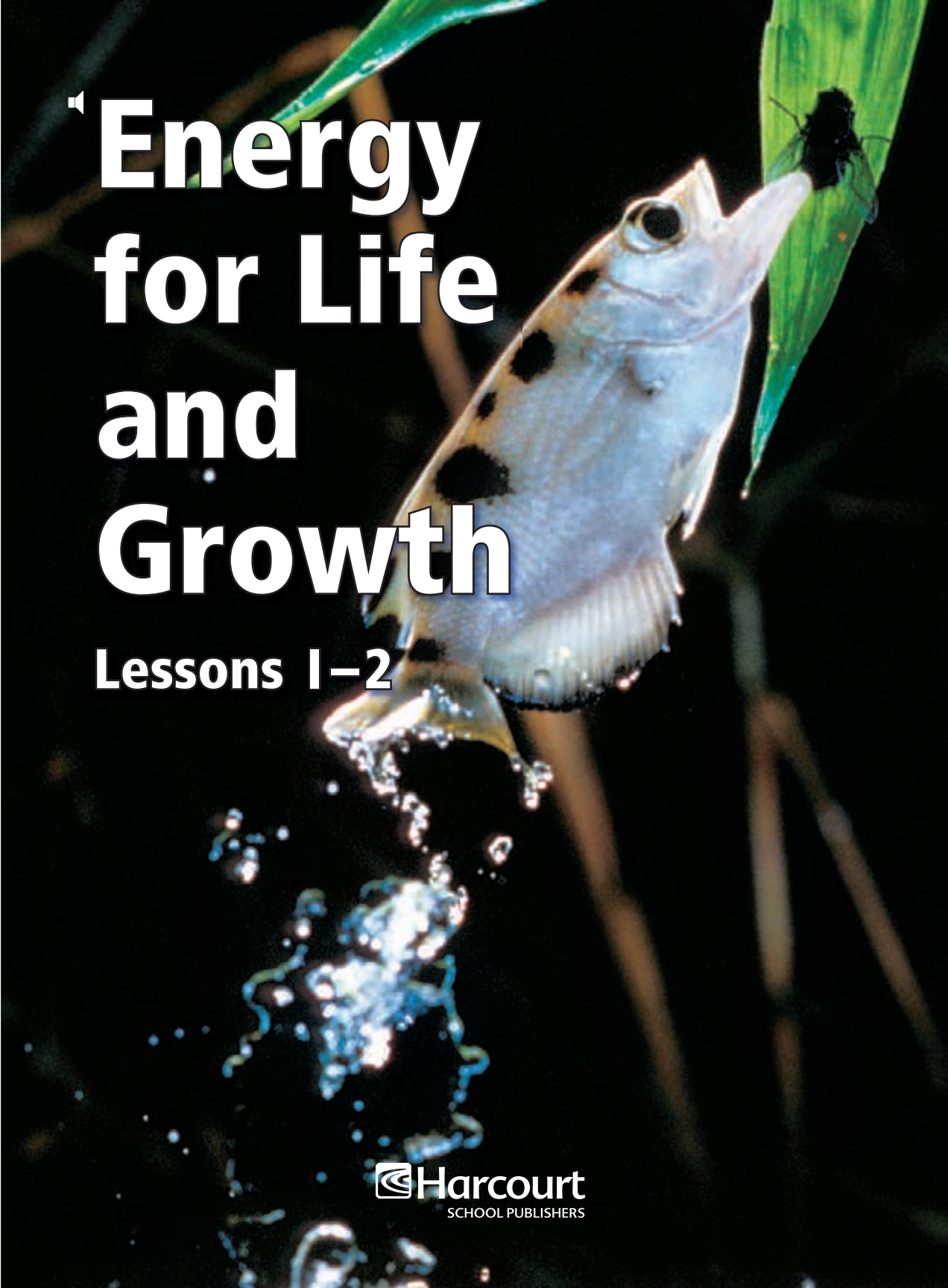


A photograph of a fish, possibly a species of tetra, jumping out of the water. The fish is white with dark spots and is reaching up towards a green leaf. A small black fly is perched on the leaf, and the fish's mouth is open as if it is about to catch it. Water droplets are visible around the fish's tail, indicating the point of exit from the water. The background is dark and out of focus, showing some green foliage.

