



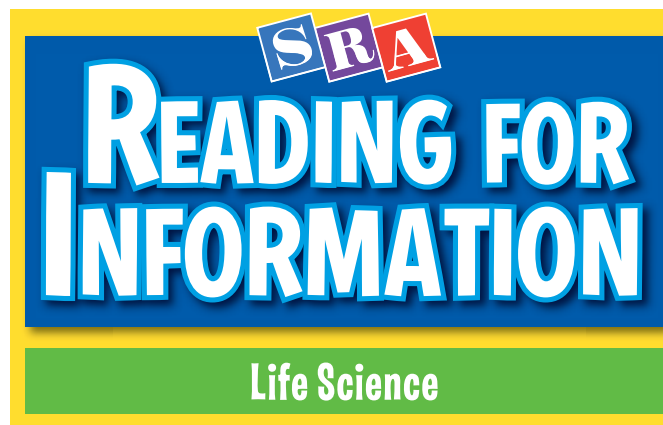
SRA
**READING FOR
INFORMATION**

Life Science

Environments in Action

SAMPLE ONLY

©Copyright SRA/McGraw-Hill. All rights reserved.



Environments in Action

**Mc
Graw
Hill** **SRA**
Columbus, OH

Photo Credits

3 © Alan and Sandy Carey/Getty Images, Inc.; 5 (tl) © David A. Northcott/Corbis, (cl) © Royalty-Free/Corbis, (cr) © David K. Werk/Alamy, (bl) © Getty Images, Inc.; 12 © Alan and Sandy Carey/Getty Images, Inc. ;13 © J Sneesby/B Wilkins/Getty Images, Inc.; 14 © Klaus Nigge/Getty Images, Inc.; 15 © Art Wolfe/Getty Images, Inc.; 16 © Georgette Douwma/Getty Images, Inc.; 17 © Carol Cohen/Corbis; 18 (l) © David Muench/Corbis , (r) © Winfried Wisniewski/zefa/Corbis; 19 © Comstock Premium/Alamy; 21 © J Sneesby/B Wilkins/Getty Images, Inc.; 23 © blickwinkel/Alamy.

SRAonline.com



Copyright © 2008 by SRA/McGraw-Hill.

All rights reserved. No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written consent of The McGraw-Hill Companies, Inc., including, but not limited to, network storage or transmission, or broadcast for distance learning.

Printed in China.

Send all inquiries to this address:
SRA/McGraw-Hill
4400 Easton Commons
Columbus, OH 43219

ISBN: 978-0-07-608974-1
MHID: 0-07-608974-6

1 2 3 4 5 6 7 8 9 CC 13 12 11 10 09 08 07



Environments in Action

Table of Contents

Before You Read4

Looking for Owls6

Environments in Action..... 12

After You Read 20

Glossary..... 24

Index



Before You Read

Here are some things you can do to help you read for information.

Features Glossary

Turn to the glossary on page 24. In the glossary you can find information about each vocabulary word.

How to say the word	What kind of word it is
<p>Glossary</p> <p>adaptation (a dap tā' shən) <i>n.</i> a characteristic that helps a living thing survive. <i>A wing is an adaptation that helps a bird fly.</i></p>	
Definition	Example sentence

Structures Description

As you read, look for words that describe how something looks, tastes, sounds, smells, or feels.

These adjectives describe what the bird looks like.

He pointed to a **large, reddish-brown** bird sitting on a tree branch.

Vocabulary Words to Know



adaptation a characteristic that helps a living thing survive

competition the struggle among living things for limited resources, such as food, water, and space



ecosystem all of the living and nonliving things in an environment and all of their interactions



useful serving a use or purpose

A flashlight is **useful** for seeing in the dark.

Looking for Owls

Have you ever gone on a hike to look for interesting plants and animals? Read about three people who go on a hike at night to find owls. They learn why owls look and act the way they do.

A Night Hike

“Brrr!” said Carl.
“It’s cold!”

Joe, Carl, and
Joe’s dad were hiking
at night. They were
looking for owls.

“Why do owls come out at night?” asked Carl.

“Yeah,” said Joe. “It’s so dark. I’m glad we
brought our flashlight.”

Birds of the Night

“Most owls hunt at night,” explained Joe’s dad.
“That’s because they can see well in the dark.
Their ability to see in the dark is an **adaptation**.”

Just then an owl flew over their heads. Its wings
did not make a sound.

“Wow!” said Carl. “I didn’t even hear it coming!”

“Owls can fly silently because their feathers
have soft edges,” said Joe’s dad.

They decided to go to the nature center the next
day to look at owls up close.





A Place for Answers

As Joe, Carl, and Joe's dad walked into the nature center, a woman greeted them.

"Hi," said the woman. "I'm Mindy. I can answer any questions you have about the nature center."

"Where are the owls?" asked Carl and Joe at the same time.

"Follow me," said Mindy, cheerfully.

Birds That Hunt

Mindy led them outside to a large, enclosed area.

"Our large owls live here," said Mindy.

"I see one!" exclaimed Carl. He pointed to a large, reddish-brown bird sitting on a tree branch.

"That's a great horned owl," said Mindy.

"Wow! Its claws look so sharp," said Joe.

"An owl's sharp claws are an adaptation," explained Mindy. "They're **useful** for hunting."



Different Sizes of Owls

“Let’s go see the smaller owls,” said Mindy. Everyone followed her into a dark building.

“This is called a screech owl,” she said, pointing to a small, gray owl staring at them from behind the glass.

“It’s a lot smaller than the great horned owl,” observed Joe.

“It’s smaller size helps it avoid **competition** for food with larger owls,” said Mindy.

Different Kinds of Food

“Great horned owls mainly eat rabbits and large rodents,” Mindy continued. “Screech owls mainly eat smaller animals, such as mice and insects. Owls can live in the same **ecosystem** because they don’t compete for the same kind of food.”

“Speaking of food, it’s time for lunch,” said Joe’s dad, smiling.

They thanked Mindy and decided to visit the nature center again next week.

✓ Comprehension
What do you think an ecosystem is?



Environments in Action

Adaptations

Joe and Carl learned the following facts about owls:

- Owls' eyes are **useful** for seeing well at night.
- Their feathers have soft edges that allow them to fly silently.
- Owls' sharp claws are useful for hunting.

Each of these things is an adaptation.

An **adaptation** is a characteristic that helps a living thing survive.



What are this snowy owl's adaptations? Why do you think they are useful?

Physical Adaptations

Some adaptations have to do with an animal's body or a plant's structure. An owl's feathers and sharp claws are physical adaptations.

The thick, waxy stem of a cactus is a physical adaptation that allows the plant to store water. This helps the plant survive in the desert.



Structures Description

What adjectives describe things in this paragraph?

Behavioral Adaptations

Some adaptations have to do with how an animal acts, or behaves. For example, almost all owls hunt at night. This is a behavioral adaptation. Most birds migrate to find food and a place to lay eggs. This is also a behavioral adaptation.

A porcupine's quills are a physical adaptation that the porcupine uses for defense.



Competition

When two or more plants or animals need the same thing in order to survive, it causes competition. **Competition** is the struggle among living things for limited resources, such as food, water, and space. Living things might compete for

- a place to build a nest.
- space for plant roots to grow.
- sunlight.

✓ **Comprehension**
What kinds of animals might compete for places to build a nest?



This eagle is competing with seagulls for food.



These zebras and wildebeests eat different parts of the same grasses.

Using the Same Resource

Some animals share the same food source but don't have to compete with each other. For example, zebras and wildebeests both eat grass, but they don't eat the same parts of the plant. First, zebras eat the tough tops of tall grass. Then wildebeests eat the soft, leafy parts in the middle. This way, they both survive in the same environment without competing for food.

What Is an Ecosystem?

Joe and Carl learned that owls are part of an ecosystem. An **ecosystem** is all of the living and nonliving things in an environment and all of their interactions.

Other parts of the owls' ecosystem might include these things:

- trees
- flowers
- rocks
- insects
- small rodents, such as mice
- rabbits
- bats

What are some of the parts of this ecosystem?



Ecosystems Change

Ecosystems are always changing. Some plants and animals die out. New plants and animals arrive. Forest fires and floods change ecosystems. The plants and animals in an ecosystem have to adapt to these changes.

✓ **Comprehension**
What might cause plants or animals to die out in an ecosystem?



A forest fire has changed this ecosystem.

How Things Look

Do you remember when Joe and Carl were looking at the owls at the nature center? When Joe said, "Its claws look so sharp," he was describing something about the great horned owl. Scientists who study plants and animals use description when they write about their findings.

How would you describe this antelope?



How would you describe this cactus?



Life Science & you

Ecosystems are everywhere! The park near your home is an ecosystem. Your backyard is an ecosystem too. It is important to protect ecosystems because living things are a part of them. You can protect ecosystems by always throwing your trash in trash containers. You can also learn about the plants and animals that live in the different ecosystems in your surroundings.



Think about It! *How would you describe the ecosystem you live in? What living things are a part of it? What nonliving things are a part of it? How do you depend on all of these things?*

After You Read

Complete these activities on a separate piece of paper.

Vocabulary Words to Know

Write the letter of the correct definition for each vocabulary word.

Vocabulary Words

1. competition
2. useful
3. adaptation
4. ecosystem

Definitions

- a. all of the living and nonliving things in an environment and all of their interactions
- b. serving a use or purpose
- c. the struggle among living things for limited resources, such as food, water, and space
- d. a characteristic that helps a living thing survive

Write the vocabulary word that completes the sentence.

5. There can be _____ among plants for sunlight.
6. A rain forest is an example of a large _____.

Features Glossary

Write the letter of the correct answer.

Remember that a glossary entry in this book looks like this:

useful (ūs' fəl) *adj.* serving a use or purpose.
Tools are **useful** objects.

What You Need to Know

7. What does *useful* mean?
8. How can you use *useful* correctly in a sentence?
9. How do you say *useful*?
10. Is this word a noun, a verb, an adjective, or an adverb?
11. Where can I usually find a glossary?

Where to Look

- a. (ūs' fəl)
- b. serving a use or purpose
- c. *Tools are useful objects.*
- d. in the back of a book
- e. *adj.*



After You Read

Structures Description

Write the letter of the correct answer.

