

Analyzing Word Meanings

Theme: *Animal Survival*

LESSON OBJECTIVES

- Determine the figurative, connotative, and technical meanings of words and phrases as they are used in an informational text.

THE LEARNING PROGRESSION

- **Grade 7:** MS CCRS RI.7.4 requires students to determine the meanings of words and phrases in a text, including figurative, connotative, and technical meanings.
- **Grade 8:** MS CCRS RI.8.4 builds on the Grade 7 standard by requiring students to use analytical skills to determine word meanings, including the meanings of figurative, connotative, and technical language.
- **Grade 9:** MS CCRS RI.9.4 emphasizes determining the meaning of words and phrases in a text, including figurative, connotative, and technical meanings.

PREREQUISITE SKILLS

- Identify unfamiliar words.
- Use context to determine meaning.
- Analyze examples of figurative language.
- Analyze words that have technical meanings.
- Understand that words have connotative as well as denotative meanings.
- Recognize that authors choose words carefully and for a certain purpose and effect.

TAP STUDENTS' PRIOR KNOWLEDGE

- Tell students that they will be working on a lesson about word meanings, which includes figurative meanings, connotations, and technical meanings.
- Ask students why authors use figurative language such as metaphors, similes, and personification. (*to create interesting or unusual effects that help the reader create mental images*)
- Tell students that connotations help to clarify the feelings associated with a word in a positive, negative, or neutral way. An example is “that crowd is rowdy” versus “that crowd is excited.” Which has the more negative connotation? (*rowdy*)
- Explain to students that technical words are commonly seen in texts that cover specific subjects or topics. Understanding technical words is essential when reading science texts or other works that use a specialized vocabulary.
- Point out to students that analyzing the meanings of words in a text will help them to better comprehend and think critically about what they read.

Ready Teacher Toolbox

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	Prerequisite Skills	RI.8.4
Ready Lessons	✓	✓
Tools for Instruction	✓ ✓	✓ ✓
Interactive Tutorials	✓	✓

MS CCRS Focus



RI.8.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings....

ADDITIONAL STANDARDS: RI.8.1, RI.8.2, RI.8.3, RI.8.5, RI.8.6, RI.8.7, RI.8.8; L.8.4a, L.8.4d, L.8.5a; W.8.1, W.8.6, W.8.7; SL.8.1, SL.8.5 (See page A35 for full text.)

**AT A GLANCE**

By reading a short magazine article, students explore figurative language, strong connotations, and technical words. They learn how authors make choices about words and that these words convey specific meanings.

STEP BY STEP

- Read aloud the paragraph and the definitions of *figurative meaning*, *connotations*, and *technical meanings*.
- Direct students to the magazine article and ask them to circle an example of figurative language, underline words with strong connotations, and put a box around any technical words.
- Ask students to share the words they marked and explain how these words impacted their reading of the text.
- Explain that the chart shows the three types of language, an example of each, and its effect on meaning. Read aloud the Example column and have students compare these examples to the text they marked in the article. Then read the last column of the chart. Discuss with students the effect of each example on the meaning of the text.
- Ask students to give examples of times when they, as writers, have chosen specific figurative language, words with connotations, or technical terms to convey meaning and feeling in their writing.

Lesson 10 Part 1: Introduction

Analyzing Word Meanings

MS CCRS RI.8.4: Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings...

Theme: *Animal Survival*

What's the difference between saying "He doesn't eat very much" and saying "He eats like a bird"? The two phrases mean the same thing, but the first sentence is literal, and the second is figurative. **Literal meaning** refers to the dictionary definition of a word or phrase. Words or phrases with a **figurative meaning** express ideas in unusual or creative ways.

Words may also have positive, neutral, or negative **connotations**, which are the feelings or ideas associated with a word. And, some words have **technical meanings** specific to a certain subject area. When you read, be aware of these different types of meaning. It will improve your understanding of an author's message.

Read the magazine article below. Circle an example of figurative language, underline words with strong connotations, and put a box around any technical words or phrases.



Read the chart to analyze some of the words you may have marked in the article.

