



Where Living Things are Found

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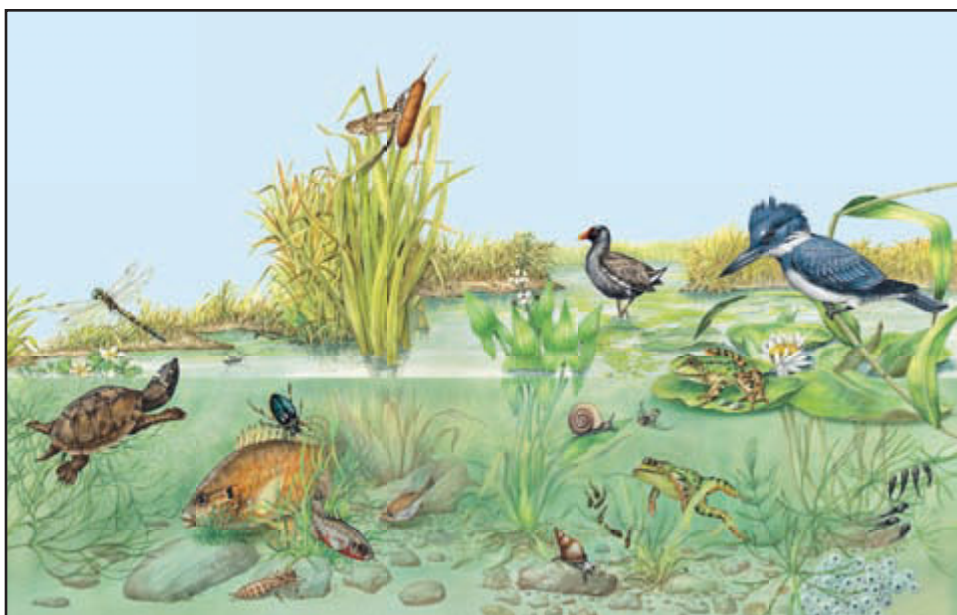
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What Are Ecosystems?

VOCABULARY

- environment
- ecosystem
- population
- community
- habitat



- An **environment** is all the living and nonliving things around a living thing. An **ecosystem** is the living and nonliving things that interact in an environment. A pond is an ecosystem.



- ▶ A **population** is a group of the same kind of living things that all live in the same place. These prairie dogs are a population. All the populations living in the same place at the same time is a **community**.



- ▶ A **habitat** is where a population lives. Rocky cliffs are the habitat of mountain goats.



READING FOCUS SKILL

MAIN IDEA AND DETAILS

The **main idea** is what the text is mostly about. **Details** tell more about the **main idea**.

Look for **details** about environments and ecosystems.

Where Things Live

Living things need a place to live and grow. You can find living things almost any place on Earth.

An **environment** is made up of all the living and nonliving things around a living thing. Living things use parts of the environment to meet their needs.

Prairie dogs live in a grassy environment.



- ▶ Koalas live where they can find the plants they eat. ▶



▶ Many living things share an environment. They share its food, space, water, and oxygen. Sometimes there are not enough of these things. Then the living things will compete for them.

- ▶  Tell what living things get from an environment.