Remember that when writers describe, they tell you how something looks, sounds, tastes, smells, or feels.

12. Which sentence describes how something looks?
 - a. Clownfish are orange with white stripes.
 - b. Clownfish live in the ocean.
 - c. I have seen a clownfish at the aquarium.
13. Which sentence describes how something feels?
 - a. My dog has long white fur.
 - b. My dog can run very fast.
 - c. My dog's fur is soft and fluffy.
14. Which sentence describes how something sounds?
 - a. There is an owl in that tree.
 - b. I heard that owl.
 - c. The owl screeched loudly.
15. Which sentence describes how something smells?
 - a. A skunk's spray smells worse than old gym shoes.
 - b. A skunk sprays to defend itself.
 - c. Skunks have black and white fur.

Write about It

Look at the picture of the aquarium on this page. Write three sentences that describe an ecosystem you see in the aquarium. What living and nonliving things do you see? What do they look like? Remember to use adjectives in your description.



Interactive Skills Handbook

For more practice with

- **glossaries**, see pages 22–25.
- **description**, see pages 62–69.
- **questioning**, see pages 94–97.

Glossary

adaptation (a dap tā' shən) *n.* a characteristic that helps a living thing survive. *A wing is an adaptation that helps a bird fly.*

competition (käm pə ti' shən) *n.* the struggle among living things for limited resources, such as food, water, and space. *The small number of seeds caused competition among the hungry birds.*

ecosystem (ēk' ō sis təm) *n.* all of the living and nonliving things in an environment and all of their interactions. *The ecosystem in my backyard includes grass, birds, and a patio.*

useful (ūs' fəl) *adj.* serving a use or purpose. *Tools are useful objects.*

Pronunciation Key

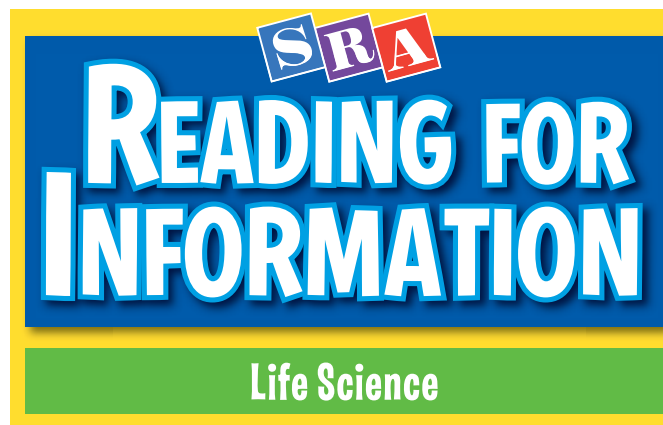
a	at	•	ō	rose	•	ə	about, chicken,
ā	late	•	ô	law, bought	•		pencil, cannon,
ä	father, ox,	•	oi	coin	•		circus
	mop	•	ōō	book, pull	•	ch	chair
âr	care	•	ōō	food, rude	•	hw	which
e	set,	•	or	form	•	ng	ring
ē	me	•	ou	out	•	sh	shop
îr	ear, pier	•	u	up	•	th	thin
i	it	•	ū	use, mule	•	th	there
ī	kite	•	ûr	turn, learn	•	zh	treasure

Ecosystems Everywhere!



SAMPLE ONLY

©Copyright SRA McGraw-Hill. All rights reserved.



Ecosystems Everywhere!

**Mc
Graw
Hill** **SRA**
Columbus, OH

Photo Credits

3 © George McCarthy/Corbis; 5 (tl) © David A. Northcott/Corbis, (cl) © Royalty-Free/Corbis, (cr) © David K. Werk/Alamy, (bl) © Getty Images, Inc., (br) © Klaus Nigge/Getty Images, Inc.; 12 © Reimar Gaertner/Alamy; 13 © Peter David/Getty Images, Inc.; 14 © Bruce Coleman Inc./Alamy; 15 © George McCarthy/Corbis; 16 (tr) © Arco Images/Alamy, (bl) © Franco & Bonnard/Sygma/Corbis; 17 © Ron Niebrugge/Alamy; 18 © Joseph Van Os/Getty Images, Inc.; 19 © John Lamb/Getty Images, Inc.; 23 © David Buffington/Getty Images, Inc.

SRAonline.com



Copyright © 2008 by SRA/McGraw-Hill.

All rights reserved. No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written consent of The McGraw-Hill Companies, Inc., including, but not limited to, network storage or transmission, or broadcast for distance learning.

Printed in China.

Send all inquiries to this address:
SRA/McGraw-Hill
4400 Easton Commons
Columbus, OH 43219

ISBN: 978-0-07-610221-1
MHID: 0-07-610221-1

1 2 3 4 5 6 7 8 9 CC 13 12 11 10 09 08 07

The McGraw-Hill Companies



Ecosystems Everywhere

Table of Contents

Before You Read.....4

Forest Fire!6

Ecosystems Everywhere! 12

 Reading a Magazine Article

Life in the Twilight Zone 13

After You Read 20

Glossary..... 24

Index



Before You Read

Here are some things you can do to help you read for information.

Features Glossary

The glossary on page 24 includes the vocabulary words and their definitions. It also gives other information about each vocabulary word.

What kind of word it is

Definition

survival (sər vī' vəl) *n.* the ability to stay alive. *Water is necessary for a plant's survival.*

How to say the word

Example sentence

Structures Description

As you read, look for words that describe how something looks, tastes, sounds, smells, or feels.

These adjectives describe what a cactus's stem looks like.

A cactus's stem is **thick** and **waxy**.

Vocabulary Words to Know



adaptation a characteristic that helps a living thing survive



competition the struggle among living things for limited resources, such as food, water, and space



ecosystem all of the living and nonliving things in an environment and all of their interactions

survival the ability to stay alive

This bear's **survival** depends on its ability to find food.

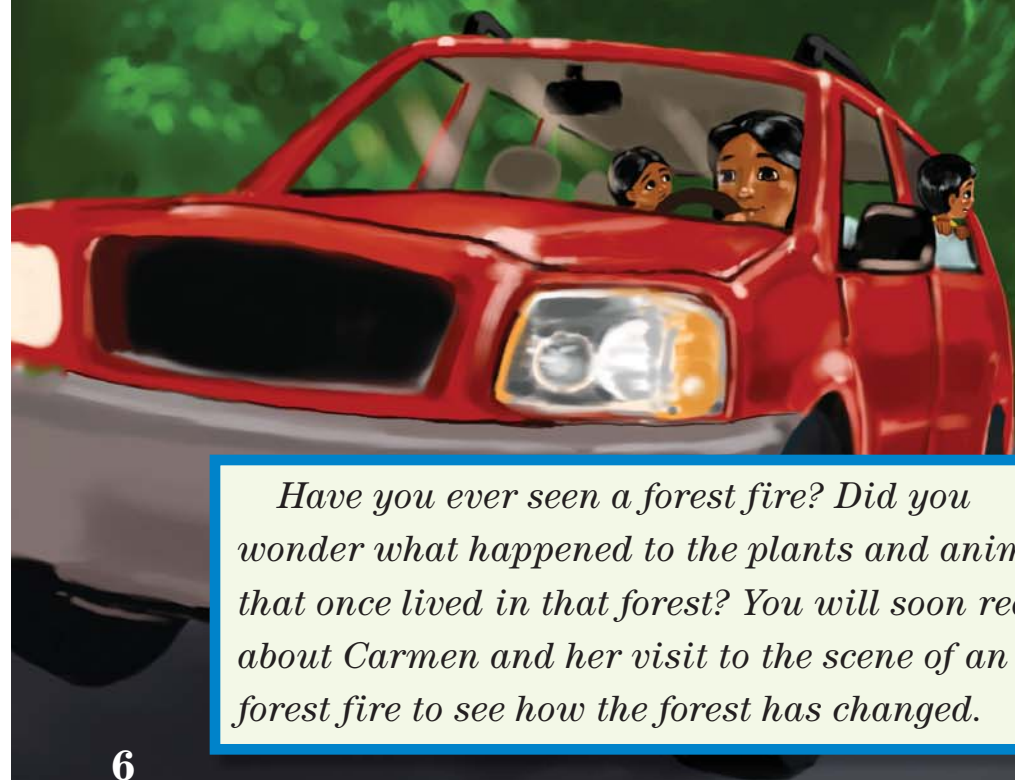


useful serving a use or purpose

How is a flashlight **useful**?



Forest Fire!



Have you ever seen a forest fire? Did you wonder what happened to the plants and animals that once lived in that forest? You will soon read about Carmen and her visit to the scene of an old forest fire to see how the forest has changed.

Leaving Home

Carmen and her family were driving down from the mountains. Their suitcases were packed. Their cat was in her crate. Carmen and her brother had their favorite toys. Behind them was their house. Behind that was a forest fire.

“When can we go back home, Mom?” Carmen asked.

“When the firefighters say it’s okay,” said Carmen’s mom.

“Will our house burn down?” asked Carmen’s little brother.

“Probably not,” said Carmen’s mom. “The firefighters are just being very careful. They don’t want anyone to get hurt.”

What Will Happen?

“What about our favorite trail on Pirate Rock?” asked Carmen. “Will that burn?”

“It might burn,” said Carmen’s mom, “but that doesn’t mean we can’t hike anymore. When the fire is out and the area is safe, we can go back.”

“I hate fires,” said Carmen. “They ruin everything.”

“Actually,” said Carmen’s mom, “a natural fire can be **useful**. It can help some kinds of forests.”



A Useful Forest Fire?

“I don’t see how a forest fire can be useful for anything,” said Carmen. “Doesn’t it kill trees and animals?”

“Yes, it does,” said Carmen’s mom, “but fire often prepares the forest for different plants and animals.”

“I don’t get it,” said Carmen.

“I’ll tell you what,” said Carmen’s mom. “After we go to your friend Evan’s house, we can all hike to the other side of the valley and see where the Eagle Ridge fire burned the forest two years ago.”

More Sunlight

On Eagle Ridge, there were a lot of charred, dead trees. But along the hillside were hundreds of bright orange fire poppies.

“We don’t have flowers like these on Pirate Rock,” said Carmen.