Type of Language	Example	Effect on Meaning
Connotative	"majestic"	<i>Majestic</i> encourages readers to think that the birds are more than ordinarily beautiful.
Technical	"wingspan"	<i>Wingspan</i> is a specific term used to explain one of the eagle's characteristics.
Figurative	"They sail and dive through the air like trained acrobats."	The simile <i>They sail and dive through the air like trained acrobats</i> compares an eagle's movement to an acrobat's.

Authors choose words and phrases carefully to convey meaning and feeling. Determining word meanings can help you understand how an author's specific word choice affects the text.

L10: Analyzing Word Meanings

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Genre Focus**Informational Texts: Article**

Tell students that in this lesson they will read informational texts. One type of informational text is an article, which is a piece of nonfiction writing that provides details about a topic.

The purpose of an article is to inform or to explain. Articles are often written for magazines, newspapers, or online publications.

The opening of an article usually engages the reader's attention, and the body of the article gives facts, examples, reasons, and descriptions. The article answers the questions *who*, *what*, *when*, *where*, *why*, and *how*.

Articles, such as the one shown on this page about bald eagles, often include photographs and captions to help readers understand the information.

Ask students what other types of articles they have read. Mention that most areas of interest have magazines or publications devoted strictly to that topic. For example, some popular magazines feature fashion, music, cars, boats, fishing, and the news.

Ask students to name any magazines, newspapers, or web sites they read to find out about subjects that interest them. Tell students that in this lesson they will read informational texts on mollusks, armadillos, and animal regeneration.



AT A GLANCE

Students read a scientific account about mollusks and determine how the author’s word choices helped them understand the author’s intended meaning.

STEP BY STEP

- Invite volunteers to tell what they learned on the previous page about figurative, connotative, and technical language.
- Tell students that in this lesson they will identify these types of language in a scientific account about mollusks.
- Read aloud “The Mollusk Family.”
- Then read the question: “How do the word choices in the scientific account help you understand the author’s intended meaning?”
- Tell students you will use a Think Aloud to demonstrate a way to answer the question.

Think Aloud: I will read the account and look for examples of figurative language, words with strong connotations, and technical words. In the second paragraph, the author compares the function of the mantle to “a suit of armor.” This phrase is figurative language. It helps me understand that the mantle is tough and durable, like a knight’s suit of armor.

- Direct students to complete the first row of the chart. Remind them that the chart helps them analyze the effects of language on the meaning of the text.

Think Aloud: Now I will look for words that have a strong connotation. I’ll ask myself which words the author uses that have a strong positive, neutral, or negative feeling. One example is the word *amazing* in the first paragraph. It tells readers how the author feels about mollusks. He thinks they are amazing, which has a very positive connotation.

- Have students complete the second row of the chart.

Think Aloud: This account is about mollusks, so I’ll look for technical terms related to this topic. The word *octopods* is an example. It is the plural form of *octopus*, and it is an example of an animal that is a mollusk.

- Have students complete the third row of the chart.
- Then have students discuss their completed charts with a partner as directed at the bottom of the page.



Read the beginning of the scientific account about mollusks.

Genre: Scientific Account

The Mollusk Family By Deshawn Miller

Did you ever imagine that a tiny snail and a giant octopus might be part of the same family tree? Most people don’t realize that snails, mussels, squid, and even octopods belong to the same category of creatures known as mollusks. These amazing creatures are invertebrates, which means they do not have spines.

Mollusks share three basic body parts: a foot, a body, and a mantle. The foot is a fleshy part of the mollusk’s body, made up mostly of muscle tissue. In a snail, the foot is the part of the mollusk that meets the ground and gently rolls the body forward. From this slow, measured motion comes the phrase “a snail’s pace.” A mollusk’s soft body is like a fragile bag that holds the heart, the guts, and various internal organs. The mantle, which is often a shell or a tough, sturdy covering, functions like a suit of armor to protect the body. (continued)

Explore how to answer this question: “How do the word choices in the scientific account help you understand the author’s intended meaning?”

Reread the account. Circle an example of figurative language, underline words with strong connotations, and put a box around any technical words or phrases.

In the account, find an example of each type of language named in the first column. Add it to the chart. Then, in the last column, explain the effect the word or phrase has on meaning.

Type of Language	Example	Effect on Meaning
Figurative	“The mantle functions like a suit of armor”	The image “suit of armor” is used to show that mollusk mantles are tough and durable.
Connotative	“amazing”	The word gives mollusks a positive feeling by showing that the author admires them.
Technical	“octopods”	a plural form of <i>octopus</i>

With a partner, discuss your completed charts. Then identify one more example for each type of language.

