



Insight Link

Curriculum Integration Reading Program

220 words
L6

Lesson Components

BIG IDEA

The Big Idea section stimulates students' interest and gives them a wider understanding of the chapter's theme.

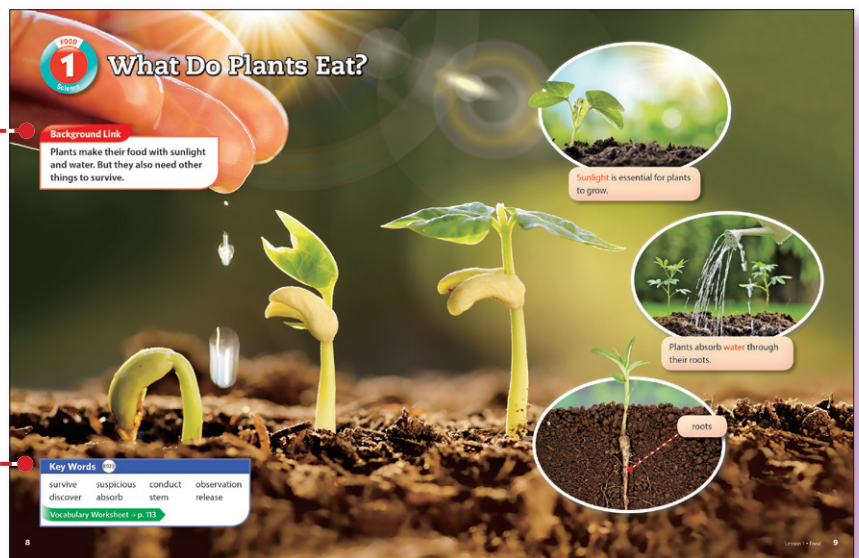


Contents Map

The Contents Map section previews the content covered in each lesson and presents the unifying theme.

Background Link

The Background Link section offers students background information involved in the lesson. Also, it asks them to answer simple questions or complete short activities related to the content of the passage.



Key Words

The Key Words section highlights the key words from the lesson.

101 What Do Plants Eat?

Let's Focus

What did van Helmont discover about plant growth?

Plants may not have mouths, but they still need to eat to survive. Many scientists wondered how plants survived. After years of research, we now know that plants create their own food.

In the past, people thought plants ate soil. One scientist, Jan Baptist van Helmont, was suspicious of this, so he conducted an experiment. He weighed a tree and some dry soil.

Then, he planted the tree in the soil and watered it. Five years later, he weighed the tree and soil again. Though the tree was heavier than before, the weight of the soil was almost the same. Van Helmont concluded that plants survive by drinking water.

While that wasn't the whole answer, van Helmont was partially correct. Since van Helmont's observation, scientists have discovered that plants need three things: water, carbon dioxide, and sunlight. They use these to make food through a process called photosynthesis.

Photosynthesis begins when a plant breathes in carbon dioxide through tiny holes on its leaves. At the same time, the roots absorb water. Traveling from the roots to the stems, the water reaches the leaves. Then the leaves use the energy from sunlight to turn carbon dioxide and water into a kind of sugar. This sugar is what the plant needs to grow. During photosynthesis, the plant releases oxygen, a gas humans need to survive. What a magical process!

Words 107

● carbon dioxide ● sugar
● water ● oxygen

Link to Text
How do plants create food?

10 11

Let's Focus

The Let's Focus section encourages students to think about the main idea as they read through the passage.

Link to Text [Self]

The Link to Text [Self] section allows students to think back about what they have read or to relate ideas from the passage to their own lives.

In Other Words

In this section, students learn additional useful words and their synonyms.

12 Reading Comprehension

1. What is the main idea of this passage?

- There is a certain type of food plants like to eat.
- For centuries, people have wondered how plants survive.
- Plants make their own food through a special process.
- One scientist worked hard to discover photosynthesis.

2. Before van Helmont's experiment, what did people think plants ate?

- air
- soil

3. How does a plant get carbon dioxide?

- It uses sunlight to create it.
- It releases oxygen to produce it.
- Its roots absorb it from the soil.
- It breathes it in through its leaves.

