properly only within certain temperature ranges.

SKILL: READING EFFECTIVELY

Read each question, and write your answer in the space provided.

1. Write a sentence that identifies the main idea of this passage.

2. What effect would a sudden decrease in light intensity have on the photosynthesis level of a particular plant?

3. At what point does light intensity have little effect on the photosynthesis level of a plant?

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Active Reading *continued*

4. A study showed that the photosynthesis rate of a plant continually increased over a certain period. Then the rate leveled off. During the study, light intensity and temperature remained constant. The only variable was the concentration of carbon dioxide surrounding the plant. What was the cause of this variation in photosynthesis rate?

5. In another study, the photosynthesis rate of a plant sharply decreased as air temperature sharply decreased. During this study, light intensity and concentration of carbon dioxide remained constant. What can you conclude about this variation?

In the space provided, write the letter of the phrase that best answers the question.

_____ **6.** Which of the following does NOT affect the photosynthesis rate of a plant?

a. air temperature
b. soil type
c. light intensity
d. carbon dioxide concentration

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