ELL Support: Idioms

- Direct students to the phrase *a snail’s pace* in paragraph 2. Point out that the author identifies the origin of the phrase *a snail’s pace* as the “slow, measured motion” of the mollusk. Explain that *A snail’s pace* is an example of an idiom. An idiom is a phrase that is made up of words that mean something different when they are used together in a phrase than what the words mean individually.
- Work with students to understand that *a snail’s pace* is often used to describe things that move at a very slow rate. Have students use this idiom in a sentence. (*The bus is moving at a snail’s pace.*)
- Some other common idioms are *miss the boat*, *see eye to eye*, and *costs an arm and a leg*. (RI.8.4; L.8.5a)



AT A GLANCE

Students continue reading about mollusks. They answer a multiple-choice question and analyze how different types of language are used in the account.

STEP BY STEP

- Tell students they will continue reading about the mollusk family.
- The Close Reading helps students to select two phrases that assist in the comprehension of the technical term *defense mechanisms*. The Hint will help them consider the connotations, or feelings, that the words in the question suggest.
- Have students read the passage and circle the two phrases that help them understand *defense mechanism*, as directed by Close Reading.
- Ask volunteers to share the phrases they circled.
- Have students circle the answer to the question, using the Hint to help. Then have them respond to the question in Show Your Thinking. Remind students that words may have a positive, neutral, or negative connotation.

ANSWER ANALYSIS

Choice A is incorrect. The author is writing to inform readers, not to warn them.

Choice B is correct. The author uses these words to heighten the understanding of different types of mollusks and their defense mechanisms.

Choice C is incorrect. The author is not explaining a mystery.

Choice D is incorrect. The author is not focusing only on unusual shells grown by the mollusk family. Other defense mechanisms are utilized.

ERROR ALERT: Students who did not choose B may not have read the question carefully. Point out that the question asks for the statement that best explains why the author chose certain language. How do the mollusks compare? How does the author use language to make it clear that different mollusks have different defense mechanisms?



Continue reading the account. Use the Close Reading and the Hint to help you answer the question.

Close Reading

Circle two phrases in the first paragraph that help you understand the technical term *defense mechanisms*.

(continued from page 96)

Because many mollusks creep along slowly, they need defense mechanisms. Mollusks with shells simply retreat into their body armor to protect themselves from predators. But the Blue-Ringed Octopus, a mollusk found in the South Pacific, defends itself with a bite so fierce it is almost always fatal to humans.

Overall, mollusks are peaceful inhabitants of our planet. Whether they live on land or in the sea, they are not aggressive. Our taste for cooked mussels, clams, and oysters, in fact, makes us far more dangerous to mollusks than they are to us.

Hint

Think about the connotations, or feelings, that the words suggest. How do those feelings differ?

Circle the correct answer.

Which statement best explains why the author has used the words *retreat*, *fierce*, and *fatal* in the first paragraph above?

- A to warn readers that mollusks are often aggressive and dangerous
- B** to emphasize the contrast between different mollusk defenses
- C to explain the mystery behind a mollusks' defense system
- D to call attention to the unusual shells grown by the mollusk family



Show Your Thinking

Look at the answer you chose above. Explain how the connotations of the words helped you to understand the ideas about mollusk defense mechanisms that the author wants to convey.

Responses will vary.



With a partner, discuss how the use of figurative, connotative, and technical language in the account gives you a clearer picture of the characteristics of the mollusk family.

Tier Two Vocabulary: *Inhabitants*

- Direct students to the word *inhabitants* in paragraph 2. Ask students where mollusks live according to this sentence. (“our planet”) Then ask students to identify other context clues that help them figure out the meaning of *inhabitants*. (“live on land or in the sea”) Now ask students what *inhabitants* means. (“those who live permanently in a place”)
- Ask students what other words would make sense in place of *inhabitants*. (residents, dwellers) **(RI.8.4; L.8.4a)**

**AT A GLANCE**

Students read a passage about armadillos twice. After the first reading, you will ask three questions to check your students' understanding of the passage.