4. What is true about photosynthesis?

- It was first explained by van Helmont.
- It mainly happens in the leaves.
- Oxygen is required to make it occur.
- Plants create water with it.

5. What were the results of van Helmont's experiment?

The tree got _____, but the soil weighed almost _____.

6. Why do plants need sunlight?

They use it to turn _____ and water into a kind of _____.

Find Evidence

2. What can be inferred from this passage?

- The sugar that plants eat is made of soil.
- Water is delivered through tiny holes on leaves.
- Plants cannot survive in dark soil.
- Van Helmont's observation proved to be completely wrong.

Go to the passage and underline the evidence for your answer.

13 Graphic Organizer & Summary

Step 1 Complete the information with the words from the box.

Photosynthesis in a Plant

A plant breathes in _____ on its _____ . Water moves to the leaves after passing through the roots and the _____ .

The plant then uses _____ .

It _____ carbon dioxide and water into a kind of _____ by using _____ energy from sunlight.

sugar turns holes into sunlight carbon dioxide

Step 2 Complete the summary with the words from the box.

People used to think plants ate soil. One scientist _____ this wasn't true with an experiment. He planted a tree in soil and _____ it. Years later the _____ of the soil had changed much. He concluded plants didn't drink water to _____. Actually, _____ need three things to make food: water, carbon dioxide, and sunlight. _____ begins when a plant _____ in carbon dioxide through holes on its leaves. Water _____ to the leaves from the roots. Then the plant uses sunlight to make sugar and later _____ oxygen.

survive wanted proved travels
weight breathes photosynthesis releases

Reading Comprehension

In this section, students' understanding of the passage is checked through multiple-choice and short-answer questions.

Graphic Organizer & Summary

A two-step summarizing activity teaches students how to make outlines and summaries.

1 What Do Plants Eat?

1. What do you think is the most important thing we need to survive?

(Examples)

I think _____ (is / are) most important because _____.

2. What does your dog do when it is suspicious of someone?

It _____ at that person.

3. Where can you conduct a survey for a school project?

I can conduct a survey _____.

4. Have you done any kind of scientific observation? What did you observe?

(Yes / No) I observed _____ for my science project.

5. What would you do if you discovered a box full of treasure?

I would _____.

6. What is a fabric that doesn't absorb water called?

It is called a(n) _____ fabric.

7. Your brother damaged the stems of your flower. Which is your flower?

a.  b. 

8. When we breathe out, we release this gas into the atmosphere. What is this gas?

It is _____.

Find Evidence

The Find Evidence section encourages students to closely focus on the meaning of individual words and sentences by finding evidence from the text to answer comprehension questions. Both detail and inference questions are included.

Vocabulary Worksheet


After studying the Key Word section, students apply what they've learned using the Vocabulary Worksheet. While answering questions that include the key words, students can activate their prior knowledge or experience and reinforce their learning.

Contents

CHAPTER 1

Food

LESSON	SUBJECT	TITLE	WORDS	PAGE
1	Science	What Do Plants Eat?	227	6
2	History	George Washington Carver	228	14
3	Social Studies	Leading the Fight against Food Waste	232	20
4	Science & Social Studies	The Case of Borneo	231	26



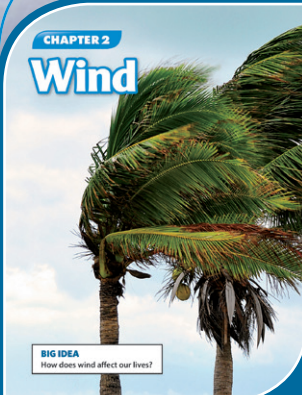
CHAPTER 1
Food

BIG IDEA
What's your favorite food?