“That’s because the trees keep out the light,” said Carmen’s mom. “When there’s **competition** for sunlight between the trees and the flowers, the trees win because they are taller. There’s plenty of sunlight for the flowers here. They will grow and become food for deer, elk, and other animals.”



Baby Trees

“Look!” said Evan. “Baby trees!”

“Aw, so cute,” said Carmen.

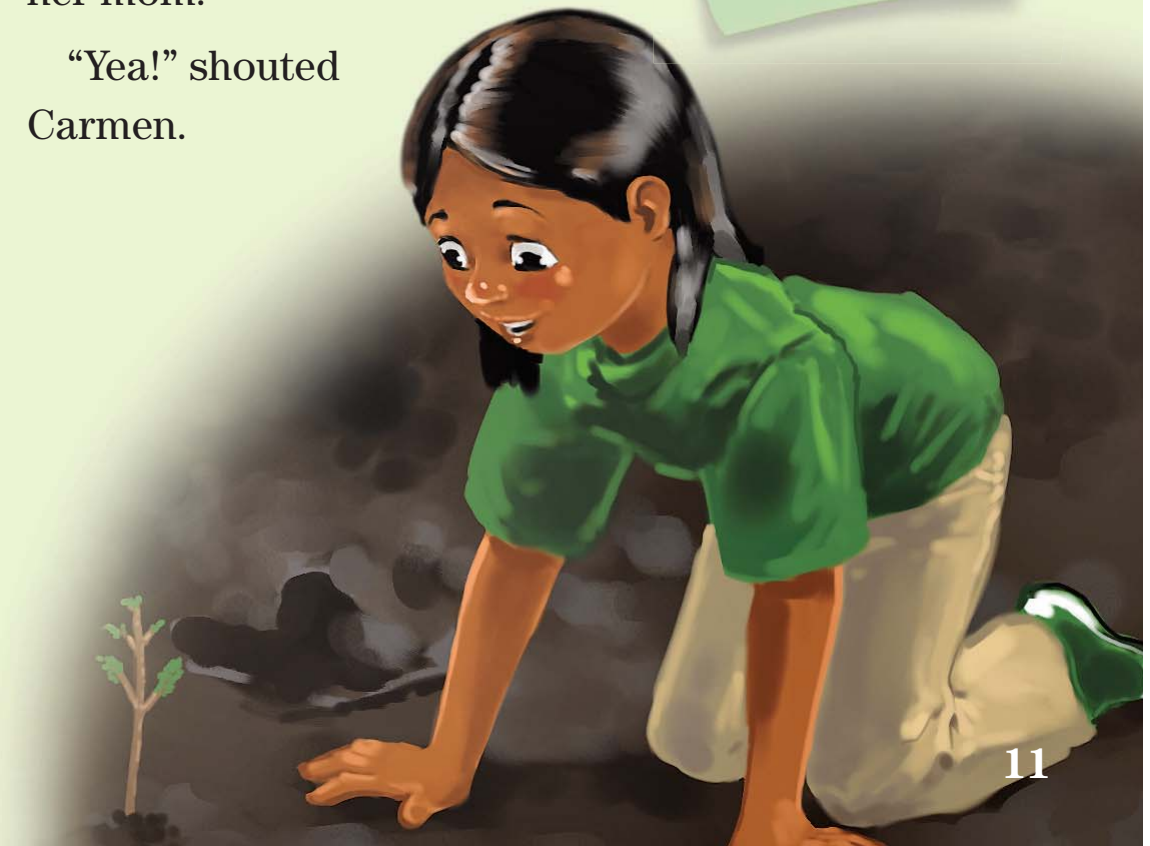
“The type of trees in this **ecosystem** don’t release their seeds until there has been a fire. If they don’t release their seeds, there can’t be any baby trees,” said Carmen’s mom.

“Will Pirate Rock have baby trees?” asked Carmen.

“Yes. Next year there will be a lot of baby trees,” said her mom.

“Yea!” shouted Carmen.

✓ Comprehension
Why will Pirate Rock have baby trees next year?



Ecosystems Everywhere!

What Are Ecosystems?

Carmen, her mom, her brother, and her friend Evan went on a hike to see what happens to a forest after there has been a forest fire. Everything they saw was part of an ecosystem that had changed. An **ecosystem** is all of the living and nonliving things in an environment and all of their interactions.

Ecosystems can be large or small, far from cities or in your own backyard. An ocean is a large ecosystem full of living things. Plants, animals, and nonliving things, such as water, rocks, and sand, are part of an ocean ecosystem. A pond is an example of a small ecosystem.

What living and nonliving things do you see in this pond ecosystem?



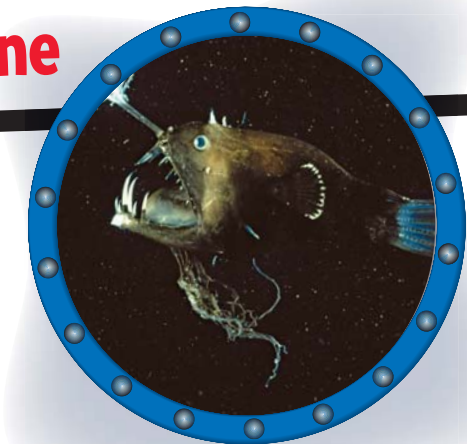
genre Reading a Magazine Article

The ocean is one huge ecosystem, but it has many smaller ecosystems within it. The article below is about the twilight zone, which is one of the deepest, darkest, and coldest ecosystems in the ocean.

Life in the Twilight Zone

The twilight zone is a part of the ocean that most of us will never see. It is 1,000 to 4,000 meters below the surface of the ocean. Very little light reaches this zone, so no plants can live there. Some animals that live there make their own greenish-blue light. This is called bioluminescence.

It is difficult for scientists to study the twilight zone and the animals that live there. Scientists must deal with extremely high water pressure and very, very cold temperatures. Some of



Deep sea anglerfish live in the ocean's twilight zone.

the different animals they have found in this zone include giant jellyfish, eels, and giant squids. Who knows what scientists will discover next about this underwater ecosystem?

Focus on Survival

All living things in an ecosystem need air, food, water, and shelter. They need these things for their **survival**, or their ability to stay alive. To help them get what they need, plants and animals have adaptations. An **adaptation** is a characteristic that helps a living thing survive. A bat's wings, a turtle's shell, and an owl's ability to hear tiny sounds at night are all adaptations.

✓ Comprehension
How might an owl's hearing help it survive?

A turtle's shell protects it from being eaten by other animals.



Adaptations: Nature's Tools

There are different kinds of adaptations. Each living thing uses its adaptations for survival.

- **Physical adaptations** have to do with an animal's body or a plant's structure. A snapping turtle's hooked beak and powerful jaws are physical adaptations that help it to capture prey. The long, sharp spines on many cactus plants are physical adaptations that protect the plants from being eaten by grazing animals.
- **Behavioral adaptations** have to do with the way animals act, or behave. Hibernation is a behavioral adaptation. Animals that hibernate, such as bears and mice, conserve energy and avoid a food shortage by sleeping or being less active during winter months.



Many mice hibernate in nests during cold weather.

Structures Description

What adjectives are used to describe things in this paragraph?

Competing to Survive

Carmen's mom said that before the forest fire on Eagle Ridge, flowers and trees competed for sunlight. **Competition** is the struggle among living things for limited resources, such as food, water, and space. Plants in a dry place, such as a desert, might compete for water. Animals that eat fruit might compete for the berries in a forest.

Avoiding Competition

Adaptations can be **useful**. They can help living things avoid competition in an ecosystem. For example, birds with large beaks eat the large seeds that birds with small beaks can't eat. Some birds are adapted to eat during the day, while others feed mostly at night.



The great horned owl hunts at night.



The peregrine falcon hunts during the day.

Changing Ecosystems

Some ecosystems change frequently. Other ecosystems change slowly over time. But all ecosystems change. When an ecosystem changes, the plants and animals that live there might die. However, they might be able to stay because they have adaptations that let them survive the changes. Animals might also move to a different ecosystem to get what they need to survive.



New trees are beginning to sprout one year after a forest fire.

✓ Comprehension
If you add new plants to your garden, in what ways are you changing that ecosystem?

Describing What You See

Let's think about the hike Carmen took with Evan and her family. What did they see there? You've never been to Eagle Ridge, but you know a little bit about how it looks. Adjectives such as *charred*, *bright*, and *orange* help you picture the scene.

Descriptions are important to scientists who study plants and animals that live in an ecosystem. Scientists use descriptions when they write about what ecosystems look like. Think about an ecosystem you have seen. How would you describe it?



How would you describe this ecosystem?

Life Science & you

There are many different ecosystems on Earth. You are part of an ecosystem. You can find an ecosystem wherever there are living things—even right inside your own home.

Scientists study ecosystems to learn about the plants and animals that live in them. They also look for changes that might cause problems in an ecosystem, such as the spread of diseases. You can do your part to protect Earth's ecosystems. Help keep them clean and litter free, and respect the plants and animals that live in them.

Think about It! What living things and nonliving things do you depend on for your survival?



After You Read

Complete these activities on a separate piece of paper.



Vocabulary Words to Know

Write the vocabulary word that completes each sentence.

useful adaptation competition ecosystem survival

1. An _____ includes living and nonliving things.
2. A tool, such as a hammer, is a _____ object.
3. Fur that allows an animal to blend into its environment is an example of an _____.
4. _____ occurs when living things struggle with each other to meet their basic needs.
5. Humans need air, food, water, and shelter for their _____.



Features Glossary

Use the glossary entry to answer the questions.

ecosystem (ēk' ō sis təm) *n.* all of the living and nonliving things in an environment and all of their interactions. *The ecosystem in my backyard includes grass, birds, and a patio.*

Write the letter of the correct answer.

6. What type of word is *ecosystem*?
 - a. noun
 - b. verb
 - c. adjective
7. Which part of the glossary entry tells you how to say *ecosystem*?
 - a. *n.*
 - b. (ēk' ō sis təm)
 - c. *The ecosystem in my backyard includes grass, birds, and a patio.*
8. What word does the first syllable in *ecosystem* rhyme with?
 - a. pick
 - b. leak
 - c. neck

After You Read

Structures Description

Write the letter of the correct answer.