STEP BY STEP

- Have students read the passage silently without referring to the Study Buddy or Close Reading text.
- Ask the following questions to ensure students' comprehension of the text:

What is the origin of the word *armadillo*? (*It comes from a Spanish word meaning "little armored one."*)

Name some of the animals that armadillos are related to. (*sloths, anteaters, dinosaurs, glyptodonts*)

How do armadillos find food? (*They use their sense of smell.*)

- Then ask students to reread paragraph 1 and look at the Study Buddy think aloud. What does the Study Buddy help them think about?

Tip: As students read and identify connotative, figurative, and technical language, explain to them that examples of these language types often stand out from other words. They are the words that make writing engaging and more interesting to read.

- Have students read the rest of the passage. Tell them to follow the directions in the Close Reading.

Tip: Remind students to take special notice of descriptive words and words that seem more specific or particular to the subject. As instructed in the Close Reading, students should underline examples of figurative language and circle words that are used to describe armadillos.

- Finally, have students answer the questions on page 99. Use the Answer Analysis to discuss correct and incorrect responses.



Read the scientific account. Use the Study Buddy and Close Reading to guide your reading.

Genre: Scientific Account



As I read, I'm going to look for any connotative, figurative, or technical language the author uses to describe the attributes of armadillos.

Close Reading

Underline examples of figurative language in the first and fourth paragraphs.

Circle words with strong connotations used to describe the armadillo.

Armadillo Attributes By Karen Olson

- 1 The word *armadillo* comes from a Spanish word meaning "little armored one." The armadillo earned its name from the bony carapace that shields the armadillo's body like hinged plates of armor. This protective covering has helped this homely mammal survive for about 55 million years.
- 2 Armadillos are related to sloths and anteaters. They may also be descendants of ancient dinosaurs. Some scientists believe modern armadillos are related to an extinct mammal called the glyptodont (GLIP-toh-dont). Like armadillos, glyptodonts originated in South America.
- 3 Today, more than 20 species of armadillos live in Central and South America. The nine-banded armadillo is the only species in the United States. It is now found in Texas, Oklahoma, Arkansas, Missouri, Louisiana, and parts of Florida.
- 4 Armadillos have many strange yet fascinating traits. In order to swim, they can swallow air to inflate their stomachs. becoming as buoyant as a balloon floating on the water. When threatened, armadillos may react defensively by jumping three to four feet into the air. Some are able to curl up into tight balls.
- 5 Armadillos have terrible eyesight, so they use their foolproof sense of smell to find food. They probe grasses, decaying logs, or sandy soil with their pointy snouts. Once they locate beetles, ants, or other insects they like to eat, they eagerly dig them out with sharp claws and trap them with narrow, sticky tongues.
- 6 Armadillos are the only mammals with protective shells. You might assume that these shells and other traits make armadillos immune from danger; however, predators such as dogs, wolves, and coyotes hunt these peaceful animals. Sadly, speeding cars and trucks can also injure or kill them. Despite these ever-present threats, armadillos continue to survive in a variety of habitats and climates.

Tier Two Vocabulary: Descendants

- Have students find the word *descendants* in paragraph 2. Given the context and what they know, ask students what *descendants* means. ("persons, plants, or animals that come from a particular ancestor") Encourage students to use a dictionary or thesaurus to help them verify this meaning. (**RI.8.4; L.8.4a, L.8.4d**)
- Ask what other words would make sense in place of *descendants*. (relatives, kin)



STEP BY STEP

- Have students read questions 1–3, using the Hints to help them answer the questions.

Tip: The descriptive words in paragraph 5 help portray the armadillo’s appearance. Paying close attention to descriptive language helps the reader to formulate a clear perspective of the subject.

- Discuss with students the Answer Analysis below.

ANSWER ANALYSIS

- 1 Choice B is correct. Traits rendering armadillos “immune from danger” make them unaffected by threats. Choice A is incorrect. Being immune from something may involve a defense against it, but that’s not the same as being “defensive.” Choice C, “threatened,” plays off “danger,” but it’s not a meaning of “immune.” Choice D, “unaware,” hints the armadillo’s shell might make it unaware of danger, but that’s not the same as “immune.”
- 2 Choice C is correct. The fact that armadillos can be injured or killed by something gives a clue to the meaning of “immune.” If armadillos were truly immune to danger, they would be unaffected by threats in their environment. Choice A plays off the notion of immunity as a defense, but that’s not the same as reacting defensively. Choices B and D are incorrect. Both phrases support the description of armadillos, but neither helps define “immune.”
- 3 Sample response: The word choices reveal that the author wants readers to admire the armadillo and see it as an unusual and complex creature. *Homely, strange, and terrible* show that the author finds even the negative traits of the armadillo interesting. *Foolproof, fascinating, and peaceful* have positive connotations that reveal the armadillo’s qualities.