Energy for Life and Growth

Lessons 1–2

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Energy for Life and Growth

Lessons 1–2

Lesson 1

What are Producers and Consumers? 2

Lesson 2

What are Decomposers? 8



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What are Producers and Consumers?

VOCABULARY

- producer
- consumer
- herbivore
- carnivore
- omnivore



- This grass is a **producer**. It can make its own food.



- These **consumers** eat other living things.



▶ This **herbivore** eats only plants.



▶ This **carnivore** eats only other animals.



▶ This **omnivore** eats both plants and other animals.



READING FOCUS SKILL

MAIN IDEA AND DETAILS

The **main idea** is what the text is mostly about.

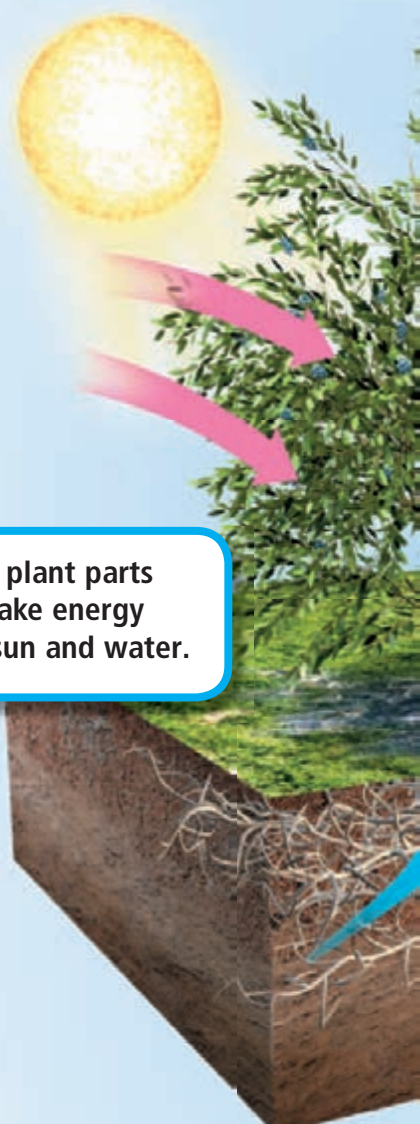
Details tell more about the main idea.

- The **main idea** is that some living things are producers. Others are consumers. Look for **details** about both producers and consumers.

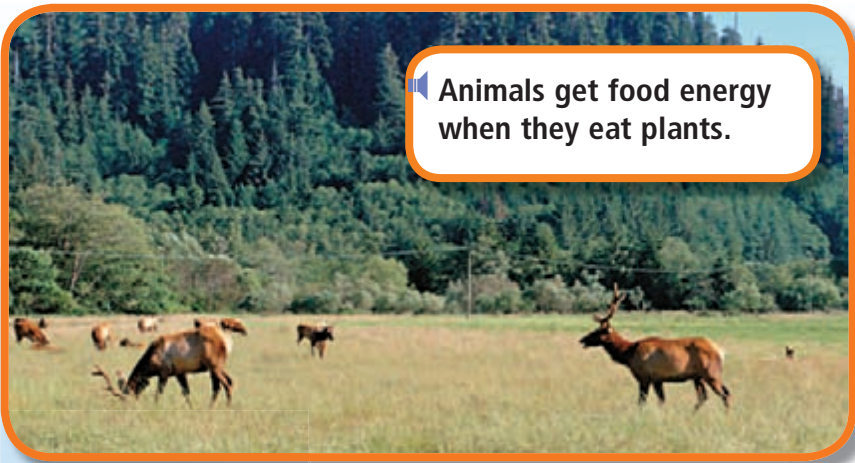
Food From the Sun

Most living things get energy from sunlight. Plants make their own food. Green plants take in water and carbon dioxide. Then, using sunlight as energy, they change these to food.

- They change the sun's energy to chemical energy. The water and carbon dioxide combine. Sugars and oxygen are made. This process of change is called *photosynthesis* (foh•toh•SIN•thuh•sis).



Green plant parts can make energy from sun and water.



Animals get food energy when they eat plants.



Plant roots take in water to help make food.

