Focus Question:

How do symbiotic relationships work, and why are they important?

Book Summary

Text Type: Nonfiction/Informational

The natural world is full of complex relationships among different kinds of organisms. *Symbiotic Wildlife* is a nonfiction informational book that looks at how different species interact in ways that benefit each other. The book can also be used to teach students how to compare and contrast information and the proper use of commas in a series.
The book and lesson are also available for levels Z1 and Z2.

Lesson Essentials

Instructional Focus

- ❑ Connect to prior knowledge to understand text
- ❑ Identify details to compare and contrast information
- ❑ Describe information provided by photographs
- ❑ Recognize and use commas in a series
- ❑ Identify root words

Materials

- ❑ Book: *Symbiotic Wildlife* (copy for each student)
- ❑ Connect to prior knowledge, compare and contrast, commas in a series, root words worksheets
- ❑ Discussion cards
- ❑ Book quiz
- ❑ Retelling rubric

Vocabulary

Boldface vocabulary words also appear in a pre-made lesson for this title on VocabularyA–Z.com.

- **Words to Know**

  Story critical: ***fertilized*** *(v.)*, ***interdependent*** *(adj.)*, ***parasites*** *(n.)*, ***refuge*** *(n.)*, ***species*** *(n.)*, ***symbiotic*** *(adj.)*

  Enrichment: ***distribute*** *(v.)*, ***intimidating*** *(adj.)*, ***mucus*** *(n.)*, ***pollen*** *(n.)*, ***venomous*** *(adj.)*, ***vulnerable*** *(adj.)*

- **Academic vocabulary:** *benefit (n.)*, *complex (adj.)*, *difference (n.)*, *diverse (adj.)*, *partner (n.)*, *provide (v.)*

Guiding the Reading

Before Reading

Build Background

- Place on the board a photograph of a hippopotamus and a photograph of an oxpecker. Ask students to work with a partner to describe both animals. Have students discuss how these animals might interact with each other.
- Discuss with students what makes a *symbiotic relationship*. Describe the interaction between the oxpecker (hitches a ride) and hippopotamus (gets bugs picked off its skin). Have students discuss with a partner how both animals benefit from this relationship. Invite volunteers to share their thinking with the rest of the class.

Introduce the Book

- Give students their copy of *Symbiotic Wildlife*. Guide them to the front and back covers and read the title. Have students discuss what they see on the covers. Encourage them to offer ideas as to what type of book it is (genre, text type, and so on) and what it might be about.
- Show students the title page. Discuss the information on the page (title of book, author's name).
- Preview the table of contents on page 3. Remind students that the table of contents provides an overview of the book. Ask students what they expect to read about in the book, on the basis of what they see in the table of contents. (Accept all answers that students can justify.)

Introduce the Reading Strategy:

Connect to prior knowledge

- Explain to students that readers usually have some *prior knowledge* of the topic they are going to read about. Explain that engaged readers make a connection with what they know while reading and that this helps them better understand and remember the information in the book. Have students use the picture on page 4 to make a connection to their prior knowledge. Ask students to discuss these connections in a group. Invite volunteers to share their thoughts with the rest

Guiding the Reading *(cont.)*

of the class, and discuss how their connections may help them better understand and remember the book.

- **Independent practice:** Introduce, explain, and have students complete the connect-to-prior-knowledge worksheet. Have students read the sentences and check the box labeled *Agree* or *Disagree* to complete the columns on the left. Explain that they may use single words or short phrases to answer the *How I Know* column, drawing from prior knowledge.

Introduce the Comprehension Skill:

Compare and contrast

- Explain to students that one way to organize information in a book is to explain how topics are alike and different, which is called *comparing and contrasting*.
- Create a Venn diagram on the board and write the words *Animals in Nature* above the diagram. Label the left side *hippopotamus* and the right side *oxpecker*. Invite students to explain how hippopotamuses and oxpeckers are alike and different (alike: live in nature, hunt for food, protect themselves from predators, and so on; different: hippopotamuses are humongous, oxpeckers fly, and so on). Model how to write each response on the Venn diagram.

Vocabulary

Have students turn to the "Words to Know" box on the copyright page. Discuss each word with students. Then, have students turn to the glossary on page 24. Explain that the glossary provides definitions for the vocabulary words in the book. Point out the use of each content word and academic vocabulary word in the book, and then use each word in a different model sentence. Have students work in groups to create posters for these words. Have them include on each poster the word and its part of speech, the definition, the word in an example sentence, and a picture illustrating the meaning of the word.

Set the Purpose

- Have students read to find out more about symbiotic relationships. Write the Focus Question on the board. Invite students to look for evidence in the book to support their answer to the question.
- Have students make a small question mark in their book beside any word they do not understand or cannot pronounce. These can be addressed in a future discussion.

During Reading

Text-Dependent Questions

As students read the book, monitor their understanding with the following questions. Encourage students to support their answers by citing evidence from the book.