Remember that when writers describe, they tell you how something looks, sounds, tastes, smells, or feels.

9. Which sentence describes how something looks?
 - a. The tall tree had a huge trunk and tiny green leaves.
 - b. The tree grew in the forest.
 - c. The leaves rustled in the breeze.
10. Which sentence describes how something smells?
 - a. Baby trees need light.
 - b. The fire burned the big old trees, so now there is plenty of sunlight.
 - c. The scent of burning wood drifted over the hillside.
11. Which sentence describes how something sounds?
 - a. Dry leaves crackled under our feet as we walked through the forest.
 - b. We saw a patch of bright pink flowers.
 - c. Many different plants and animals live in the forest.

Write about It

Write four sentences **describing** an ecosystem near where you live. Think about these questions: What does the ecosystem look like? What does it smell like? What are some sounds you might hear there? What kinds of animals live there?



Interactive Skills Handbook

For more practice with

- **glossaries**, see pages 22–25.
- **description**, see pages 62–69.
- **questioning**, see pages 94–97.

Glossary

adaptation (a dap tā' shən) *n.* a characteristic that helps a living thing survive. *A wing is an adaptation that helps a bird fly.*

competition (käm pə ti' shən) *n.* the struggle among living things for limited resources, such as food, water, and space. *The small number of seeds caused competition among the hungry birds.*

ecosystem (ēk' ō sis təm) *n.* all of the living and nonliving things in an environment and all of their interactions. *The ecosystem in my backyard includes grass, birds, and a patio.*

survival (sər vī' vəl) *n.* the ability to stay alive. *Water is necessary for a plant's survival.*

useful (ūs' fəl) *adj.* serving a use or purpose. *Tools are useful objects.*

Pronunciation Key

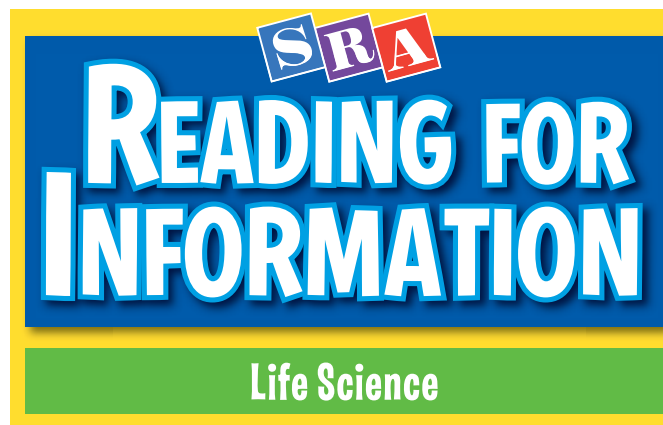
a	at	i	it	ou	out	ch	chair
ā	late	ī	kite	u	up	hw	which
ä	father, ox,	ō	rose	ū	use, mule	ng	ring
	mop	ô	law, bought	ûr	turn, learn	sh	shop
âr	care	oi	coin	ə	about,	th	thin
e	set,	ōō	book, pull		chicken,	th	there
ē	me	ōō	food, rude		pencil,	zh	treasure
îr	ear, pier	or	form		cannon,		
					circus		

Ecosystems



SAMPLE ONLY

©Copyright SRA McGraw-Hill. All rights reserved.



Ecosystems

**Mc
Graw
Hill** **SRA**
Columbus, OH

Photo Credits

3 © Steven J. Kazlowski/Alamy; 5 © David A. Northcott/Corbis; 11 © Joseph Van Os/Getty Images, Inc.; 13 (tl) © Willard Clay/Getty Images, Inc., (tr) © Steven J. Kazlowski/Alamy, (cr) © FLPA/Alamy, (b) © David Muench/Corbis; 14 (tr) Jochem D Wijnands/Getty Images, Inc., (bl) © Tom Brakefield/Corbis; 15 © Chase Swift/Corbis; 16 © Anthony Bannister/NHPA Ltd.; 17 © Daryl Balfour/Getty Images, Inc.; 18 © Rolf Hicker/Acclaim Images; 19 © Tom Stewart/Corbis; 23 © Shannon Fagan/Getty Images, Inc.

SRAonline.com



Copyright © 2008 by SRA/McGraw-Hill.

All rights reserved. No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written consent of The McGraw-Hill Companies, Inc., including, but not limited to, network storage or transmission, or broadcast for distance learning.

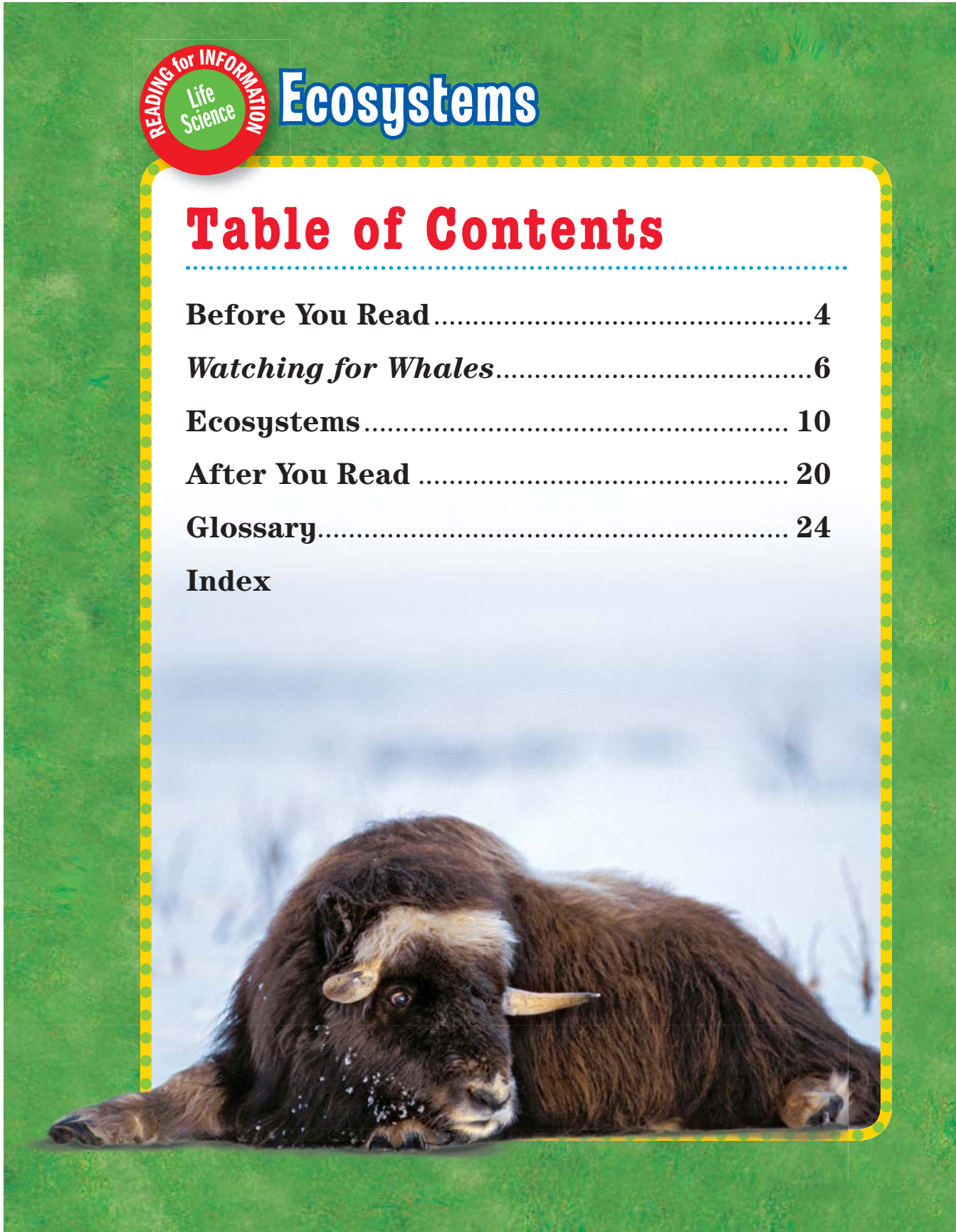
Printed in China.

Send all inquiries to this address:
SRA/McGraw-Hill
4400 Easton Commons
Columbus, OH 43219

ISBN: 978-0-07-610225-9
MHID: 0-07-610225-4

1 2 3 4 5 6 7 8 9 CC 13 12 11 10 09 08 07

The McGraw-Hill Companies



Before You Read

You can do some things to help you read for information.

Features Glossary

The glossary on page 24 includes the vocabulary words and their definitions. It also gives other information about each vocabulary word.

How to say the word

What kind of word it is

adaptation (a dap tā' shən) *n.* a characteristic that helps a living thing survive. *A wing is an adaptation that helps a bird fly.*

Example sentence

Definition

Structures Description

As you read, look for words that describe how something looks, tastes, sounds, smells, or feels.

A snapping turtle has a **hooked** beak and **powerful** jaws.

Adjectives are used to describe.

Vocabulary Words to Know

adaptation a characteristic that helps a living thing survive

competition the struggle among living things for limited resources, such as food, water, and space

ecosystem all of the living and nonliving things in an environment and all of their interactions

migration the movement of living things from one environment to another

survival the ability to stay alive

useful serving a good use or purpose



The color of the Luna moth's wings is an **adaptation** that allows the moth to blend in with green leaves. This confuses predators.

Watching for Whales

Imagine seeing an animal that is the size of ten elephants! You can if you go whale watching. In this story, Jaden goes on a whale-watching tour and learns amazing things about whales, some of Earth's largest creatures.



A Whale Festival

Jaden was visiting his Aunt Regina in California. She promised that they would go to a festival while he was there. Jaden didn't know she meant a *whale* festival.

"A whole festival about whales?" he asked.

"Trust me. It'll be really fun," said Aunt Regina.

At the festival, there were food, games, and music. Jaden won a toy whale in the rubber-duck race. After lunch, they boarded a boat to go whale watching.