- ▶ This bird makes its nest high above the city. ▶



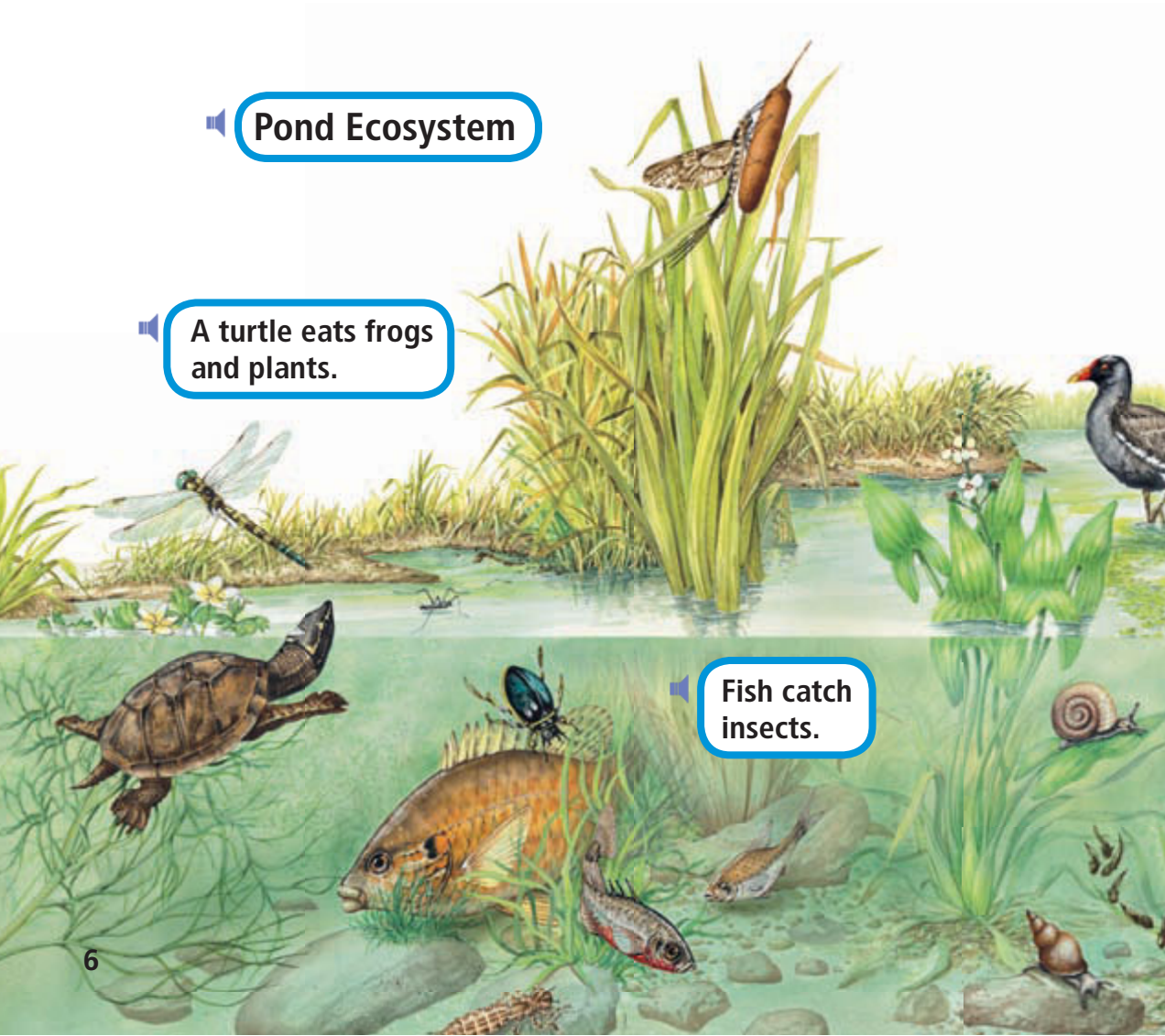
Parts of an Ecosystem

■ In an **ecosystem** the living and nonliving things interact. Look at the picture of the pond. The animals and plants are interacting. A frog sits on a lily pad. It may catch an insect. The turtle may eat a fish or a plant. Snails crawl on cattails. A bird hunts for fish.

■ Pond Ecosystem

■ A turtle eats frogs and plants.

■ Fish catch insects.



▶ A group of the same kind of plants or animals that live in the same place is called a population. All the snails in this pond are a **population**. All the water lilies are a population, too.

▶ All the populations that live in an ecosystem at the same time form a **community**. The place where each population lives is its **habitat**. A habitat includes both living and nonliving things. A pond is a habitat for fish. Trees near a pond may be a habitat for birds.



Tell the difference between a population and a community.



▶ Birds hunt for fish and frogs.

▶ All these plant and animal populations form a community.

Living Things and Their Habitats

▶ A habitat provides living things with what they need to survive. A pond has water, food, and oxygen that fish need. The trees of a rain forest provide the food and shelter that birds need. Without these things, a fish or a bird could not survive.



▶ This bird lives in rain-forest trees.

Some plants and animals can live only in certain habitats. Polar bears live in snowy habitats near icy seas. They hunt for food in the sea. They would not find the water and food they need in a desert.

Mountain goats live on rocky cliffs.

They feed on plants that grow among the rocks. Mountain goats could not live in the habitat of polar bears.



Mountain goats



What does a living thing get from its habitat?

Review



Complete this **main idea** statement.