RETEACHING

Use a chart to verify the correct answer to question 3. Draw the chart below, and work with students to fill in the boxes. Sample responses are provided.

Words	Connotation
homely, strange, terrible	negative
foolproof, fascinating, peaceful	positive



Hints

Find this word in paragraph 6.

Look for context clues in paragraph 6 that might help you understand the meaning of “immune.”

Look back at the descriptive words you circled. Which words have a positive connotation? Which words have a negative connotation?

Use the Hints on this page to help you answer the questions.

- 1 What does the word “immune” mean as it is used in the passage?
 - A defensive
 - B unaffected
 - C threatened
 - D unaware
- 2 Which of the phrases from the passage best helps the reader understand the meaning of “immune”?
 - A “may react defensively”
 - B “these peaceful animals”
 - C “can also injure or kill them”
 - D “in a variety of habitats and climates”
- 3 Explain why the author uses words like *homely, strange, fascinating, terrible, foolproof,* and *peaceful* to describe armadillos. Write a paragraph about what these word choices reveal about how the author would like readers to feel about armadillos. Use at least three specific details from the text in your response.

See sample response.

Integrating Standards

Use these questions to further students’ understanding of “Armadillo Attributes.”

- 1 Why do you think the author begins the article with an explanation of the word *armadillo*? **(RI.8.5)**
This explanation is a good introduction and lets the reader know that the armadillo is an interesting animal that has been around for a long time.
- 2 What is the central idea of this article? How is this idea developed through supporting details? **(RI.8.2)**
The central idea is that armadillos have many characteristics that make them unique and able to survive in their habitats. Supporting details include information about the armadillo’s sense of sight and smell, as well as facts about where armadillos live.



Read the scientific account. Then answer the questions that follow.

Animal Regeneration

by Aleya Brown

1 Regeneration is the ability of an organism to regrow a lost body part. All creatures have the power to regenerate lost body parts to some degree. If a human scrapes a knee or breaks a bone, for example, tissue is regenerated to heal the wound. Even a lost fingernail will regenerate over time. If the finger is severed, however, the limits of regeneration have been reached; humans cannot regrow limbs or organs. In contrast, if an earthworm is cut in half, the end of the worm with a head can grow a new tail. If the end of the worm with the tail survives, it too may grow a new tail. Unfortunately, it starves to death eventually because it cannot feed itself without a head or mouth.

2 Which creatures have strong regenerative powers? Lower animals, such as worms, lizards, spiders, and starfish, have some of the greatest regenerative powers. Crayfish, for example, have a remarkable safety device at the base of each claw and leg called a “breaking joint.” When a predator grabs a limb or claw, the appendage breaks away so the crayfish can escape. Over time, as the crayfish molts, or sheds its soft shell, the broken limb or pincer grows larger and larger until it has been completely regenerated.

3 Some animals are able to survive in large part because of their regenerative powers. A type of flatworm called planaria lives under rocks in clear creeks and streams. The flatworm has no real defense mechanisms to protect it from predators, but it can be cut into as many as 32 pieces, and each piece may form a new worm, complete with a head, eyes, and internal organs. In the case of the planaria, an event that could be fatal is turned into an awesome act of procreation.

4 Many more animals display noteworthy regenerative powers. Sharks replace lost teeth throughout their lifetimes. A single shark may grow as many as 24,000 teeth in its lifetime, ensuring a long career at the top of the food chain. Much like planaria, sea cucumbers, which have bodies that grow up to three feet long, can be cut into pieces and survive. Each piece may grow into a new sea cucumber. Spiders, like crayfish, can regrow legs. Many lizards also have “breakaway” tails that snap off when caught by predators. They then grow new ones, which lack the original spine. Starfish can lose arms and grow new ones. Sometimes an entirely new starfish can grow from a single lost arm.