On the Boat

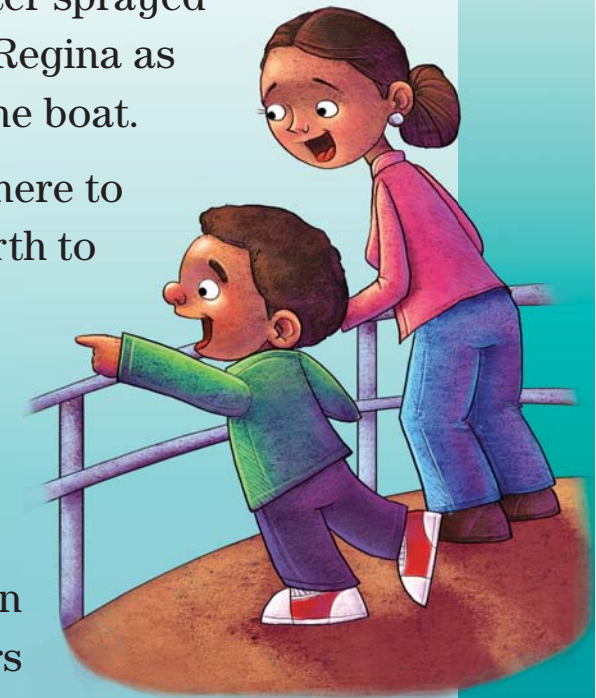
The cool, salty ocean water sprayed all around Jaden and Aunt Regina as they stood on the deck of the boat.

"The gray whales you're here to see today are migrating north to feed in the Arctic waters," the tour guide said over the loudspeaker. "Gray whales have the longest **migration** route of all whales. They travel between 15,000 and 20,000 kilometers during their round trip. Their **survival** depends on this amazing journey."

Suddenly Jaden jumped into the air and pointed.

"I think I see one!" he shouted.

The whale was a curved, gray shape gliding through the water.



Structures Description

What words on this page are used to describe how things look, feel, or taste?

More Whale Sightings

Soon more gray whales appeared in the water. Aunt Regina scrambled to take pictures of them. Every so often, a whale would blow out two big streams of water in the shape of a V.

“Why do they do that?” asked Jaden.

“That’s how gray whales breathe. When they let out air, water sprays out. Then they breathe in more air,” explained Aunt Regina.

Just then, the tour guide began to talk over the loudspeaker again.



A Mouthful of Mud!

“Gray whales lack teeth, which are **useful** for tearing and chewing fish,” the tour guide said. “When they eat, they take in mouthfuls of water and mud. Then they push out the mud through giant comblike structures in their mouths. What’s left to eat is mostly plankton and shrimp. This way of eating helps the whales avoid **competition** for food in their **ecosystem**.”

“A mouthful of mud? Gross!” said Jaden.

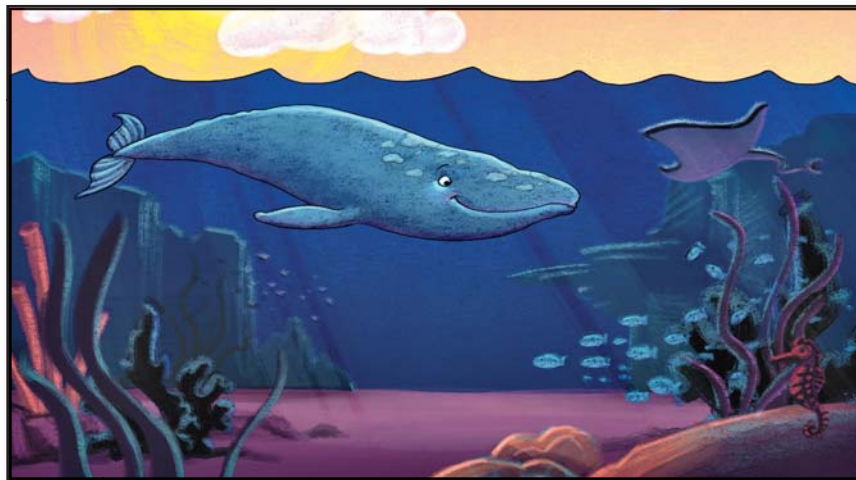
The two-hour tour was almost over, so the boat headed back to the dock. Jaden would never forget his exciting trip to the whale festival.

✓ Comprehension
Why don't gray whales eat fish?

Ecosystems

Ecosystems and Survival

An **ecosystem** is all of the living and nonliving things in an environment and all of their interactions. What nonliving things do gray whales need? They need air to breathe, water to swim in, and mud to sift through in search of food. The living things they need include tiny animals they find living in the mud on the sea floor. All living things depend on their ecosystems for their **survival**, or their ability to stay alive. What are the living and nonliving parts of the ocean ecosystem shown on this page?



Different Sizes of Ecosystems

Ecosystems come in all sizes. The grasslands of the African savanna are a large ecosystem. Many different animals live in the grasslands and graze on the wide variety of grasses that grow there. A decaying log in a forest is a small ecosystem. Insects, such as ants and termites, live in the log and use it for shelter.

Giraffes, springboks, and zebras are some of the animals that live in the African savanna.

✓ Comprehension
What kind of ecosystem do you live in? What are some of its living and nonliving parts?



Focus on Four Ecosystems

The pictures on the next page show four different kinds of ecosystems.

- The tundra is cold and dry, and the winters there are long. Trees cannot grow there, but small plants can. Animals such as snowy owls, lemmings, and polar bears also live there.
- Many forest ecosystems are warm in the summer and cold in the winter. Forests have many trees. You can find deer, foxes, and snakes in a forest.
- Deserts are dry and rocky. Most desert animals, such as lizards, are small. Desert plants, such as cacti, are usually short.
- Lakes are large and deep. They have many plants in and around them. Snails, frogs, turtles, and fish live in a lake ecosystem.

Structures Description

What words on this page are used to describe different ecosystems?



Water lilies thrive in lake ecosystems.



The musk ox's thick fur protects it from the harsh climate in the tundra.



The trees in this forest ecosystem provide shelter for animals.



Desert plants, such as this cactus, have ways of keeping water inside their stems and roots.

Adaptations

Earth is filled with living things that fit into their ecosystems. The colors, shapes, sizes, and behaviors of living things are adaptations. An **adaptation** is a characteristic that helps a living thing survive.

Physical Adaptations Some adaptations have to do with the physical structure of a living thing, such as an animal's body or a plant's root system. A whale's

physical adaptations include a big, streamlined body and small, powerful fins that are **useful** for helping the whale swim. A Venus's flytrap is a plant that has a unique physical adaptation. It has jawlike leaves that snap shut to trap insects that the plant uses for food.

An anteater uses its tubelike mouth and sticky tongue to eat ants.



A horse uses its flat teeth for grinding.



Behavioral Adaptations Living things behave, or act, in ways that help ensure their survival. One kind of behavioral adaptation is migration.

Migration is the movement of living things from one environment to another. In the spring, gray whales migrate to the cold waters off the coast of Alaska. Food is plentiful there in the summer. Many birds, fish, and insects migrate to find food and a place to reproduce.

Hibernation is another kind of behavioral adaptation. Bears, mice, and bats are animals that hibernate. They sleep or are less active in the winter. This helps them conserve energy and avoid having to find food in the winter months when food is scarce.

In fall, Canada geese migrate in groups to warmer climates.



Adaptations for Different Ecosystems

Living things are adapted to the ecosystems they live in. In the cold, dry tundra, there are very few trees because the ground beneath the top layer of soil is frozen. A tree's roots cannot break through the frozen ground. In the rain forest, many plants have oily coatings to help them shed water. This adaptation helps keep the plants' branches from getting weighed down by water and breaking.

A polar bear has thick fur and a layer of fat. These adaptations help it to survive in a cold climate. The scaly skin of a snake helps it hold in water in hot, dry climates.



The sidewinder snake is adapted to move quickly over desert surfaces to catch prey.

✓ Comprehension
What animals are specially adapted to live in your ecosystem?

Competition in Nature

Each ecosystem has only so much food, water, and space. In a grassland ecosystem, for example, large rabbit-like animals called hares eat grass. They may all have enough food. But suppose the number of hares increases. Then they might begin competing for food because there is not enough grass for all of them. **Competition** is the struggle among living things for limited resources, such as food, water, and space. As a result of competition, some hares might die or move to a new area to find food.

What are the vulture and the jackal competing for?



When Ecosystems Change

Ecosystems are always changing. Some changes take many years. A pond can dry up and slowly fill in with plants. After several years, it becomes a meadow. Trees grow in meadows and turn them into forests. Some changes happen quickly. Fires burn down forests. Floods wash away soil. Even pollution can change an ecosystem.



Fireweed is one of the first plants to grow after a forest fire.

When an ecosystem changes, the plants and animals that live there might have a harder time getting what they need to survive. As a result, some animals move elsewhere. Some plants and animals die out. But sometimes the changes help living things. Trees that survive a fire have more space and light. A pond that turns into a meadow becomes a home for rabbits and grasshoppers.

Life Science & you

The next time you're in a park or in your own backyard, look at the plants and animals that are living there. Think about how they are getting what they need to survive. What adaptations do they have? How are they competing for food, water, and other needs? You might even think of ways to help them survive. You might put up a bird feeder in your yard. You might move certain plants to a place where they can get more sunlight. Every day you can do your part to protect Earth's ecosystems.



Think about It!

How do people's actions help protect ecosystems? How do their actions harm ecosystems?

After You Read

Complete these activities on a separate piece of paper.



Vocabulary Words to Know

Write the vocabulary word or words that complete each sentence.

useful	adaptation	competition
ecosystem	migration	survival

1. An example of _____ is a bird's flight to a warmer climate in the fall.
2. Each _____ an animal has is _____ for helping that animal survive.
3. It is not always possible for living things to avoid _____ for food, water, and other things they need for their _____.
4. Some parts of an ocean _____ include rocks, water, plants, and fish.

