



Name

Period

Date

SECTION
4.3

PHOTOSYNTHESIS IN DETAIL

Study Guide

KEY CONCEPT

Photosynthesis requires a series of chemical reactions.

VOCABULARY

photosystem	ATP synthase
electron transport chain	Calvin cycle

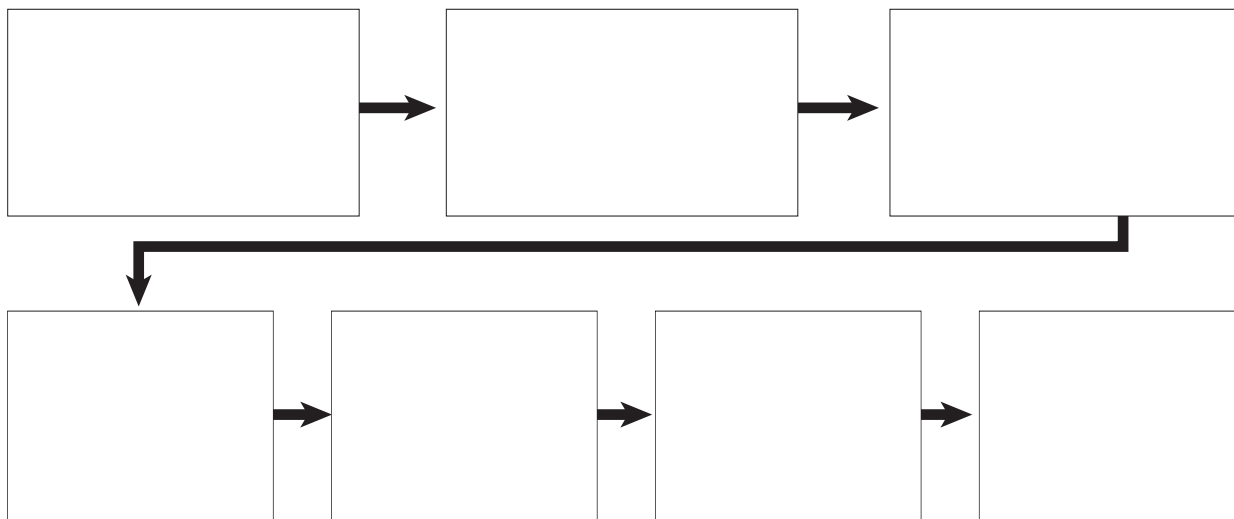
MAIN IDEA: The first stage of photosynthesis captures and transfers energy.

1. Overall, what is the function of the light-dependent reactions?

2. What are photosystems?

3. Which molecules carry energy to the light-independent reactions?

Fill in the sequence diagram below to follow the seven steps of the light-dependent reactions.



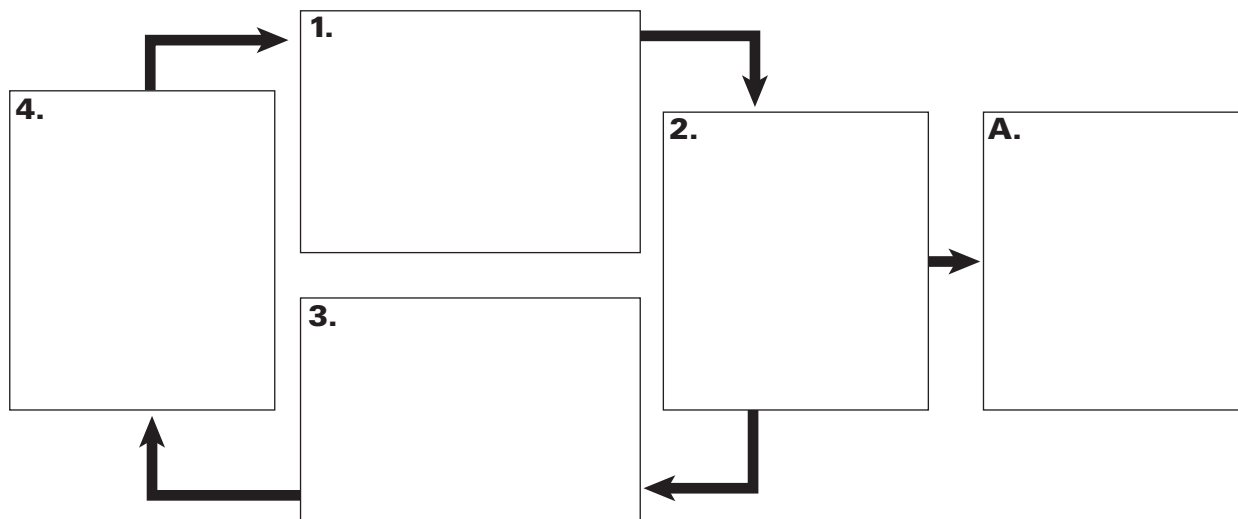
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STUDY GUIDE, CONTINUED

MAIN IDEA: The second stage of photosynthesis uses energy from the first stage to make sugars.

4. What is the function of the Calvin cycle?

Fill in the cycle diagram to summarize the four steps of the Calvin cycle.



Vocabulary Check

5. What is the electron transport chain?

6. The first part of an enzyme's name tells you about its function. All enzymes end with the suffix *-ase*. What does this information tell you about ATP synthase?

7. What does the word *cycle* tell you about the chemical reactions of the Calvin cycle?