Plants use some of the sugars they make through photosynthesis. It is food for them. They store the rest for later. Or, animals may eat the plants. Then the animals get the stored energy.

Some plant parts, like berries, do not make energy. However, they are still food for animals.



What do plants use as energy in photosynthesis?

Producers and Consumers

Plants are **producers**. They make (produce) their own food. Animals are **consumers**. Consumers cannot make their own food. They must eat other living things. Deer and cattle are consumers. They eat (consume) plants. They get the energy stored in plants.

Some animals, like lions and hawks, eat other animals. Some, like horses, eat only one kind of food. Others, like bears, eat different types of food.



Why are animals called consumers?



Horses eat different kinds of grasses.

Kinds of Consumers

There are three kinds of consumers. **Herbivores** eat only plants. Rabbits are herbivores. **Carnivores** eat only other animals. Lions are carnivores. **Omnivores** eat both plants and animals. Bears are omnivores.

Some producers and consumers live in water. Small herbivores, like small fish, eat algae. Then omnivores, like some sea turtles, eat the small fish. Next, carnivores, like larger fish, eat the smaller fish.



Why are bears are omnivores?

A sea otter is a carnivore.



Review



Complete this **main idea** statement.

- 1. Plants make their own food through a process called _____.

Complete these **detail** statements.

- 2. Plants take in carbon dioxide and _____.
- 3. Plants make and store _____ to use for food.
- 4. _____ eat plants and get food energy from them.

What are Decomposers?

VOCABULARY

- decomposer
- scavenger
- fungus
- microorganism



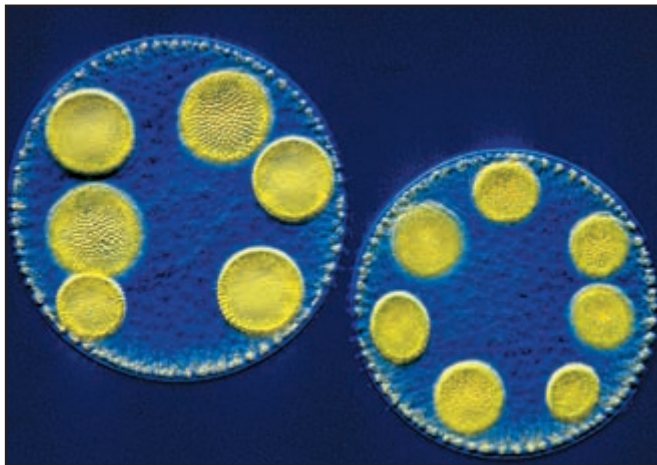
This mushrooms is a **decomposer**. It is feeding off dead matter.



This **scavenger** eats other animals that have died.



A mushroom is also a **fungus**.



Microorganisms can only be seen under a microscope.



READING FOCUS SKILL

COMPARE AND CONTRAST

You **compare** when you look at how things are alike. You **contrast** when you look at how things are different.

Compare and **contrast** scavengers and decomposers.

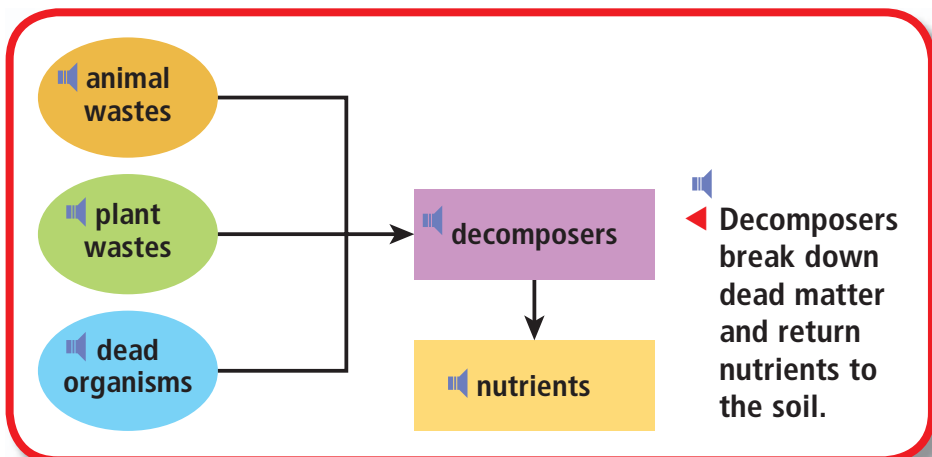
Decomposers

Decomposers are living things. They feed on matter from dead plants and animals. They break down wastes and remains. They turn these into *nutrients*. Nutrients are substances that living things need to grow. Decomposers return nutrients to the soil. Then they can be used again.