- *What is a symbiotic relationship?* (level 1) page 4
- *Why are symbiotic relationships beneficial?* (level 3) page 6
- *How would you compare zebras and clownfish?* (level 2) pages 7 and 8, page 9
- *How would you describe the sequence of the wrasse's use of a cleaning station?* (level 3) page 10
- *What would happen if the tuatara and sooty shearwater burrowed at the same time?* (level 3) page 12
- *What conclusions can you draw about white bark pine trees?* (level 3) page 15
- *How are bats similar to hummingbirds?* (level 3) pages 18 and 19
- *Why would the world be different without symbiotic relationships?* (level 3) pages 22 and 23

Text Features: Photographs

Explain that photographs help readers know exactly what something looks like. Have students work with a partner to read the last paragraph on page 7. Have students review the photograph on page 8. Ask students: *How does the photograph support details in the text? Did the photograph match the image in your mind? Why are photographs important text features?* Have students review other photographs in the book and discuss in groups the details they provide. Invite volunteers to share their thoughts with the rest of the class.

Skill Review

- Ask students to complete the middle column of the connect-to-prior-knowledge worksheet and write evidence for the examples that have been discussed. Model for students how you make connections to prior knowledge. Invite volunteers to share their evidence with the class.
- Have students work in groups to periodically compare and contrast information in the book and discuss these comparisons.
- Model comparing and contrasting.
  Think-aloud: *I read on page 19 that honeybees, bats, and hummingbirds have symbiotic relationships with flowers. They each benefit in a cycle to find food and reproduce through pollination. I read on page 18 that bats pollinate at night instead of during the day, as do bees and birds.*
- Model how to complete the compare-and-contrast worksheet. Have students identify details from the book and circle them. Then, have students compare and contrast the details with a partner.

Guiding the Reading *(cont.)*

After Reading

Ask students what words, if any, they marked in their book. Use this opportunity to model how they can read these words using decoding strategies and context clues.

Skill Review

Graphic Organizer: Compare and contrast

Review the compare-and-contrast worksheet that students completed. Have students share their work in groups. Invite volunteers to share with the rest of the class the comparisons they made. Discuss with students the justification for these comparisons.

Comprehension Extension

Discussion cards covering comprehension skills and strategies not explicitly taught with the book are provided for extension activities.

Response to Focus Question

Have students cite specific evidence from the book to answer the Focus Question. (Answers will vary. Reasons should include characteristics that show how symbiotic relationships work, and why they are important. Samples: *Symbiotic relationships occur when two different species work together at separate tasks to benefit each other. These relationships are important because they provide the world with diversity. These animals have a better chance of surviving, reproducing, and living longer, healthier lives.*)

Comprehension Checks

- Book quiz
- Retelling rubric

Book Extension Activities

Build Skills

Grammar and Mechanics: Commas in a series

- Explain to students that in a list of three or more items, a *comma* must be placed between the items. Listed items can be nouns, verbs, adjectives, or entire phrases or clauses. Remind students that this is only one of the many uses for a comma.
- Have students turn to page 10 and read the following sentence aloud: *The wrasse then darts in and out of the larger fish's mouth and gills as it eats fungus, parasites, dead skin, and other debris.* Explain that when the sentence is read aloud, the commas create pauses between the words or phrases. Point out the list of food, the commas used to separate each item, and the use of the word *and* before the last phrase.
- Have students turn to page 15 and locate the following sentence: *High in America's Rocky Mountains, grizzly bears, red squirrels, and the white bark pine tree all rely on each other to thrive.* Point out the phrases separated by commas. Talk about the location of the commas within the list. Point out that the last phrase *(the white bark pine tree)* is joined to the list by the word *and* following a comma.
- **Check for understanding:** Have students turn to page 23. Ask them to find a list of living things on our planet *(fish, birds, humans, and all sorts of other living things).* Ask them to circle the commas and notice that the last item is added to the list after the word *and.* Point out that other commas are used on the page, but not to separate a list of words.
- **Independent practice:** Introduce, explain, and have students complete the commas-in-a-series worksheet. If time allows, discuss their answers.

Word Work: Root words

- Write the word *hairy* on the board. Ask students what the word would be if the *-y* ending was removed, and write *hair* next to *hairy.* Explain that *hair* is a noun and that when the *-y* suffix is added to the word *hair*, an adjective is created. Discuss that *root words* may have a prefix, a suffix, or both added to them.
- Review or explain that a *suffix* is a letter or group of letters added to the end of a word to form another word, often altering or changing its meaning. Some examples of suffixes are *-ed, -y, -s, -es,* and *-ing.*
- Review or explain that a *prefix* is a letter or group of letters that is attached to the beginning of a word to modify its meaning. Some examples of prefixes are *dis-, mis-,* and *un-.*
- Have students turn to page 5 in the text and locate the word *unusual.* Ask what this word means *(not usual).* Have students explain how the meaning of the sentence would be changed if the prefix *un-* was not part of the root word.
- **Check for understanding:** Give students a half-sheet of paper and write the following words on the board: *continue, concern,* and *understood.* Have students identify the meaning of each root word. Then have them write their individual answers, adding the following suffixes or prefixes accordingly: *dis-, -ed,* and *mis- (discontinue, concerned, misunderstood).* Have students identify how the meaning of each word has changed.
- **Independent practice:** Introduce, explain, and have students complete the root words worksheet. If time allows, discuss their answers.

Connections

- See the back of the book for cross-curricular extension ideas.