

LESSON 1

Ecosystems in Action

► Play Video: Introduction



How do organisms interact?

New Vocabulary

barrier something that stops migration from one area to another

behavior the way an organism acts toward its ecosystem.

competition the process of one organism working against another to get something it needs to live

migration the moving of organisms from one place to another where there is more room and resources

niche the role of an organism in a community

Soon You'll Know

Main Ideas

1. What competition is and why organisms try to avoid it
2. How interactions can be helpful
3. Why animals migrate

► Play Video B: Interactions

Remember In the video you learned that not all interactions between organisms are harmful. In fact, sometimes organisms get big-time help from each other!

Think about it The interactions within your own classroom can be very helpful. For example, you might help your friend with a tough math problem. In return, your friend might help you to study for your spelling test. In this way, everybody wins!



The bee and the flower help each other survive.



Many behaviors, or actions, between organisms help both organisms survive.



Other organisms interact with each other and the **environment** in much the same way. Their **behavior**, or the way they act, often helps them and other organisms survive. Some plants rely on a specific bat behavior to reproduce. Some bats use their long tongues to get nectar from flowers. As they do, they move **pollen** from flower to flower. This helps the plants make seeds.

Now You Know

Main Idea 2: Interactions

Some interactions between organisms help them survive.

► Play Video A: Competition

Remember In the video you learned how animals compete. When it comes to food, there's usually a winner and a loser! The winner gets dinner, but the loser goes hungry.

Think about it When hyenas and vultures fight over a dead animal, they don't do it because they like to fight. They do it because they are in **competition** with each other. They each need the same food source to get **energy** to live. Everything **organisms** need is in limited supply, so they are always competing with everything else to get it.



Elk compete for mates.



Even though the hawk and the owl both eat mice, different niches keep them from competing for food.

Sometimes an organism's **niche**, or role, in a **community** can help it avoid competition. For example, a zebra and an antelope both graze in the same area for food. But because they don't eat the same part of the grass, there is plenty to go around. Not having to compete with each other for the same type of food helps both organisms survive.

Now You Know

Main Idea 1: Competition

Organisms compete for resources. Avoiding competition can help an organism survive.

► Play Video C: Migration

Remember In the video the bison, whales, and turtles were all moving to different locations. Do you remember why?

Think about it Sometimes food becomes scarce in an environment. Do you know what some organisms do then? They hit the road! It's called migration. **Migration** is the movement of organisms from one place to another place where there is more room and more resources. Some migrations are short, but other organisms see the world on their trips.



These bison are migrating to get more food.



There are natural barriers to migration.



Some barriers are human-made.

But there can be barriers to migration. A **barrier** can block an organism's movement. Natural barriers, such as a high mountain or a cold winter, can keep organisms from migrating. Human-made barriers, such as a brand new superhighway, can also stop migration.

Now You Know

Main Idea 3: Migration

Migration helps some organisms survive.

Build Your Vocabulary

Vocabulary Review

Use the word bank to complete each statement.

1. The way an organism acts toward its environment is its _____.
2. When one organism works against another to get what it needs to live, it's called _____.
3. Something made by humans or in nature that stops migration is called a _____.
4. An organism's _____ is its role in the community.
5. The movement of organisms from one place to another to get more resources is _____.

barrier
behavior
competition
migration
niche



Word Study: Synonyms

Synonyms are words with about the same meanings.

Match each word in column A with its synonym in column B.

A	B
1. barrier	a. job
2. niche	b. action
3. behavior	c. fence
4. migration	d. conflict
5. competition	e. relocation

Check Your Understanding

Show What You Know

Main Ideas: Write the answer to each question.

1. Why do some organisms avoid competition?
2. What are some interactions that help organisms survive?
3. How do migration and barriers affect some organisms' chances for survival?

Critical Thinking

1. **Synthesize** Explain how plants in a garden might compete.
2. **Apply** What do you do when you run out of something you need?



Words in Science

Academic Vocabulary The word *interact* begins with the prefix *inter-*. What does *interact* mean?

- ♦ The prefix *inter-* means “between.” Write how the word *interact* uses the meaning “between.”
- ♦ What are some other words with the prefix *inter-*? How do these words mean “between”?

Process Skill

Quick Activity

Predict You’ve learned how the clown fish and the sea anemone have a special relationship. Predict what might happen to the clown fish if the sea anemone population was wiped out. What would happen to the sea anemones if the clown fish population was gone? Why do you think this would happen?