Bacteria are very tiny **decomposers**. Mushrooms are larger decomposers. Without decomposers, Earth would be filled with dead plants and animals.



Compare bacteria and mushroom decomposers.





A millipede eats a dead leaf.

Scavengers

Scavengers eat large pieces of plant or animal remains. These animals break the large pieces down into smaller pieces. Scavengers eat most of the dead plant or animal parts. What is left behind becomes food for decomposers.

Some birds, like crows, are scavengers. So are smaller living things like millipedes. Scavengers and decomposers work together. Both return nutrients to the soil.

 **Compare and contrast scavengers and decomposers.**



This California condor is a scavenger.

Fungi

A **fungus** is a living thing that takes in nutrients. It takes nutrients from both living and dead plant matter. *Fungi* [FUN•jy] is plural for fungus.

 Fungi cannot make their own food. Some fungi feed on dead matter. They are decomposers. They use some of the nutrients they take in. It is their food. They return the rest to the soil.

 Bracket fungi grow on dead trees. They help dead trees return nutrients to the soil.



 **Bracket fungi grow on dead trees. They help dead trees decay.**

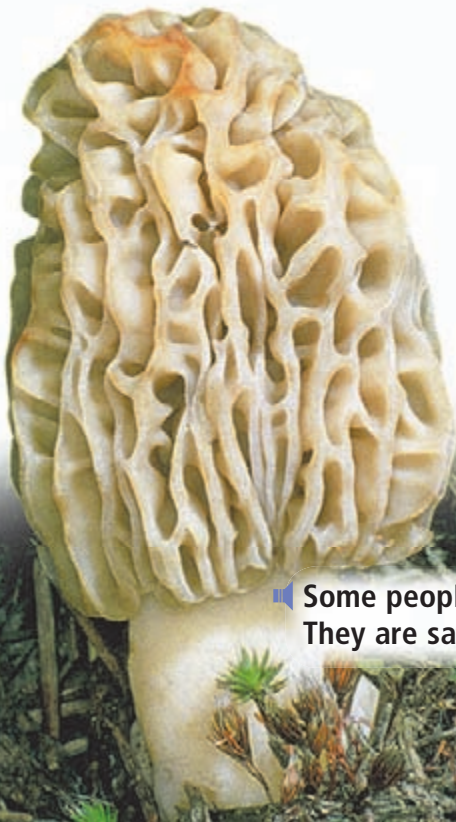
There are many kinds of fungi. Slime mold is a fungi. It is wet and sticky. Some mushrooms, like toadstools, are fungi. Other kinds of fungi live in fresh or salt water. Fungi are important decomposers.

Fungi are also food for other living things. Some beetles and ants eat fungi. Some people eat mushrooms. But not all mushrooms are safe to eat.



Compare and contrast mold and mushroom fungi.

Puffball fungi are found on decaying wood.