1. The living and nonliving things around a plant or animal make up its _____.

Complete these **detail** sentences.

2. An _____ is the living and nonliving things in an environment that interact.

3. All the populations of plants and animals in an ecosystem form a _____.

4. The place in an ecosystem where a population lives is its _____.



What Are Some Types of Ecosystems?



VOCABULARY



desert



grassland



forest



A **desert** is a very dry ecosystem. Desert plants and animals can live with very little water.



🔊 A **grassland** is an ecosystem that has dry, flat land. It is hot in summer and cold in winter.



🔊 A **forest** is an ecosystem in which many trees grow. There are different kinds of forests.



READING FOCUS SKILL

MAIN IDEA AND DETAILS

The **main idea** is what the text is mostly about. **Details** tell more about the main idea. Look for **details** about different ecosystems.

Desert Ecosystems

There are many kinds of ecosystems. **Deserts** are often dry ecosystems. They get little rain. But desert plants and animals survive. A cactus stores water in its thick stem. Some animals get water by eating plants. Toads keep moist by staying under the soil. Most animals come out after sunset. It is cooler then.



Tell how animals survive in a desert.

Desert ecosystem ▼





🔊 Bison live on grasslands. ▲

Grassland Ecosystems

🔊 **Grasslands** are dry, flat areas of land that are hot in summer and cold in winter. They get more rain than deserts. But they get less rain than other ecosystems.

🔊 Grass is the main plant that grows on grasslands. Food crops grow well, too. There are also small bushes and flowers. Bison, coyotes, mice, rabbits, and snakes are some grassland animals.

🔊  Tell what a grassland is.

Saltwater Ecosystems

Have you ever tasted ocean water? It is salty. Oceans are saltwater ecosystems.

Plants and animals that live in the ocean need salt water to live. Sharks, sea turtles, corals, and whales are some ocean animals. Kelp and seaweed grow in oceans.



What do ocean plants and animals need to live?

▼ Dolphins live in the ocean.





▲ This river is a freshwater ecosystem.

Freshwater Ecosystems

Rivers, ponds, and streams have fresh water. They make up freshwater ecosystems. Fresh water has less salt than ocean water.

Trout, turtles, ducks, and insects live in freshwater ecosystems. Many plants also live there.