CHAPTER 2

Wind

LESSON	SUBJECT	TITLE	WORDS	PAGE
5	Science	Why Does Wind Blow?	233	32
6	Science & Social Studies	Wind Farms Going Offshore	228	40
7	Art	Mobiles: Art in Motion	233	46
8	Literature	The Origin of the Winds	249	52



CHAPTER 2
Wind

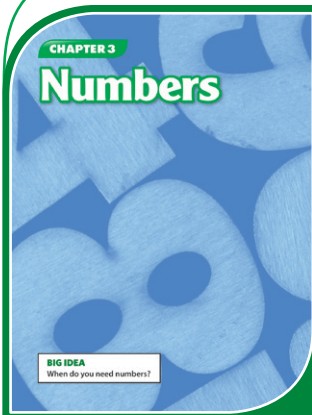
BIG IDEA
How does wind affect our lives?



CHAPTER 3

Numbers

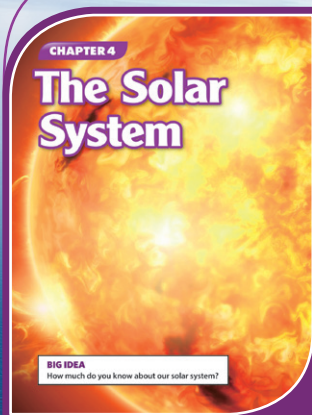
LESSON	SUBJECT	TITLE	WORDS	PAGE
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10	Music	The Curse of the Ninth	232	66
11	Social Studies	Player Numbers in Sports	250	72
12	Math & Social Studies	A Day to Celebrate Pi	229	78



