Sometimes when you read, you may come across a word that is unfamiliar to you. As a reader, you can use your context clues to help you understand the word. **Context clues** are the words and sentences that surround the unfamiliar word.

**Read the paragraph below, then do the activity that follows.**

**Inventing the Crane**

Ancient Greek engineers thought of ways to make new machines from older ones. For example, they conceived of and built a compound machine called the crane. Their idea combined the lever, pulley, and wheel-and-axle into one machine.

**In the paragraph, underline the phrase **conceived of**. Then circle possible context clues that will help you figure out what it means.**

*Conceived of* is a phrase that you’ll find in many kinds of texts. Read the table below to see how context clues can help you figure out the meaning of **conceived of**.

**Complete the table by writing a definition of **conceived of** on the blank line.**

<table>
<thead>
<tr>
<th>Sentence Before</th>
<th>Sentence with Phrase</th>
<th>Sentence After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ancient Greek engineers <strong>thought of ways</strong> to make new machines from older ones.</td>
<td>For example, they <strong>conceived of</strong> and built a compound machine called the crane.</td>
<td>Their <strong>idea</strong> combined the lever, pulley, and wheel-and-axle into one machine.</td>
</tr>
</tbody>
</table>

**Meaning of phrase:** *Conceived of* means ____________________________________________

When you come across a word or phrase you don’t know, always look at the nearby sentences for clues. If you do this, you’ll usually be able to figure out what the unknown word or phrase means.
Read these paragraphs from a science textbook.

**Fire and Air  by Johanna Joyner**

Starting a fire is a bit like following a recipe. Getting anything *to combust* takes three ingredients: fuel, heat, and oxygen. All three are needed for burning to begin. But where do these ingredients come from? Fuel is anything that burns easily, including wood, paper, or grass. Heat can come from many places, but most people use matches. And oxygen is a gas in the air around us.

If a fire doesn't have enough of any one of the three ingredients, it will be weak. To strengthen the fire, just add one or more of the ingredients. It is simple to add more fuel or heat. But how do you add more oxygen? From a safe distance, blow on the fire. You will see it strengthen. Blowing adds oxygen to the fire, making it *vigorous*. Your fire will grow bigger, brighter, and stronger.

**Explore how to answer this question:** “What are the meanings of *to combust* and *vigorous* as they are used in the text?”

First, look for context clues in the text that tell what the phrase *to combust* means.

<table>
<thead>
<tr>
<th>Sentence Before</th>
<th>Sentence with Phrase</th>
<th>Sentence After</th>
</tr>
</thead>
<tbody>
<tr>
<td>__________________________</td>
<td>Getting anything <em>to combust</em> takes three ingredients: fuel, heat, and oxygen.</td>
<td>All three are needed for __________________________.</td>
</tr>
</tbody>
</table>

**Meaning of phrase:** *To combust* means ________________________________________________.

Now, look for context clues and use the table below to figure out what *vigorous* means.

<table>
<thead>
<tr>
<th>Sentence Before</th>
<th>Sentence with Word</th>
<th>Sentence After</th>
</tr>
</thead>
<tbody>
<tr>
<td>__________________________</td>
<td>______________________</td>
<td>__________________________.</td>
</tr>
</tbody>
</table>

**Meaning of phrase:** *Vigorous* means ________________________________________________.
Read this experiment about fire. Use the Close Reading and the Hint to help you answer the question below.

**An Experiment with Fire**  
*by Allan Pomme*

**What You Need**
- MOST IMPORTANT: A TEACHER HELPING YOU
- three small candles (tealights)
- three saucers
- two glass jars, one larger than the other

**What You Do**
Put each candle on a saucer. Have your teacher light the candles. Put a jar over two of the candles. Pay attention to the candles. Monitor what happens over time. You will observe that the candle with the least air available is the first one extinguished. Keep watching to see which candle goes out next. Blow out the last candle.

**Circle the correct answer.**
What does the word *monitor* mean as it is used in this passage?
- A  be careful of
- B  watch closely
- C  start on fire
- D  happen over time

**Close Reading**
In this passage, circle the word *monitor*. Then underline phrases that give you clues about its meaning.

**Hint**
In the original sentence, replace *monitor* with each answer choice. Which choice makes the most sense?

**Show Your Thinking**
Identify the context clues that helped you figure out the meaning of the word *monitor*.

With a partner, determine the meaning of the word *extinguished* as it is used in the experiment. Discuss the context clues that helped you find the meaning.
Read the science passage, using the Study Buddy and the Close Reading to guide your reading.

**Over Bridge, Under Tunnel**  
*by Lloyd Frank*

1. Mountains, lakes, and rivers can get in the way of people traveling from one place to another. There are structures that help people pass such obstacles. Bridges and tunnels help people overcome such barriers.

2. Bridges and tunnels are different in design and placement. A bridge is built over a body of water, a highway, or a railroad track. A tunnel, in contrast, is a passageway under the ground, under a body of water, or through a mountain. Bridges vary in shape and are often placed above ground or water. Some are even famous. The Golden Gate Bridge is one of the most renowned bridges in the world. This celebrated structure crosses over the entrance to San Francisco Bay and connects San Francisco to northern California. The Golden Gate is known for its length and height. But it is best known for its beauty. People come from all over the world not just to cross the Golden Gate but simply to look at it.

