

Study Guide 4.2: Overview of Photosynthesis

KEY CONCEPT

The overall process of photosynthesis produces sugars that store chemical energy.

VOCABULARY

photosynthesis	light-dependent reactions	thylakoid
chlorophyll	light-independent reactions	

MAIN IDEA: Photosynthetic organisms are producers.

1. Why are some organisms called producers?

2. What is the function of photosynthesis?

3. What is chlorophyll?

MAIN IDEA: Photosynthesis in plants occurs in chloroplasts.

4. What are chloroplasts?

5. In which two parts of a chloroplast does photosynthesis take place?

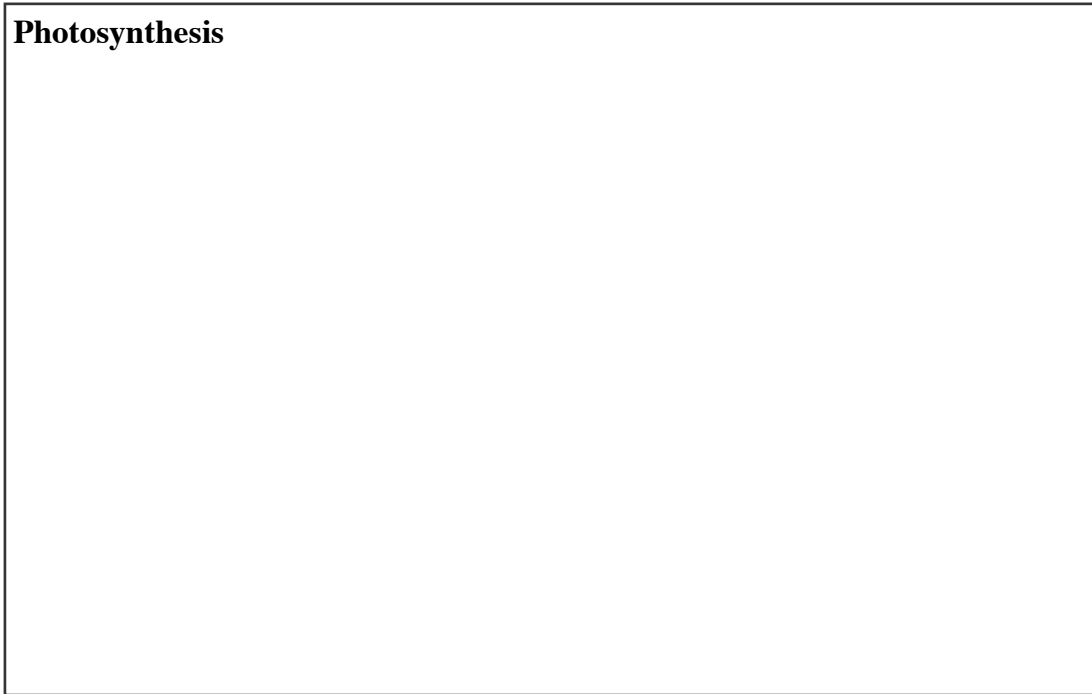
6. What are thylakoids?

7. Write the chemical equation for the overall process of photosynthesis. Then explain what the equation means and identify the reactants, products, and the meaning of the several arrows.

8. What are the differences between the light-dependent reactions and the light-independent reactions?

Use the space below to sketch and label a chloroplast. On the sketch, write the four steps of the photosynthesis process.

Photosynthesis



Vocabulary Check

9. The prefix *photo-* means “light,” and synthesis means “to put together.” How do those meanings tell you what happens during photosynthesis?

10. The prefix *chloro-* means “green,” and the suffix *-phyll* means “leaf.” How are these meanings related to chlorophyll?

11. The prefix *in-* means “not.” How does this meaning tell you which reactions in photosynthesis require light, and which reactions do not?