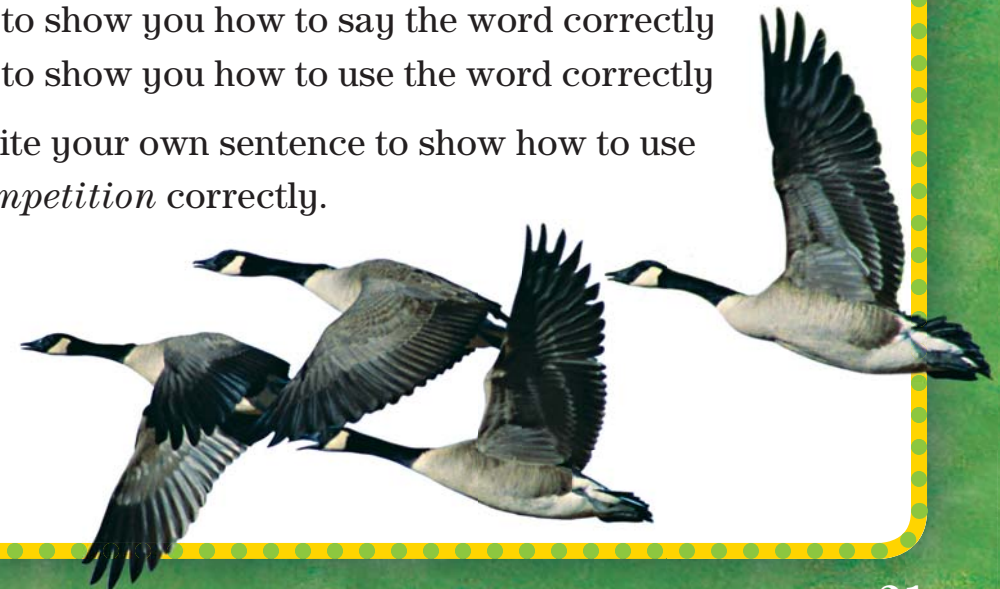


Features Glossary

Use the glossary entry to answer the questions.

competition (käm pə ti' shən) *n.* the struggle among living things for limited resources, such as food, water, and space. *There was competition for food among the hungry birds.*

5. What word rhymes with the first syllable in *competition*?
a. boat
b. swamp
c. look
6. Why is an example sentence included in a glossary entry?
a. to show you where to find the word in the book
b. to show you how to say the word correctly
c. to show you how to use the word correctly
7. Write your own sentence to show how to use *competition* correctly.



After You Read

Structures Description

Read the paragraph below. Then answer each question.

Narwhals: The Unicorns of the Sea

A narwhal is an animal that lives in the sea. It has smooth, speckled skin and strong, short flippers. Its eyes are small. It has a blowhole on top of its head. It looks like a dolphin or a whale except for one thing: a male has one long tusk that sticks straight out of its head. This tusk is actually a tooth. It grows in a long spiral up to 10 feet (3 meters) long. In the Middle Ages people sold narwhal tusks by fooling buyers into believing that the tusks were unicorn horns. Now people think the tusks show which male narwhals are strongest and healthiest.

8. If you touched a narwhal, how would it feel?
9. What does the male narwhal's tusk look like?
10. What adjectives describe a narwhal's flippers?

Write about It

Write a paragraph describing the ecosystem you live in. Think about these questions: What does your

ecosystem look like?
What does it smell like?
What are some sounds you hear there? What kinds of plants and animals live there?



Interactive Skills Handbook

- For more practice with
- **glossary**, see pages 22–25.
 - **description**, see pages 62–69.
 - **questioning**, see pages 94–97.

Glossary

adaptation (a dap tā' shən) *n.* a characteristic that helps a living thing survive. *A wing is an adaptation that helps a bird fly.*

competition (kām pə ti' shən) *n.* the struggle among living things for limited resources, such as food, water, and space. *There was competition for food among the hungry birds.*

ecosystem (ē' kō sis təm) *n.* all of the living and nonliving things in an environment and all of their interactions. *The ecosystem in my backyard includes grass, birds, and a patio.*

migration (mī grā' shən) *n.* the movement of living things from one environment to another. *A migration route can be many miles long.*

survival (sər vī' vəl) *n.* the ability to stay alive. *Water is necessary for a plant's survival.*

useful (ūs' fəl) *adj.* serving a use or purpose. *Tools are useful objects.*

Pronunciation Key

a	at	i	it	ou	out	ch	chair
ā	late	ī	kite	u	up	hw	which
ä	father, ox, mop	ō	rose	ū	use, mule	ng	ring
âr	care	ô	law, bought	ûr	turn, learn	sh	shop
e	set,	oi	coin	ə	about, chicken,	th	thin
ē	me	oo	book, pull		pencil, cannon,	th	there
îr	ear, pier	oo	food, rude			zh	treasure
		or	form				

Learn It

A glossary is an alphabetical list of vocabulary words and their meanings. A glossary can be found in the back of a book. Each glossary entry gives you a lot of information about a word.

fertilizer (fûr' təlî' zər) *n.* a mixture added to the soil to help plants grow. *I added fertilizer to my plants.*

The word's part of speech is shown here. Fertilizer is a noun.

This sentence shows the word's meaning.

This is a sentence that shows how the word is used. It gives the meanings of hard words in the book or article.

A **pronunciation** shows you how to say a word. The pronunciation guide is in parentheses after the word.



Entries in glossaries are listed in alphabetical order.



Use a glossary to learn the meanings of new words.

Try It

Use the glossary entries to answer the questions below.

buffalo (buf' e lo') *n.* a large wild animal that is part of the Bovidae family. *Bison is another name for a buffalo.*

hare (hâr) *n.* a small mammal with long ears and hind legs adapted for leaping. *Hares can run up to 70 kilometers per hour (45 miles per hour).*

hedgehog (hej' hôg') *n.* a small insect-eating animal with spiny hairs on its back. *Hedgehogs live in forests and gardens.*



- Which one of the following is large animal?
a. hare **b.** buffalo c. hedgehog
- What kind of word is *hare*?
a. noun b. verb c. adjective
- Which of the following is the correct pronunciation for *hedgehog*?
a. buf' e lo' b. hâr **c.** hej' hôg'

Practice It

Write the words from the glossary entries on the correct lines in the passage below.

communication (ku myū ni kā' sən) *n.* the sharing of feelings, thoughts, or information. *Talking politely is part of good communication.*

respond (ri spond') *v.* to give an answer; to say something in return. *You show a friend that you care when you listen to him or her and respond thoughtfully.*

useful (ūsəl) *adj.* serving a good use or purpose. *This screwdriver will be useful when I fix this chair.*

The Art of Communication

It is important to learn good communication skills so that people can understand what you're trying to say. In a conversation, sometimes you ask questions and sometimes you respond to questions. Sometimes the most useful thing you can do is listen to a friend when he or she needs someone to talk to.



Apply It

Here are pieces of a glossary taken from a book about animals. Use the information to complete the glossary entries below.

(jə raf')

The giraffe's head reached the tallest trees.

the early stage of a butterfly or moth.

(kat'ər pil'ər)

an animal with a long neck and long legs.

The caterpillar finally broke out of its cocoon.

4. caterpillar (katər pil'ər)
n. the early stage of a butterfly or moth.
The caterpillar finally broke out of its cocoon.
5. giraffe (jə raf')
n. an animal with a long neck and long legs.
The giraffe's head reached the tallest trees.

Learn It

When you read, look for words that describe the topic. A **description** gives important details about a topic. Descriptions draw a picture with words for the five senses: sight, hearing, touch, smell, and taste.

Signal words used in descriptions are adjectives and adverbs.

Adjectives tell how many or what kind.

- *How many* raindrops? **five** raindrops
- *What kind* of water? **blue, smooth** water

Adverbs usually tell how or when something was done.

- *How* did the rain fall? The rain fell **softly**.
- *When* is ocean water Ocean water is
salty? always salty.



A good description gives you a complete picture. Can you see it, taste it, feel it, smell it, and hear it?

Try It

Complete the sentences about owls by filling in the blanks. Use description words from the box to help you.

.....
sing soft brown tall
.....

1. An owl has a thick layer of _____ **soft** _____, fluffy feathers to keep it warm.
2. Some owls make their nests down on the ground, and some make nests up in _____ **tall** _____ trees.
3. Owls often _____ **sing** _____ songs with their mates.
4. Owls can be many colors, such as red, grey, or _____ **brown** _____.



Practice It

Read the story, and then answer the questions below.

The Moon

The moon is a special object in the sky. The moon travels around Earth. It usually looks white, but sometimes it looks yellow.

The moon is round, but you cannot always see the whole shape. It often looks curved. That shape is called a crescent. When the moon is full, you may see dark spots on it. The spots are giant holes called craters.



- 7. What color is the moon most of the time?
white
- 8. What are the moon's shapes?
round, crescent
- 9. What do the moon's craters look like?
dark spots

Apply It

Write a paragraph describing your favorite season. Circle the description words you used. List some description words in the chart below to help you get started.

Season:	_____
_____	See
	Hear
	Smell
	Touch
	Taste

Paragraphs will vary but should include the students' understanding of seasons and description words.

Learn It

Descriptions use adjectives and adverbs to help readers learn more about a topic.

Adjectives tell how many or what kind.

- **Most** metals are **shiny**.
- Metals can be **hard** or **soft**.

Adverbs usually tell how or when something was done. They often end in *-ly*.

- Some metals heat up **quickly**.
- **Sometimes** metals are used in jewelry.

Questions use descriptive adjectives or adverbs.

How many metals are shiny?

most are shiny

What kinds of metals are there?

some are hard, some are soft

How do some metals heat up?

some heat up quickly

When are metals used in jewelry?

sometimes they are used in jewelry



Using descriptive words can create a picture in readers' minds.

Try It

Read the passage, and answer the questions below.

The Bilby

The bilby is a small animal that lives in Australia. Once, bilbies lived all over Australia. Today, most bilbies live in the north. They have large ears like rabbits. Their fur is gray.

Bilbies also have strong claws. Bilbies uses their claws to dig. They can quickly dig deep holes. Bilbies often run into their holes to escape from hungry animals.



1. Which word describes a bilby's size?

small

2. Which word describes how a bilby moves?

quickly

3. In your own words, describe what a bilby looks like.

Descriptions will vary but should include the students'

understanding of bilbies.

Practice It

Read the passage, and circle any description words. Then use the description words to write three sentences about baking bread.

Bread: From Seed to Table

Flour is made from wheat. First, the wheat grows in large fields. Next, it is picked by a big machine, and the seeds are separated from the plant. Then the seeds are ground into flour.