CHAPTER 4

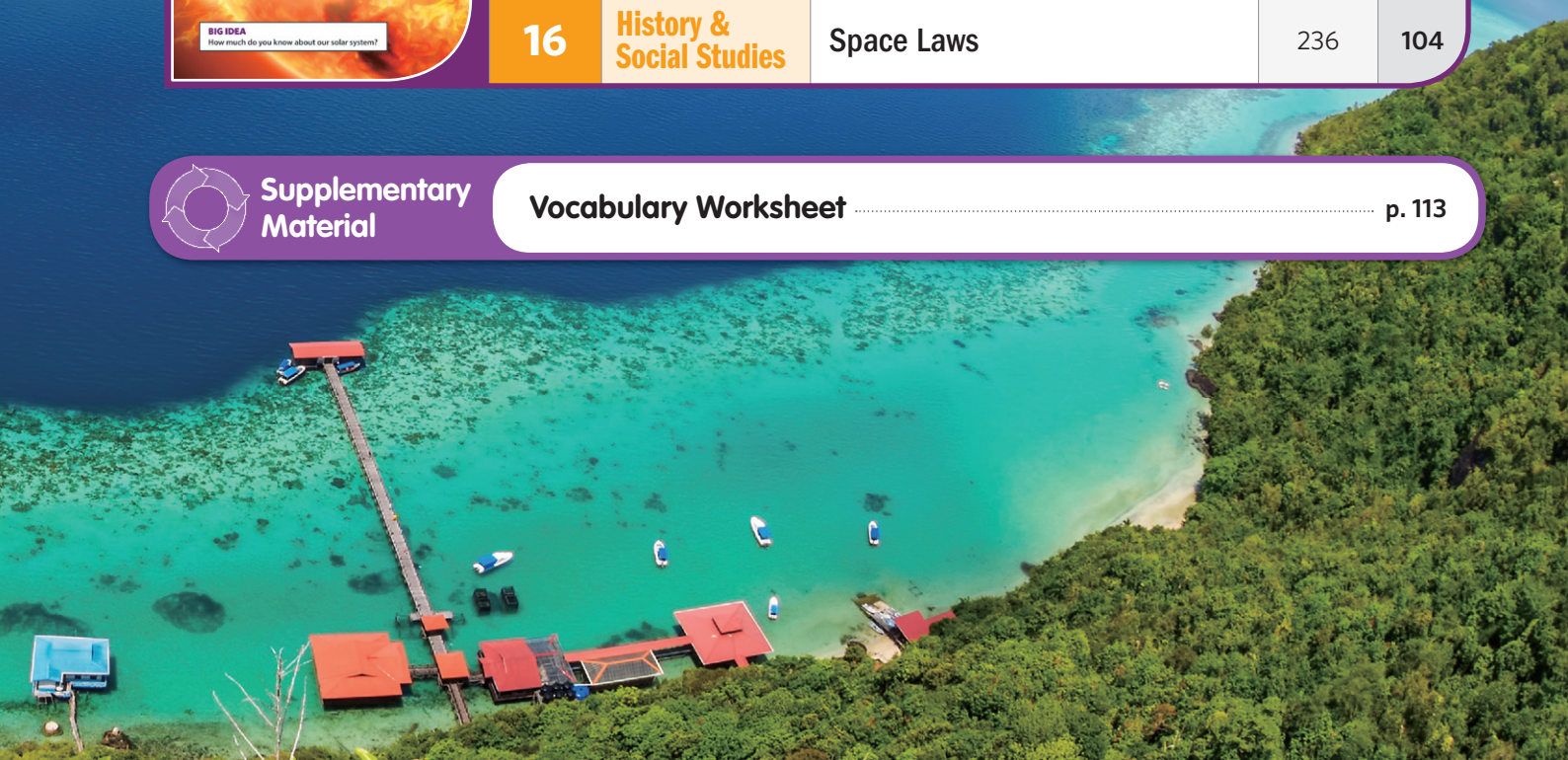
The Solar System

LESSON	SUBJECT	TITLE	WORDS	PAGE
13	Science	Our Solar System and Its Planets	245	84
14	Social Studies	The Tradition of Naming Planets	246	92
15	Science & Social Studies	The Voyager Golden Records	237	98
16	History & Social Studies	Space Laws	236	104



Supplementary
Material

Vocabulary Worksheet p. 113





CHAPTER 1

Food

BIG IDEA

What's your favorite food?

LESSON

1

What Do Plants Eat?



LESSON

2

George Washington Carver



Science

History

Food

Science & Social Studies

Social Studies

LESSON

4

The Case of Borneo



LESSON

3

Leading the Fight against Food Waste





What Do Plants Eat?

Background Link

Plants make their food with sunlight and water. But they also need other things to survive.

Key Words (02)

survive	suspicious	conduct	observation
discover	absorb	stem	release

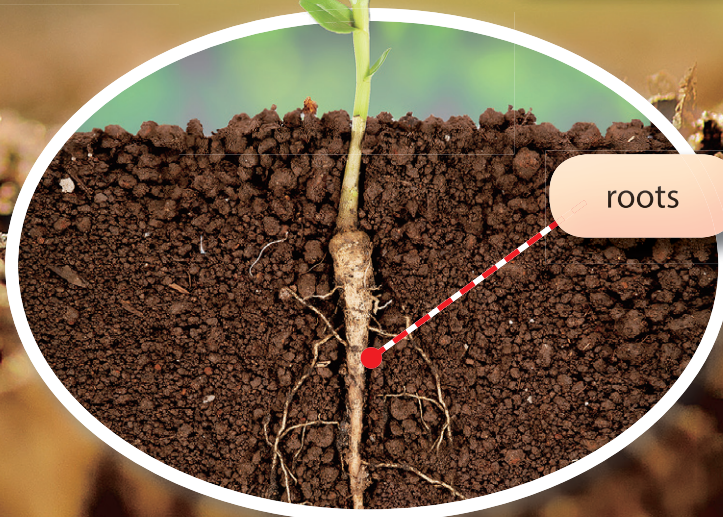
Vocabulary Worksheet → p. 113



Sunlight is essential for plants to grow.



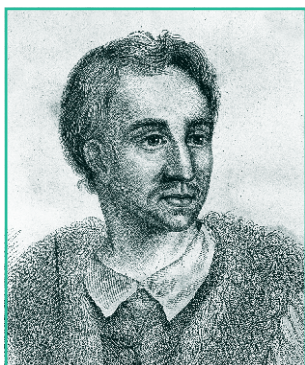
Plants absorb **water** through their roots.



What Do Plants Eat?

Let's Focus

How do plants create food?



