How do organisms interact? Answer: They compete and interact in ways that help them survive.

**Lesson Prep**

**Key Objectives**
- Describe competition in ecosystems.
- Give examples of interactions between organisms that help them survive.
- Explain why some animals migrate.

**Video Time**

- **Total Running Time:** 9:54
- **VIDEO A:** 2:10
- **VIDEO B:** 2:07
- **VIDEO C:** 2:00

**Video Preview**

- **VIDEO A**
  - **Main Idea:** Organisms compete for resources. Avoiding competition can help an organism survive.

- **VIDEO B**
  - **Main Idea:** Some interactions between organisms help them survive.

- **VIDEO C**
  - **Main Idea:** Migration helps some organisms survive.

**Vocabulary Preview**

- **Graphic Organizer:** Use a word web to introduce new vocabulary by asking, for example, “What things form barriers to migration?”

- **Word Web:**
  - Deserts
  - Lakes
  - Barrier
  - Oceans
  - Rivers

- **VIDEO Scavenger Hunt!**
  - Ask students to locate the animals that act like farmers and grow their own food. [Answer: leaf-cutter ants.]
**VIDEO A** Competition

- **Explain** why competition occurs in ecosystems. Every ecosystem contains a limited supply of the resources needed by living things. Because resources are limited, living things must compete to get the things they need.

- **Discuss** strategies used for competition. Organisms compete for resources in many ways. Sometimes the best competitor is the strongest or fastest animal. Some animals hide the food they obtain or hunt at different times from their competitors.

- **Define** the term **niche** and relate niches to competition. A niche is an organism’s role in a community. Animals with different niches do not directly compete for resources. For example, two bird species that build nests in different kinds of trees have different niches. These birds do not compete for shelter.

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**VIDEO B** Interactions

- **Define** **behavior**. Animals behave in a variety of ways as they interact with the living and nonliving parts of their ecosystems. Competitive behaviors, described in the previous section, involve a struggle between animals for limited resources. Animals can also behave in ways that benefit not only themselves, but other organisms as well.

- **Describe** some examples of helpful interactions. In some interactions between organisms, the behavior of one organism helps another organism survive. For example, when a bee drinks nectar from a flower, the bee not only gets the food it needs for survival, but it also pollinates the flower. Both living things benefit from this interaction.
Explain that some living things migrate to get the resources they need for survival. Migration is moving to another place where there are more resources. Many living things migrate. Some birds fly south for the winter. Some butterflies also migrate.

Discuss barriers that can stop migration. There are many natural features that can act as barriers to migration. Rivers and lakes can be barriers, as can mountains and deserts.

Identify ways that humans can impact migration. Humans create many barriers that can prevent migration. A dam across a river can prevent fish migration. Human barriers can prevent organisms from getting what they need to survive.

Differentiated Instruction Options

Enrichment

Migration Posters
Have pairs of students research an animal that migrates. Make sure to include examples of land, sea, and air migrations. Have them make a poster that shows the animal, where it lives in the summer, and where it lives in the winter. Have students present their posters to the class. Examples of animals to research include lobsters, albatrosses, arctic terns, caribou, and wildebeests.

Materials:
• research materials
• poster board
• crayons, markers, colored pencils

ELL

Close Activity
Ask students to write fill-in-the-blank sentences using the five vocabulary words. Low Level Create sentences as a group and have students complete them individually. Intermediate Level Have students create sentences and then complete the sentences as a class. Advanced Level Have students create science-related sentences with the vocabulary words. Then have them use three of the words in sentences that are not related to science.

Materials:
• paper
• pencils

Activities for All

Puppet Show
Organize students into small groups. Ask each group to write a short skit that illustrates one of the main ideas from the lesson. Tell the groups to include at least one vocabulary word in their skits. Have students create puppets of the plants and animals that appear in their skits. Have the groups practice performing their puppet shows, and then give students an opportunity to share their shows with a younger class.

Materials:
• materials needed to make puppets (socks, cloth, yarn, glue, and so on.)
Wrap Up

Informal Assessment

Ask: How might a new species of fish introduced into a pond affect the existing species of fish?

Answer: These species will compete for resources if they have the same niche. There may not be enough resources for both species.

Play MindJogger Interactive Lesson Review Game

Answers

Answers to Student Edition questions on pages 50-51.

Vocabulary Review
1. behavior
2. competition
3. barrier
4. niche
5. migration

Word Study: Synonyms
1. c. fence
2. a. job
3. b. action
4. e. relocation
5. d. conflict

Critical Thinking
1. Plants would compete for limited space, water, air, and sunlight.
2. Accept any reasonable answer.
   Examples include: go to the store to get more, grow more food, or move to a different place.

Words in Science
Accept any words that use the prefix inter-. Make sure students explain how the word means “between.” Examples: interstate, interfere, interrogate, and intercept.

Process Skill
Accept any reasonable predictions. Students could say that because these species depend on one another, the removal of either would harm the one left behind.