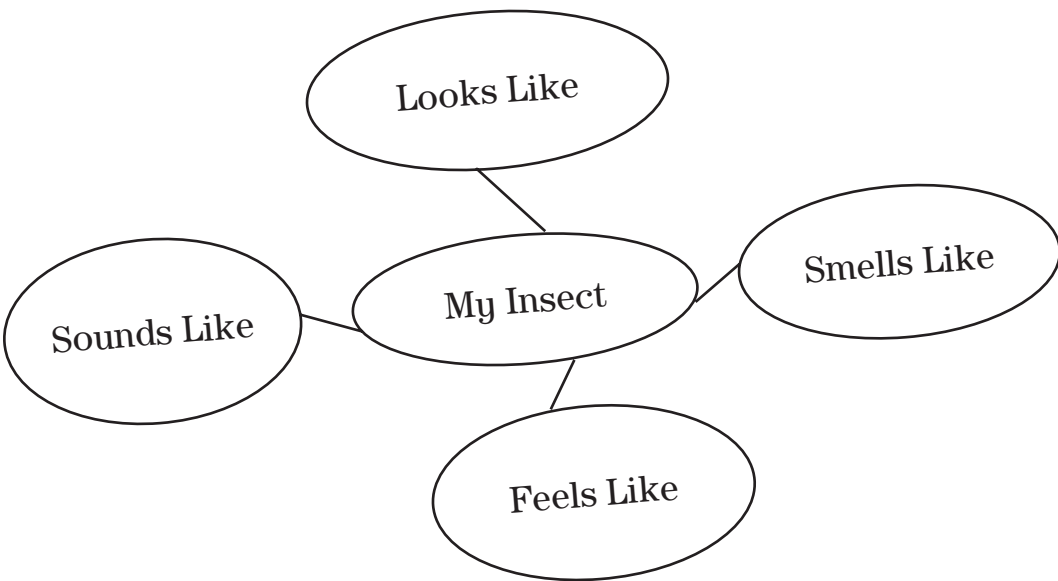
To make bread, flour is mixed with eggs, yeast, and warm water. Sometimes a loud machine is used to mix the ingredients. The mixture slowly becomes soft dough. The dough is formed into a squishy loaf and put into a hot oven.

Soon a fresh smell and a beautiful loaf of bread comes out of the oven. The bread tastes sweet and yummy!

Sentences will vary but should include the students' understanding of baking bread.

Apply It

Think of an insect you have seen outside. Draw a picture of the insect and write a description of it. Then circle the description words you used. Use a graphic organizer like the one shown below to get started.



Descriptions will vary but should include the students' understanding of insects.



Learn It

Asking and answering questions is a way to help you understand what you read.

How Birds Fly

Bodies of birds have special parts that help them fly. Their bones are strong and light. A bird’s heart beats very fast to keep its blood moving. Birds also have air sacs near their lungs. This keeps them from running out of breath. Lastly, birds have light feathers. Their wings do not lift more weight than they have to! Flying takes a lot of energy. Birds get energy from the food they eat.

There are different kinds of questions and answers.

- Sometimes the answer is right in the text: Where do birds get energy? *from the food they eat*
- Sometimes the answer is in more than one place: What parts of a bird’s body help it fly? *bones, heart, lungs/air sacs, feathers*



Asking questions can help you check your understanding of what you are reading.



Try It

Read the passage and answer the questions.

Getting the Most from Food

A fried egg is not the same as a tomato. A glass of milk is different from a strawberry. All these things are food, but our bodies use them in different ways. To grow and be healthy, your body uses different kinds of nutrients from the food you eat. Sweet foods, such as fruit, have carbohydrates that give us energy. Eggs are a good source of protein. Milk is a source of fat. We use all of these nutrients to help us grow strong.

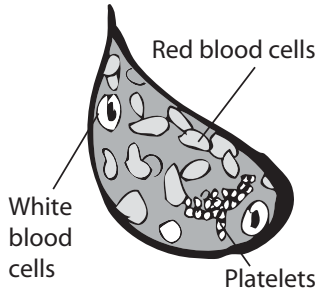
1. Is an apple a carbohydrate? yes
Where did you find the answer?
a. in the passage **b.** using outside knowledge
2. Why is a balanced diet important? Answers will vary, but should include the student’s understanding of nutrition.
Where did you find the answer?
a. using outside knowledge **b.** in the passage

Practice It

Read the passage, and answer the questions below.

What Is Blood?

Blood is a red liquid that moves through our bodies. It has four parts. Red blood cells take oxygen from the lungs to all the cells in the body. White blood cells kill germs. Platelets help the blood thicken. Platelets help form scabs over cuts. Plasma is the watery stuff that all these things float in. It also carries sugar and other nutrients that our bodies need.



- 3. Which question can be answered using outside information?
 - a. What is plasma?
 - b. Why is blood important?
- 4. Which question asks what you think?
 - a. Why do we need white blood cells?
 - b. Do you think plasma is important?

Apply It

Read the passage below.

Expressing How We Feel

Our faces show how we feel. For example, your face probably looks sad when you lose something. Your face looks happy when you find what you lost. We also show our feelings by what we say and do.

It is important to show feelings and talk about them. However, we must have self-control over how we do that. Self-control means having control over your feelings and actions.

Write one question for each of the four types of questioning skills.

- 5. Right There: Answers will vary.
- 6. Search the Passage: _____
- 7. Use Outside Knowledge: _____
- 8. Answer On Your Own: _____

Ecosystems Unit Overview

Unit Objectives

3 Key Elements:

Vocabulary Students will learn key science vocabulary and words that end in *-ful*.

Features Students will understand how to locate and use the glossary.

Structures Students will be able to identify description.

Unit Vocabulary

Science

adaptation ◆★▲
competition ◆★▲
ecosystem ◆★▲
survival ★▲
migration ▲

Words That End in *-ful*

useful ◆★▲

Ability Level Key

- ◆ = Approaching Level
- ★ = On Level
- ▲ = Above Level

Materials:

Student Readers

- *Environments in Action* ◆
- *Ecosystems Everywhere!* ★
- *Ecosystems* ▲

Activity Masters #1–4,

pp. 68–71

Interactive Skills

Handbook, pp. 22–25,

pp. 62–69, pp. 94–97

Genre:

Narrative and expository

Comprehension Skill:

Questioning

Background Information

The **3 Key Elements** of this unit are **vocabulary**, using a **glossary**, and identifying **description**. Students will apply these elements as they read about ecosystems, adaptation, and competition. They will explore the ways in which plants and animals interact in different ecosystems, as well as some adaptations living things have that help them survive.

1 Focus

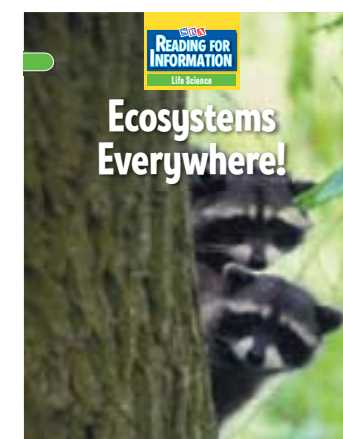
Preparing to Read

In this unit, students will read about ecosystems. The characters in the narratives explore the adaptations of owls, how a forest fire affects an ecosystem, and the adaptations of gray whales.

◆ Approaching Level



★ On Level



▲ Above Level



Getting Started

Connecting to Prior Knowledge

- Use the **Fun Facts!** to start a discussion about where bats and whales live (in caves and in oceans, respectively). Point out that every living thing is part of an environment called an ecosystem that includes both nonliving things and other living things. Ask students to give examples of living things and nonliving things.
- Have students look in an encyclopedia or online to find out more about the hog-nosed bat and the great blue whale. Ask them to research what each animal eats, where it lives, and what its physical characteristics are. Explain that all living things have characteristics that help them survive in their ecosystems.

Fun Facts!

- The smallest mammal in the world is the hog-nosed bat, which weighs less than a nickel. It's also called the bumblebee bat.
- The largest mammal in the world is the great blue whale, which can grow to be 100 feet long and weigh up to 150 tons.

2 Teach

Prereading Activities

Whole Group Use the following activities with all students to introduce the **3 Key Elements** of the unit.

Ability Level Key

- ◆ = Approaching Level
- ★ = On Level
- ▲ = Above Level

10 min Vocabulary

- ◆ ★ ▲ **Science** Give each student a copy of **Activity Master #1**. Pronounce **adaptation**, **competition**, and **ecosystem**, and read their definitions aloud. Have the class pronounce each word. Tell students that a bird's wings are an adaptation that helps it move quickly from one place to the next. Have students discuss times when they've competed for something. Ask students to name some of the living and nonliving things that are part of a particular ecosystem, such as a forest.
- ★ **Words That End in -ful** Pronounce **useful**, and read its definition. Ask students to think of other words that end in **-ful** (*joyful, careful, healthful*). Point out that the suffix **-ful** means "full of." Have students complete Activity Master #1.

5 min Features

- ★ **Glossary** Explain that a glossary is an alphabetical list of words (usually vocabulary words) that are important in the text. Hold up a Student Reader, and point out the different parts of each glossary entry: the word, the pronunciation, the part of speech, the definition, and how the word is used in a sentence.

5 min Structures

- ★ ★ ▲ **Description** Explain that description is the use of details to tell how something looks, tastes, sounds, or smells. Ask students to describe an object or an area in the classroom. Write their responses on the board. Then draw a web on the board. Write the name of the object or area in the center circle. Write the descriptive details in the outer circles. Point out that students can use a web to remember important details when they read.

For more practice with

- using a glossary, use Activity Master #2, page 69.
- description, use Activity Master #3, page 70.

Assign the Reading

- Distribute the Student Readers for this unit based on students' reading levels, and have students begin reading.
- Encourage students to pay attention to **vocabulary** and **description** as they read, as well as to use the **glossary** to understand the vocabulary words.

Reinforcing the 3 Key Elements

Small Group Use these lessons for an in-depth treatment of the **3 Key Elements** of reading for information.



Vocabulary Word Parts

- **Base Words** Ask students what the base words of *adaptation*, *competition*, and *migration* are (*adapt*, *compete*, and *migrate*). Have a volunteer look up each base word in a dictionary and tell the group what each word means. Ask students to explain how the base words are related to the longer words they are part of.
- **Known Word Parts** Tell students that looking for known word parts, such as base words, is a strategy they can use to help figure out the meaning of unfamiliar words.