▲ Jan Baptist van Helmont (1580–1644)

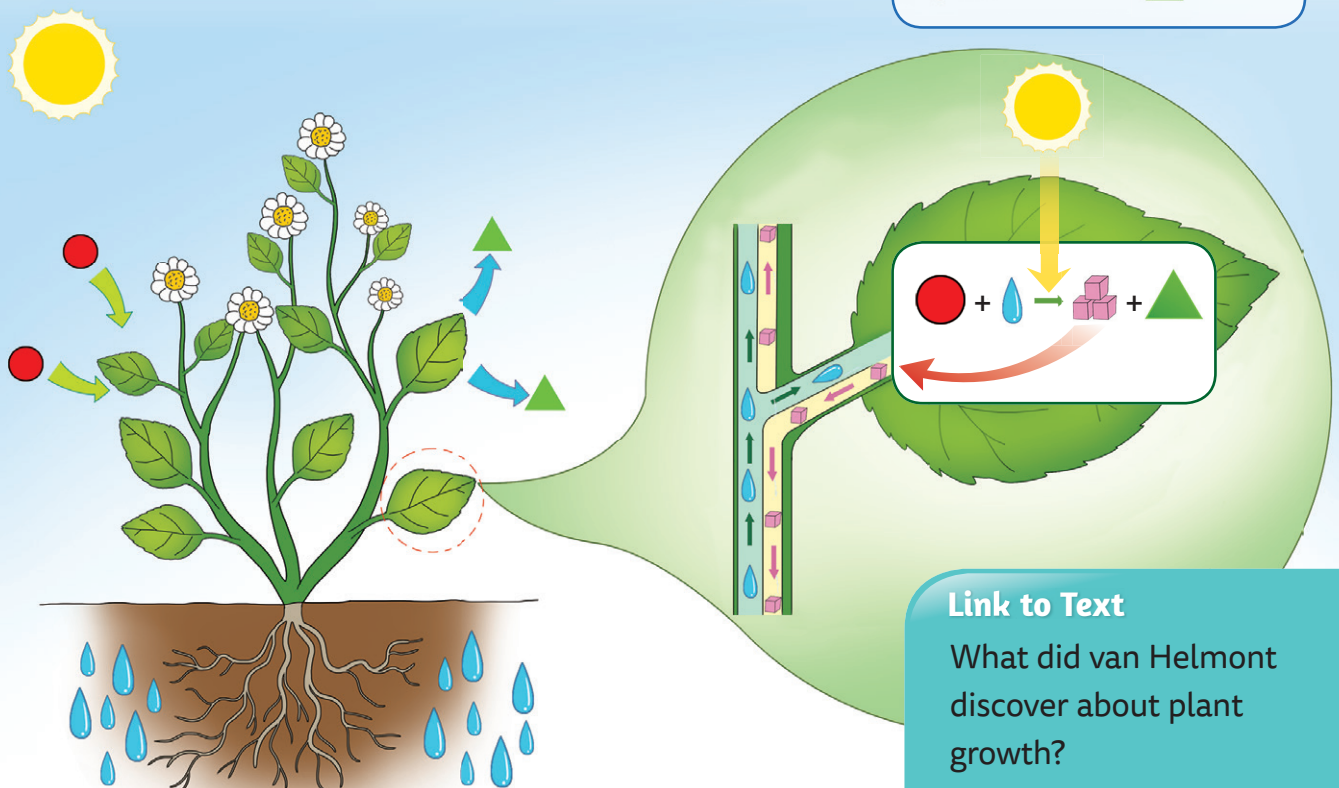
Plants may not have mouths, but they still need to eat to **survive**. Many scientists **wondered** how plants survived. After years of research, we now know that plants create their own food.

In the past, people thought plants ate soil. One scientist, Jan Baptist van Helmont, was **suspicious** of this, so he **conducted** an experiment. He weighed a tree and some dry soil. 5

Then, he planted the tree in the soil and watered it. Five years later, he weighed the tree and soil again. 10 Though the tree was heavier than before, the weight of the soil was almost the same. Van Helmont **concluded** that plants survive by drinking water.

While that wasn't the **whole** answer, van Helmont was **partially** correct. Since van Helmont's **observation**, scientists have **discovered** that plants need three things: water, carbon dioxide, and sunlight. They use these to make food through a process called *photosynthesis*.