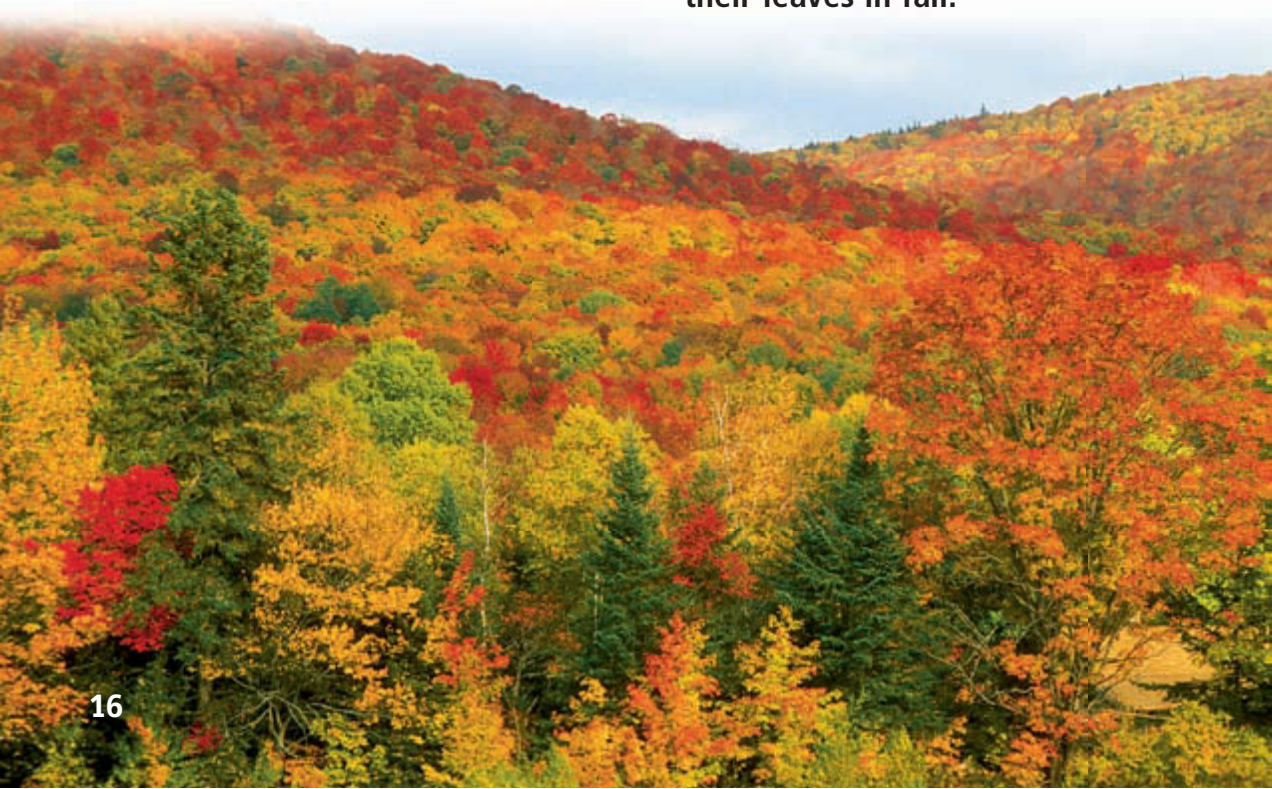


What are some freshwater ecosystems?

Forest Ecosystems

- **Forests** are ecosystems in which many trees grow. There are different kinds of forests.
- A tropical rain forest is hot and wet all year. Animals such as jaguars and monkeys live there.
- Other forests are warm in summer and cold in winter. Most of the trees lose their leaves in fall. Rabbits, bears, deer, and foxes live there.

■ ▼ These trees lose their leaves in fall.



- Some forests are cool in summer and cold in winter. Pine and fir trees grow there. Most of the trees in this kind of forest have cones.



-  **Tell how forests are different.**

- Owls and squirrels live in forests.



Review



Complete the **main idea** statement.

- 1. Many kinds of plants and _____ live in different ecosystems.

Complete the **detail** statements.

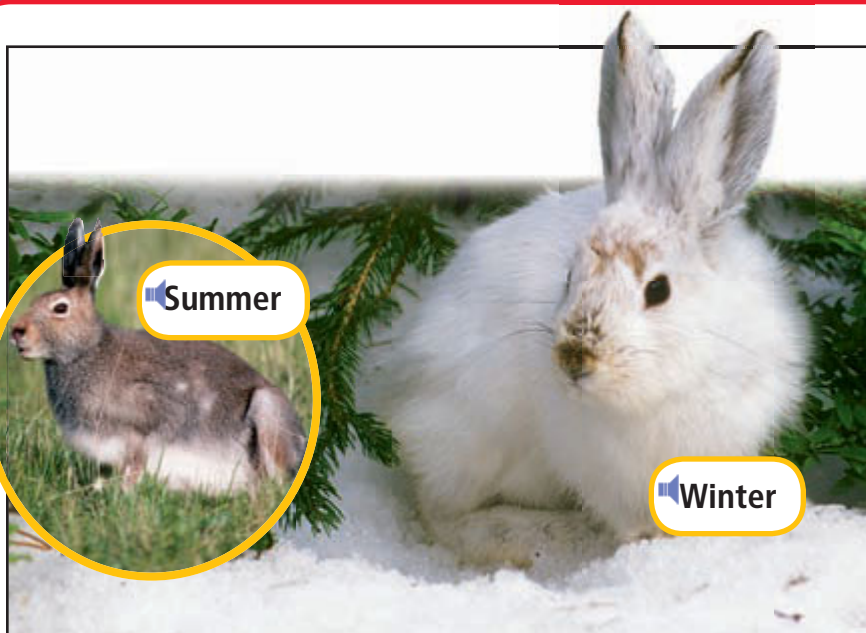
- 2. A stream is a _____ ecosystem
- 3. A _____ is a dry ecosystem.
- 4. An ocean is a _____ ecosystem.
- 5. Forest ecosystems have many _____.



How Do Living Things Survive in Ecosystems?

VOCABULARY

- adaptation
- instinct
- hibernate
- migrate
- camouflage
- mimicry



- ▶ An **adaptation** is a body part or a behavior that helps a plant or an animal survive.
An **instinct** is a behavior an animal knows without being taught.