Activity Have students write a sentence using each base word and a sentence using each vocabulary word.



Features Glossary

- **Glossary Entries** Have each student open his or her Student Reader to the glossary. Ask students to orally answer the following questions about each vocabulary word (*ecosystem*, *adaptation*, *competition*, and *useful*): What part of speech is this word? How do I use it in a sentence? How do I pronounce it? What does it mean?
- **Explain** Tell students that referring to the glossary to get a more complete understanding of a word and how it is used can help them learn how to use the word in speaking or writing.

Self Check Have each student make up a glossary entry for a word of his or her choice.



Structures Description

- **Answering Questions** Discuss how description answers questions such as *What does it look like?* and *What does it sound like?* Ask students to give possible answers for each question. For example, *A cardinal is small and red* or *A cat's purr sounds like a running motor*.
- **Using a Web** Divide students into two groups. Have each group describe a different object or area in the classroom. Ask each group to draw a web on a piece of paper and fill it in with the details that describe their object or area.

Wrap-up Bring the two groups together. Have them discuss the different senses they used to describe the objects or areas.

Extending the Lesson

Small Group Use the following lessons to customize your instruction according to your students' needs.

Guided Reading

- **Questioning** Encourage students to ask themselves the following questions as they read: *What will happen next? Did I understand that paragraph? and Where can I find more information about this topic?*

Below-Level Readers

- Help students connect the vocabulary words to the pictures on page 5.
- Have students describe the parts of the ocean ecosystem shown on page 16.

On-Level Readers

- Ask students how the text and photo on page 17 relates to the narrative.
- Have students fill in a web with details that describe the ocean's twilight zone.

Above-Level Readers

- Have students discuss how the photo on page 17 illustrates competition.
- Discuss how physical adaptations are different from behavioral adaptations.

Differentiating Instruction: English Language Learners

- **Sorting** Write the following words on the board: *trees; squirrels; flowers; basketball court; bench; people; grass; birds*. Ask students if they can guess what ecosystem these belong in (a park). Have students write each word on an index card and then sort the cards into two groups: living things and nonliving things. Point out that all ecosystems include living things and nonliving things.

- **Visualizing** Have students draw pictures of a park and label the living and nonliving things in the picture. If time permits, have them draw a picture of a different ecosystem, such as an ocean, a desert, or a forest, and again label the living and nonliving things.

Assign ELL Activity Master #4
Complete the activity together or assign it as independent work.

Genre Focus: Details in a Narrative

Remind students that each Student Reader includes two sections: narrative and expository. Discuss the following concepts related to these genres with students:

- Ask students to explain how the first section of the book is different from the second section. Students might point out that the narrative has characters and the expository section does not; events happen in the narrative, but the expository section

presents only facts and information. Discuss the different purposes of each kind of writing.

- Ask students to find an example of description in both sections of the text. Discuss how details in the narrative help the reader visualize the characters, their actions, and the story's setting. In the expository section, the details help the reader understand a concept.

3 Review and Assess Monitor Progress

Use the **Activity Masters** and **Interactive Skills Handbook** pages to monitor progress and to review.

Ability Level Key
◆ = Approaching Level
★ = On Level
▲ = Above Level

Name _____ Date _____

Life Science
Words to Know

adaptation a characteristic that helps a living thing survive

competition the struggle among living things for limited resources, such as food, water, and space

ecosystem all of the living and nonliving things in an environment and all of their interactions

useful serving a use or purpose

Write the vocabulary word that completes each sentence.

1. A turtle's shell is an _____ because it helps the turtle avoid being eaten by predators.
2. A turtle might face _____ for food in a pond ecosystem.
3. Draw an X next to the example of competition. _____ two birds sitting on the same branch.
4. List three living things and three nonliving things that belong in an ocean ecosystem.

Living Things	Nonliving Things
5. _____	8. _____
6. _____	9. _____
7. _____	10. _____

Activity Master 1, page 68

Name _____ Date _____

Life Science
Glossary

A glossary is a list of words that is usually in the back of a book. Each word in the glossary is listed in ABC, or alphabetical, order.

Each glossary entry includes the following information:

1. how to pronounce the word
2. the part of speech of the word
3. the definition of the word
4. a sentence that shows how to use the word

Identify the parts of this glossary entry. Use the numbers from the list above.

ecosystem (ek-uh-suh-um) *n.* all of the living and nonliving things in an environment and all of their interactions. The ecosystem in my backyard includes grass, birds, ants, and a patio.

Activity Master 2, page 69

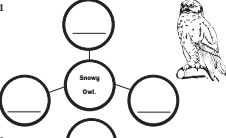
Name _____ Date _____

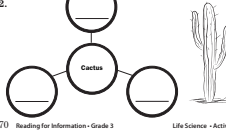
Life Science
Description

Description is the use of details to give a complete picture of something.

Use details from the box to complete each web.

long, pointy spines sharp claws
black and white feathers thick, waxy stem
green sharp beak

1. 

2. 

Activity Master 3, page 70





Name _____ Date _____

Life Science
Ecosystems

An ecosystem includes plants, animals, and nonliving things, such as rocks and water.

Label each picture.

Parts of a Forest Ecosystem

1. 
2. 
3. 
4. 

5. What are two other living or nonliving things you might find in a forest ecosystem? Draw a picture of each thing and label it.

Activity Master 4, page 71

Skills Practice

Go To
Interactive Skills Handbook

- For more practice with
- **using a glossary**, see pages 22–25.
 - **description**, see pages 62–69.
 - **questioning**, see pages 94–97.

Assessment

To assess student learning in this unit, use the following resources.

ExamView
Assessment Suite



To assess student progress in the **3 Key Elements**, use the **ExamView® Assessment Suite** CD-ROM to create a custom test or administer the prepared **Leveled Unit Tests**.

PuzzleMaker
VERSION 3.2

Use the **PuzzleMaker** CD-ROM to create fun, interactive activities that measure student mastery of the unit vocabulary.

Life Science



Description

Description is the use of details to give a complete picture of something.

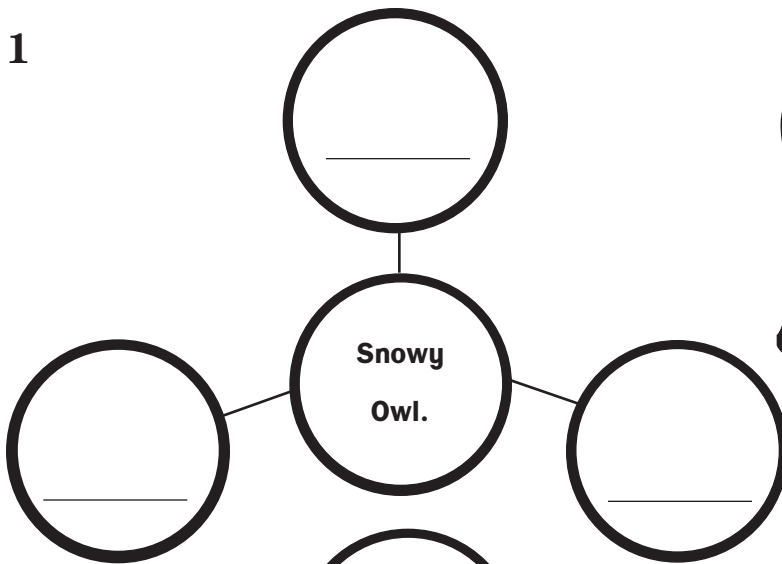
Use details from the box to complete each web.

long, pointy spines
sharp claws

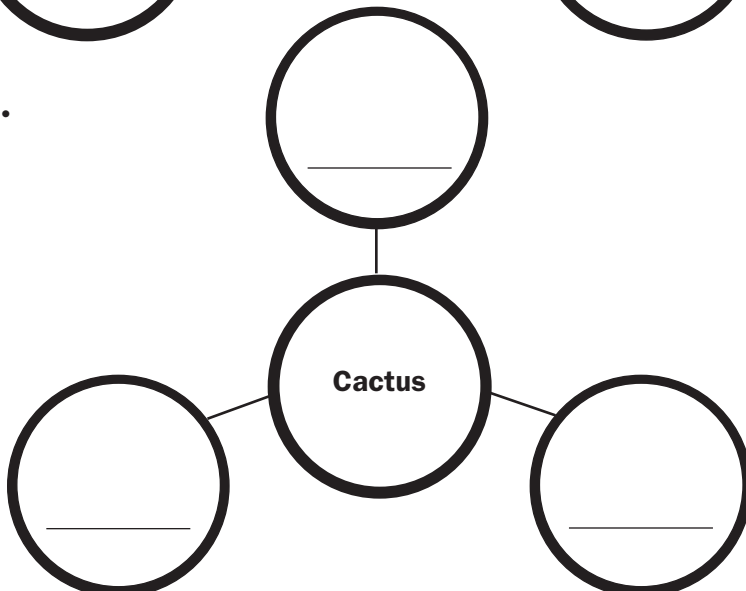
black and white feathers
thick, waxy stem

green
sharp beak

1



2.



Life Science

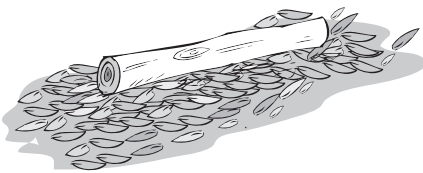
Ecosystems

An **ecosystem** includes plants, animals, and nonliving things, such as rocks and water.

Label each picture.

Parts of a Forest Ecosystem

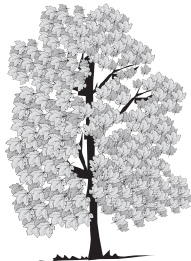
1.



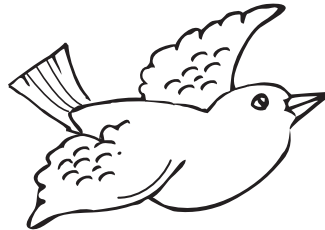
2.



3.



4.



5. What are two other living or nonliving things you might find in a forest ecosystem? Draw a picture of each thing and label it.