Photosynthesis begins when a plant breathes in carbon dioxide through tiny holes on its leaves. At the same time, the roots **absorb** water. Traveling from the roots to the **stems**, the water reaches the leaves. Then the leaves use the energy from sunlight to turn carbon dioxide and water into a kind of sugar. This sugar is what the plant needs to grow. During photosynthesis, the plant **releases** oxygen, a gas humans need to survive. What a magical process!



Link to Text

What did van Helmont discover about plant growth?

whole complete

partially partly

1. What is the main idea of this passage?

- a. There is a certain type of food plants like to eat.
- b. For centuries, people have wondered how plants survive.
- c. Plants make their own food through a special process.
- d. One scientist worked hard to discover photosynthesis.

2. Before van Helmont's experiment, what did people think plants ate?

- a. air
- b. soil
- c. water
- d. sunlight

3. How does a plant get carbon dioxide?

- a. It uses sunlight to create it.
- b. It releases oxygen to produce it.
- c. Its roots absorb it from the soil.
- d. It breathes it in through its leaves.

4. What is true about photosynthesis?

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The tree got _____, but the soil weighed almost _____.

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- b. Water is delivered through tiny holes on leaves.
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Graphic Organizer & Summary

Step 1 Complete the information with the words from the box.

Photosynthesis in a Plant

A plant breathes in _____ through tiny _____ on its leaves.

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The plant receives _____.

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sugar turns holes stems sunlight carbon dioxide

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People used to think plants ate soil. One scientist _____ this wasn't true with an experiment. He planted a tree in soil and _____ it. Years later, the _____ of the soil hadn't changed much. He concluded plants drink water to _____. Actually, plants need three things to make food: water, carbon dioxide, and sunlight. _____ begins when a plant _____ in carbon dioxide through holes on its leaves. Water _____ to the leaves from the roots. Then the plant uses sunlight to make sugar and later _____ oxygen.

survive watered proved travels
weight breathes photosynthesis releases

What Do Plants Eat?

1. What do you think is the most important thing we need to **survive**?

[examples]



I think _____ (is / are) most important because _____.

2. What does your dog do when it is **suspicious** of someone?



It _____ at that person.

3. Where can you **conduct** a survey for a school project?

I can conduct a survey _____.

4. Have you done any kind of scientific **observation**? What did you observe?

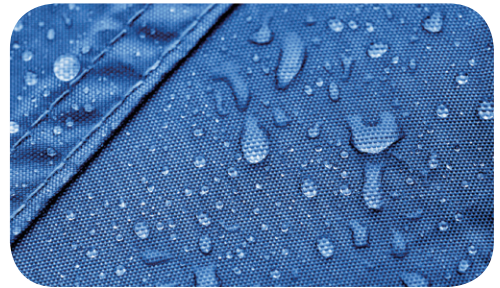
(Yes / No). I observed _____ for my science project.

5. What would you do if you **discovered** a box full of treasure?



I would _____.

6. What is a fabric that doesn't **absorb** water called?

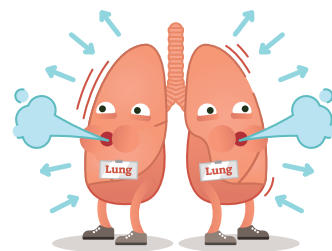


It is called a(n) _____ fabric.

7. Your brother damaged the **stem** of your flower. Which is your flower?



8. When we breathe out, we **release** this gas into the atmosphere. What is this gas?



It is _____.

George Washington Carver

1. What is the name of the U.S. president who freed the *slaves*? Search



His name is _____.

2. What are these people *struggling* to do?



They are struggling to _____ a rock.

3. What is an *expert* in treating sick animals called?



It's a(n) _____.

4. There are 10 orange trees on this farm. You harvested 1500 oranges from them. What is the average *yield* of oranges per tree?



The average yield of oranges per tree is _____.

5. Which movie would you like to *recommend* to your friends?

I would like to recommend _____.

6. What do you do to *enrich* your life?

I _____.

7. Which is a more *profitable* way of making and selling lemonade?



8. You've invented something great. What will happen if you don't *patent* your invention?



_____ if I don't patent it.