When animals **hibernate**, they go into a sleeplike state for winter.



When animals **migrate**, they travel from one place to another and back again.



Camouflage is the colors, shapes, and patterns that help an animal hide.



Mimicry is imitating the look of another animal.



READING FOCUS SKILL

MAIN IDEA AND DETAILS

The **main idea** is what the text is mostly about. **Details** tell more about the **main idea**.

Look for **details** about the ways animals survive.

How Living Things Survive

- Living things have ways to survive. Any trait that helps an animal survive is an **adaptation**. Look at the hare. It changes color to help it hide. In summer it is brown. In winter it is white. This change is a physical adaptation.

Arctic hare in winter ►

Arctic hare in summer ►



■ The way an animal behaves can be an adaptation, too. An **instinct** is a behavior an animal knows without being taught.

■ Plants also have adaptations. The stem of some desert plants store water. Some rain-forest plants have huge leaves. They take in more sun to make food. The roots of other plants grow deep to take in water.

■  Give an example of an adaptation.

■ Plant Adaptations

The shape of these leaves helps the plant collect rainwater.



Vines help leaves reach more sunlight.



The shape of these roots helps hold up the plant.



Hibernation

🔊 In fall, some animals start to eat more food. Then they **hibernate**, or go into a sleeplike state for the winter. An animal that hibernates does not move much. Its body temperature drops. Its heartbeat rate slows down. Its breathing does too. It lives off the fat stored in its body.

🔊  **Tell what happens to an animal when it hibernates.**

🔊 ▼ A chipmunk hibernates in winter.



Migration

Many animals **migrate**, or travel from one place to another and back again. In fall, most birds in the north fly south. The south is warmer and has more food. In spring, the birds return north to raise their young.



Why do animals migrate?



Geese and some butterflies migrate.



Hide and Seek

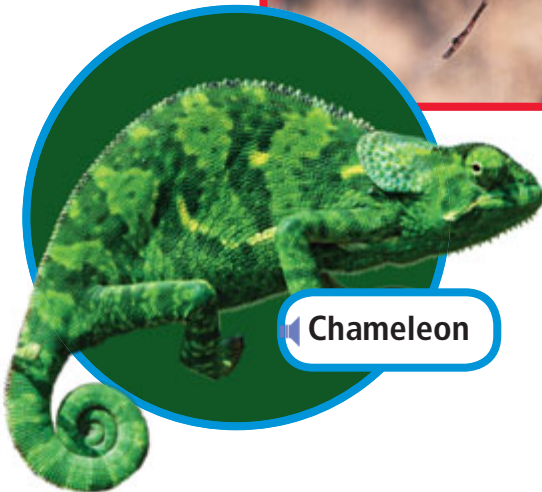
▶ The shapes, colors, and patterns of some animals help them hide. This is called **camouflage**. Look at the pictures. How are the animals using camouflage?



Stonefish



Walking stick



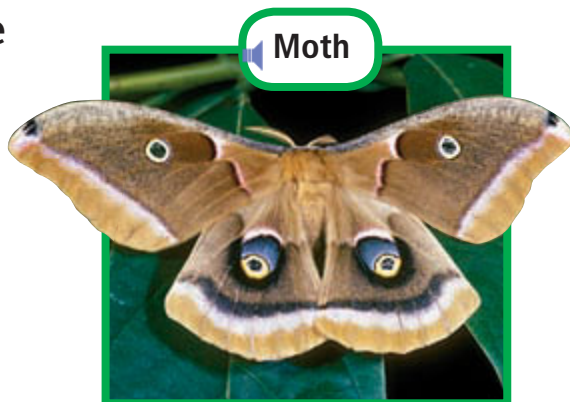
Chameleon

Some animals look like other animals. This is called **mimicry**. Some snakes are not harmful, but they look like snakes that are. Other animals cannot tell them apart. So neither snake is eaten.

Look at the moth. The “eyes” on its wings can confuse a bird that wants to eat it. The bird thinks that a much larger animal is looking at it.



How do camouflage and mimicry help an animal survive?



Review



Complete the **main idea** statement.

1. Living things have _____ that help them survive.

Complete the **detail** statements.

2. When animals _____ in winter, they go into a sleeplike state.

3. Some birds and butterflies _____ south for winter and return north in spring.

4. Camouflage helps animals _____.



VOCABULARY



resource

How Do Ecosystems Change?