5 Interestingly enough, the scales of a fish tell stories about regeneration. Much like the rings inside a tree trunk, fish scales reveal details about an organism’s past. Each scale lies in a pocket of skin and grows along with the fish. Scientists read the markings on a scale to determine the age of the fish, seasons of famine or drought, and other important information. It is often necessary to look at many scales to get a complete story, however, because scales are often lost and regenerated. These new scales lack the markings that happen over time. They are like a blank page in the history of the fish.



6 Scientists are extremely interested in regeneration because of the possible implications for healing humans. Some scientists think it is possible that higher animals retain the ability to regenerate body parts, but that the reaction triggering the body to regenerate has been lost. By studying lower animals, such as worms, spiders, and sponges, scientists hope to discover what triggers regeneration. The dream is that this knowledge could one day be used to help humans regrow internal organs and limbs. Currently, human regeneration may sound like something out of a science-fiction movie. The implications of such a discovery, however, would be so far-reaching that they are hard to fathom. For now, the miracle of regeneration is intriguing enough to keep scientists working for years to come.

Answer the following questions.

1 This question has two parts. Answer Part A, and then answer Part B.

Part A

What is the meaning of “procreation” as it is used in paragraph 3 of the passage?

- A survival
- B repetition
- C cooperation
- D reproduction

Part B

Which words from paragraph 3 gives you the best clue about the correct meaning in Part A?

- A “Some animals are able to survive”
- B “lives under rocks in clear creeks and streams”
- C “no real defense mechanisms”
- D “each piece may form a new worm”

AT A GLANCE

Students independently read a longer scientific account and answer questions in a format that provides test practice.

STEP BY STEP

- Tell students to use what they have learned about reading closely and analyzing word meanings to read the scientific account on pages 100 and 101.
- Remind students to underline or circle important word choices.
- Tell students to answer the questions on pages 101 and 102.
- When students have finished, use the Answer Analysis to discuss correct responses and the reasons for them.

ANSWER ANALYSIS

- 1a** Choice D is correct. “Procreation” refers to the flatworm’s ability to reproduce itself. Choice A is incorrect. The worm’s ability is related to its survival, but the word does not mean “procreation.” Choice B, “repetition,” may touch on the flatworm’s ability to multiply itself, but it’s incorrect. Choice C is also incorrect. The flatworm’s “awesome act” doesn’t require the cooperation of another flatworm. **(DOK 2)**
- 1b** Choice D is the correct choice. Because “procreation” is a synonym of “reproduction,” the fact that each piece of the animal can form a new animal supports the meaning of “procreation.” Although the other phrases appear in the paragraph, they do not directly reflect or support the meaning of “procreation.” Choice A is about survival. Choice B is about habitat. Choice C is about defense. **(DOK 2)**

**ANSWER ANALYSIS**

- 2 Choice C is correct. The author shows amazement at the crayfish's ability to grow back body parts. When he refers to the crayfish's "breaking joint," it is with a sense of wonder. Choices A, B, and D are incorrect. All might mean "remarkable," but they have a far more neutral tone than "extraordinary." **(DOK 2)**
- 3 Choice B is correct. An appendage is a body part attached to the larger, main body of a creature. A limb or claw is an example of an appendage on a crayfish. Choices A, C, and D all come from descriptions of a crayfish, but none of the phrases, contribute to an understanding of *appendage*. **(DOK 2)**
- 4 Choice A is correct. In the passage, "hope" best matches the meaning of "dream." The account establishes that one reason that scientists study regeneration in animals is they will be able to use what they learn to someday help humans regenerate body parts. Choices B, C, and D are all possible meanings of "dream," but none are correct in this context. Discoveries related to human regeneration may be far off, but it is not a "fantasy" (Choice B) or an "illusion" (Choice D). Nothing in the account suggests that current research constitutes anything as definite as a "plan" (Choice C). **(DOK 2)**

Theme Connection

- How do all the passages in this lesson relate to the theme of animal survival?
- What is one fact or idea you learned about animal survival from each passage in this lesson?

Integrating Standards

Use these questions and tasks as opportunities to interact with "Animal Regeneration."

