

Cellular Energy

Section 2 Photosynthesis

Main Idea

Details

Scan Section 2 of the chapter. Write two questions that come to mind from reading the headings and the illustration captions.

1. _____
2. _____

Review Vocabulary

Use your book or dictionary to define carbohydrate.

carbohydrate

New Vocabulary

Use your book or dictionary to define each vocabulary term.

thylakoid

granum

stroma

pigments

NADP⁺

Calvin cycle

rubisco

Academic Vocabulary

Define transport to show its meaning.

transport

Section 2 Photosynthesis (continued)

Main Idea

Details

Overview of Photosynthesis

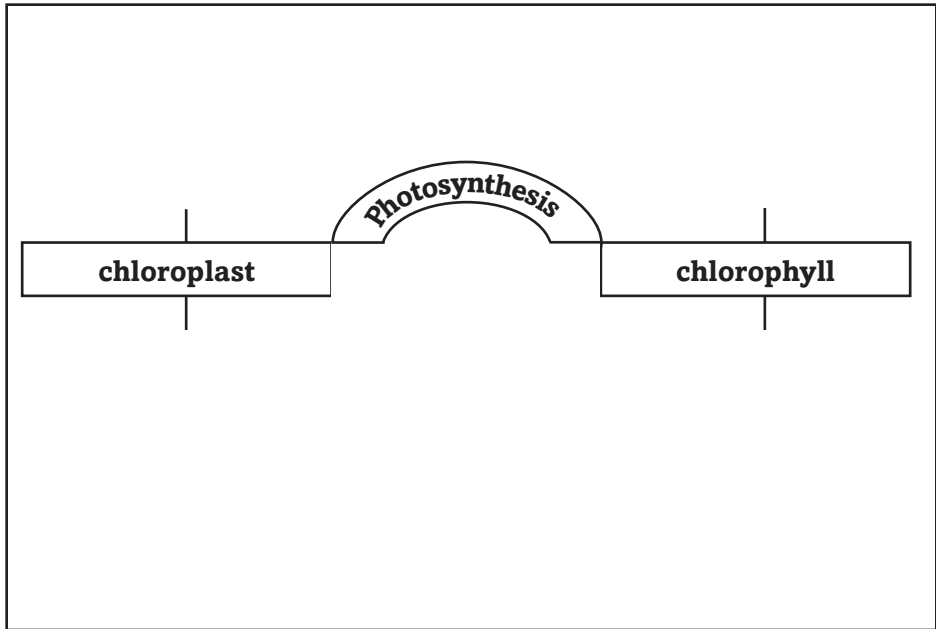
Summarize the functions of the light-dependent and light-independent reactions by completing the sentences.

Plants and other green organisms absorb _____ from _____ . The light-dependent reactions change _____ into the molecules ____ and ____ . The light-independent reactions use _____ and _____ to make _____ .

The light-independent reactions produce _____ , which are then made into complex carbohydrates such as _____ , which stores _____ in plants.

Phase One: Light Reactions

Create a concept web to summarize what you know about chloroplasts and chlorophyll.



Analyze how leaves change color in the fall.

Section 2 Photosynthesis (continued)

Main Idea

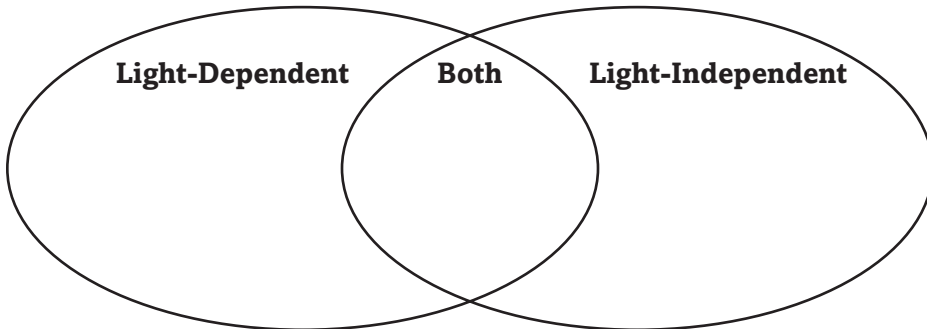
Details

**Phase Two:
The Calvin Cycle**

Model *light-dependent reactions in a flow chart.*

Compare *light-dependent and light-independent reactions by putting each phrase into the correct part of the Venn diagram.*

- forms stored energy
- makes NADPH
- makes sugar
- needs sunlight
- occurs in the chloroplast
- occurs in the dark
- uses Calvin cycle
- uses electron transport chain



Alternative Pathways

Compare *two alternative photosynthesis pathways. Identify plants that use each pathway.*

Pathway:	Pathway:
Description:	Description:
Plants that use this pathway:	Plants that use this pathway:

SUMMARIZE

Explain the results of light-dependent and light-independent reactions.