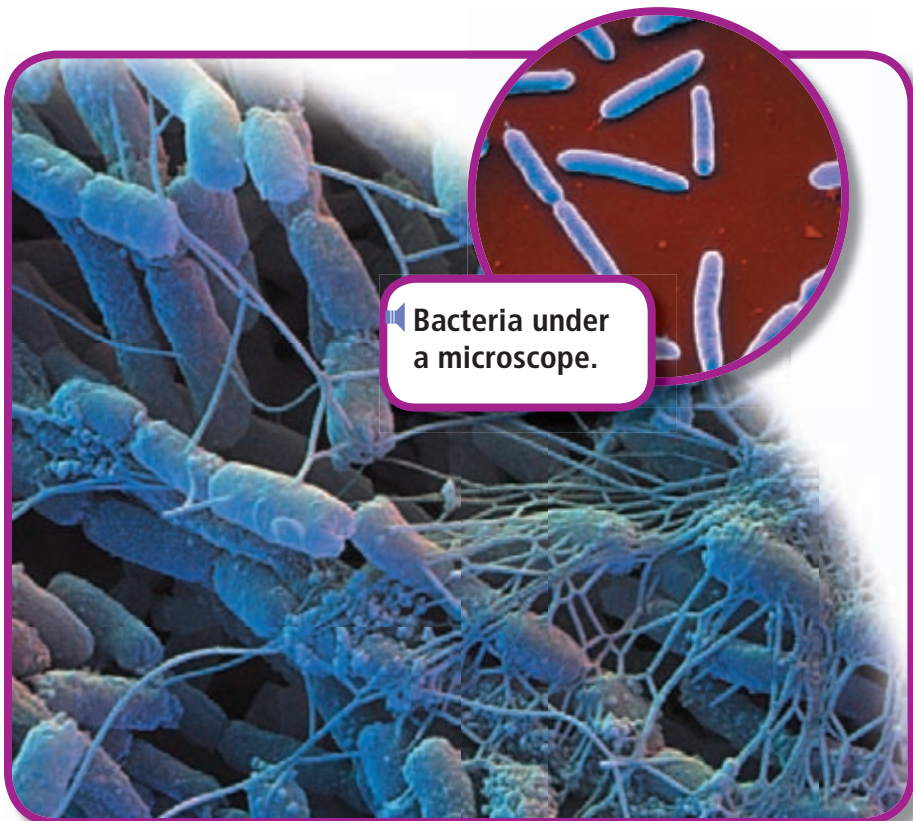
Some people like morel mushrooms. They are safe to eat.

Microorganisms

Microorganisms are among the smallest of all living things. They can be seen only under a *microscope*.

Scientists use microscopes to make things look larger.

▶ *Bacteria* are the most common kind of microorganism. Decomposer bacteria are found in soil and water. They break down plant and animal matter. They return nutrients to the soil or water. Other microorganisms use these nutrients for food. Then they, too, become food for other living things.



▶ Bacteria under a microscope.

🔊 Molds can also be microorganisms. They are a kind of fungus. Some are so small that you cannot see just one of them. Mold on bread is many microorganisms. Like bacteria, molds are food for other living things. Some molds help make cheese. Some molds even help make medicine.



Compare microorganisms to other decomposers.

🔊 Mold on this orange is penicillin. It is used to make medicine.



🔊 Review



Fill in these **compare** and **contrast** statements.

- 🔊 1. _____ eat other animals that have died.
- 🔊 2. _____, like scavengers, eat dead things. But they also recycle nutrients.
- 🔊 3. Some _____ are used in medicine. But none can be seen without a microscope.
- 🔊 4. _____ are a kind of fungi. They can also be microorganisms.

GLOSSARY

-  **carnivore** (KAR•nih•vawr) An animal that eats only other animals.
-  **consumer** (kuhn•soom•er) A living thing that can't make its own food and must eat other living things.
-  **decomposer** (dee•kuhm•POH•zer) A living thing that feeds on the wastes of plants and animals.
-  **fungus** (FUHN•guhs) An organism that can't make food and can't move about.
-  **herbivore** (HER•bih•vawr) An animal that eats only plants or other producers.
-  **microorganism** (my•kroh•AWR•guh•iz•uhm) An organism that is too small to be seen with the unaided eye.
-  **omnivore** (AHM•nih•vawr) An animal that eats both plants and other animals.
-  **producer** (proh•DOO•ser) A living thing, such as a plant, that can make its own food.
-  **scavenger** (SKA•vuhn•jer) A living thing that feeds on dead organisms.

Think About the Reading

-  **1.** You learned some new words when you read this lesson. Think of ways to use these new words.
-  **2.** Did some of the things you read about fungi make you want to know more? Where can you find out more about fungi?

Hands-On Activity

You read about how scavengers and decomposers work together to keep the balance of nature.

-  **1.** Find pictures of a scavenger. Tell what this scavenger eats and how it helps keep balance.
-  **2.** Draw a picture of a what Earth might look like if there were no decomposers.

School-Home Connection

When you are at the grocery store, look at the mushrooms. Talk with your parent about how these are a kind of fungus. Do you think these mushrooms are safe to eat? Why?