- 1 Name two animals with regenerative powers and explain why regeneration helps them to survive. **(RI.8.1)**
Sharks regenerate teeth. The growth of new teeth allows sharks to catch food for years and years. Earthworms can grow new tails if they are cut off. By growing new tails, they can continue to live.
- 2 Give an example of a "lower animal" and a "higher animal" and explain what you think the difference is. **(RI.8.3)**
Worms are lower animals. Humans are higher animals. Lower animals are more simple creatures in terms of physical makeup. Worms have less complex systems than humans and other higher animals have.
- 3 Why do some scientists believe that human regeneration may be possible? **(RI.8.8)**

They believe that the reaction that triggers regeneration has been lost. By studying lower animals such as worms, scientists may be able to discover what triggers regeneration and make human regeneration possible.

- 4 Why do you think the author believes that regeneration will keep scientists studying for years to come? **(RI.8.6)**
The author seems to be very interested in the study of regeneration and understands that it is a complicated science, which seems to have a long way to go. Based on this point of view about regeneration, the author thinks that scientists will continue to study it.
- 5 Discuss in small groups: How would this article be different if the author had a different point of view about regeneration? What types of language might the author use instead? **(SL.8.1)**
Discussions will vary. Have students consider how the figurative language, words with connotations, and technical terms reveal the author's point of view.



- 2 Read this sentence from the passage.
- Crayfish, for example, have a remarkable safety device at the base of each claw and leg called a "breaking joint."
- Which of the following **best** matches the author's connotative meaning of the word "remarkable" as it is used in the sentence?
- A unusual
B significant
C extraordinary
D noticeable
- 3 Which of the phrases from the passage **best** helps the reader understand the meaning of the word "appendage"?
- A "have a remarkable safety device"
B "grabs a limb or claw"
C "sheds its soft shell"
D "grows larger and larger"
- 4 Read this sentence from the passage.
- The dream is that this knowledge could one day be used to help humans regrow internal organs and limbs.
- Which word **best** matches the meaning of "dream" as it is used in this sentence?
- A hope
B fantasy
C plan
D illusion

Self Check Go back and see what you can check off on the Self Check on page 94.

Writing Activities

Write a Scientist's Speech (W.8.1)

- Have students write a speech from the point of view of a scientist who studies human regeneration.
- Students should use the examples of other animals that regenerate in a speech about the hopes and possibilities for human regeneration. Encourage them to cite specific evidence from “Animal Regeneration” in their writing.
- Allow time for students to present their speeches to the class.

It's All in the Context (L.8.4a)

- Have students reread the scientific account on page 97. Review that context clues are words in the surrounding text that help them understand the meaning of a term. Point out that context clues can be especially helpful in understanding the technical language an author uses. Have students identify context clues that help them understand what *defense mechanisms* are. Ask students to give a definition for *defense mechanisms*. (“*adaptations that help an animal protect itself*”)
- Ask students to write their own sentence with context clues to clarify a technical word of their choice from one of this lesson's passages.

LISTENING ACTIVITY (SL.8.1)

Listen Closely/Ask and Answer Questions

- Have students review “Animal Regeneration.” As they reread, have them write questions that can be answered using information from the account.
- Have students work in pairs. One student poses his or her questions while the other student cites evidence from the text to provide an answer.
- Students then switch roles and repeat the activity.

DISCUSSION ACTIVITY (SL.8.1)

Talk in a Group/Discuss Animal Survival

- Have students review what they learned about animal survival from each of this lesson's passages.
- Have students form small groups to discuss animal survival. To promote discussion, provide the following prompts: What are examples of animal survival? What language would you use to describe each example to show your point of view about it?
- Have groups present their examples of figurative, connotative, and technical language to the class.

MEDIA ACTIVITY (RI.8.7; W.8.6)

Be Creative/Caption Action

- Have students review the magazine article on page 95. Remind them that the text added important facts that could be not derived from the image alone.
- Invite students to create their own magazine articles. Students should select an image to accompany one of this lesson's other passages. They then use the passage to add a caption that provides additional information about the image.
- Students should use a word processing program or other software to help them create a two-page article that includes both the image and the text.

RESEARCH ACTIVITY (W.8.7, SL.8.5)

Research and Present/More on Mollusks

- Ask students to use the information in “The Mollusk Family” to research and present a slide show of information about different mollusks.
- Both the images and the verbal portion of the presentation should include the topics covered in the scientific account.
- Have students present their slide shows.