▶ A **resource** is a material that is found in nature and used by living things. Trees in a forest are resources. People use them to build their homes.



READING FOCUS SKILL

CAUSE AND EFFECT

A **cause** is what makes something happen.

An **effect** is what happens.

Look for the **causes** that change ecosystems.

How Ecosystems Change

- ▶ Ecosystems change over time. Nature causes some of the changes. Floods and forest fires can change habitats. They may kill many living things. Yet some living things survive. Seeds grow into new plants. Animals move back. They eat the plants that grow there.

- ▶ Volcanoes can cause landslides that change habitats.



Living things change ecosystems, too. A beaver cuts down trees. This changes the forest. Then the beaver builds a dam. This changes the flow of water in a stream.



Tell how a beaver can change an ecosystem.

Animals, such as beavers, can change ecosystems.



How People Change Ecosystems

People change ecosystems when they use **resources**, or materials from nature. They cut down trees to build houses. They dig up rocks to make roads. They use water that other living things need.

Some changes, such as pollution, harm ecosystems. Other changes help ecosystems. People can plant trees after a fire.



How can people change ecosystems?



People may destroy habitats when they build.



Effects of Changes in Ecosystems

- ▶ A change in one part of an ecosystem can change the whole ecosystem. A fire may cause some animals to run away. Other animals may stay. But they will die if there aren't enough resources left.
- ▶ Living things can also adapt to changes in an ecosystem. People build homes where animals live. People and animals can learn to share habitats.

▶  **Tell how fire can change an ecosystem.**

▶ Signs remind people to pay attention to animals in their habitats.



Review



Complete these **cause and effect** statements.

- ▶ 1. Changes in ecosystems are caused by nature and by _____.
- ▶ 2. When people cut down trees, they are taking _____ from ecosystems.
- ▶ 3. People _____ an ecosystem when they plant trees after a fire.

GLOSSARY

- ▶ **adaptation** (ad•uhp•TAY•shuhn) Any trait that helps a plant or animal survive (20)
- ▶ **camouflage** (KAM•uh•flazh) Colors, patterns, and shapes that disguise an animal and help it hide (24)
- ▶ **community** (kuh•MYOO•nuh•tee) All the populations of organisms that live in an ecosystem at the same time (7)
- ▶ **desert** (DEZ•uhrt) An ecosystem that is very dry (12)
- ▶ **ecosystem** (EE•koh•sis•tuhm) The living and nonliving things that interact in an environment (6)
- ▶ **environment** (en•vy•ruhn•muhnt) The things, both living and nonliving, that surround a living thing (4)
- ▶ **forest** (FAHR•uhst) An ecosystem in which many trees grow (16)
- ▶ **grassland** (GRAS•land) An area of dry, flat land that is generally hot in the summer but cold in the winter (13)
- ▶ **habitat** (HAB•i•tat) The place where a population lives in an ecosystem (7)
- ▶ **hibernate** (HY•ber•nayt) To go into a sleeplike state for winter (22)
- ▶ **instinct** (IN•stinkt) A behavior that an animal knows without being taught (21)
- ▶ **migrate** (MY•grayt) To travel from one place to another and back again (23)
- ▶ **mimicry** (MIM•ik•ree) The imitating of the look of another animal (25)
- ▶ **population** (pahp•yuh•LAY•shuhn) A group of organisms of the same kind that live in the same place (7)
- ▶ **resource** (REE•sawrs) A material that is found in nature and that is used by living things (30)

🔊 Think About the Reading

1. Describe two ecosystems. How are they alike and different? How do living things survive in ecosystems?
2. What are some causes of changes to ecosystems? What are some of the effects of these changes?

🔊 Hands-On Activity

Get 10 green, 10 blue, and 10 yellow scraps of paper, a large piece of blue paper, and a stopwatch.

1. Spread all the small pieces on the blue piece.
2. Ask a friend to count the green pieces of paper for 5 seconds. Record the number. Repeat for the other two colors.
3. Which color was hardest to count? Why? How might color help an animal hide?

🔊 School-Home Connection

Share with an adult family member what you read about how people change ecosystems. Together, take a walk around your neighborhood. Discuss the ways people have changed the ecosystem where you live.

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Book 4

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