3. Of course, not even the world's most famous tunnel gets many visitors who just want to look. It's hard to get a good view of a subterranean passage. But since the Channel Tunnel opened in 1994, it has transported millions of people. The Channel Tunnel, or “Chunnel,” runs beneath the English Channel and connects France and England. The Chunnel is a rail tunnel. The only automobiles that cross it are carried on special railway cars. The Chunnel is not the longest tunnel in the world, but it is one of the few tunnels that connect two countries.
Use the Hints on this page to help you answer the questions.

1. Read this sentence from paragraph 1 of the text.
   
   There are structures that help people pass such obstacles.
   
   What is the meaning of obstacles as it is used in the text?
   
   A. Things made below or above ground.
   
   B. Things that slow or stop movement.
   
   C. Things that help people travel.
   
   D. Things built through mountains or over water.

2. Paragraph 2 says, “The Golden Gate Bridge is one of the most renowned bridges in the world.” What is the meaning of renowned as it is used in the text?
   
   A. strongest
   
   B. long-lasting
   
   C. beautiful
   
   D. well-known

3. Read this sentence from paragraph 3 of the text.
   
   It’s hard to get a good view of a subterranean passage.
   
   In your own words, write a definition of the word subterranean. Then list two words or phrases that helped you define the word.

   __________________________________________________________________________
   
   __________________________________________________________________________
   
   __________________________________________________________________________
   
   __________________________________________________________________________
   
   __________________________________________________________________________
   
   __________________________________________________________________________
   
   __________________________________________________________________________
   
   __________________________________________________________________________
Read the science passage. Then answer the questions that follow.

Seashells

by Bela Moté

1. If you walk along the seashore, you will probably see many kinds of shells. Seashells were once the homes of live animals. The animals that live inside shells have soft bodies, so they need their shells to protect them from harm. Their shells save them from storms or predators such as starfish, birds, and otters. Shells also give the animals a shape. In that way, shells are like skeletons on the outside of the body. When the animals die, the shells remain.

2. Creatures with shells belong to a group of animals called **mollusks**. Not all mollusks have shells. Of the mollusks that do have shells, there are two main groups.

**Univalves**

3. More than three-quarters of all mollusks are **univalves**, a word that means “having a shell that is all one piece.” The shell is coiled, and inside the coil is the soft body of the mollusk. Many univalves are named for their appearance. Look at the examples below. Does the helmet shell remind you of a helmet? How about the worm and slipper shells?

![Helmet Shell](image)

![Worm Shell](image)

![Slipper Shell](image)

4. Some univalves have small holes in their shells. Abalone shells have a series of holes. Water and wastes are expelled, or pushed out, through the holes. The inside of an abalone shell gleams with different rainbow colors. This iridescent substance is called mother-of-pearl.

**Bivalves**

5. After univalves, **bivalves** are the next largest group of mollusks. When a bivalve is alive, the two parts of its shell are hinged. After the animal dies, you may find just one part of the shell lying on the beach.
6 Many bivalves have names that reflect their appearance. A jackknife is a knife that folds into its own case. The jackknife clam has an appropriate name because it has about the same shape as a closed jackknife. Are angel wing and kitten’s paw fitting names for the shells shown here?

![Images of Jackknife Shell, Angel Wing Shell, and Kitten’s Paw Shell]

7 There are many different kinds of clams, from very small to very large. The giant clam is the largest bivalve. Some are four feet long and weigh 500 pounds. The giant clam even grows its own food. Tiny plants get caught in the clam. The plants get what they need from the clam, but eventually the clam eats the plants.

8 Another common bivalve is the oyster. All oysters can make pearls, but the pearl oyster makes the most beautiful ones. A pearl is an accident. A grain of sand or something else gets inside the oyster shell. An oyster is creating new shell material all the time. To protect itself from the foreign body, the oyster covers it with the same material that the oyster’s shell is made of. The result is a pearl.

1 What is the meaning of the word “predators” as it is used in paragraph 1?

A Animals that are larger than other animals.
B Animals that live near or in the sea.
C Animals that have skeletons inside their bodies.
D Animals that hunt other animals for food.
Lesson 13

Part 5: Common Core Practice

2 Read the following sentence from paragraph 4 of the passage.

This iridescent substance is called mother-of-pearl.

What words from the passage can help you figure out the meaning of “iridescent”?
A  “inside of an abalone shell”
B  “gleams with different rainbow colors”
C  “the two parts of its shell are hinged”
D  “the next largest group of mollusks”

3 Read the following sentences from paragraph 5 of the passage.

When a bivalve is alive, the two parts of its shell are hinged. After the animal dies, you may find just one part of the shell lying on the beach.

What is the meaning of “bivalve” as it is used in the passage?
A  having a shell that is all one piece
B  having a shell with two pieces
C  having a hard outer shell
D  having a soft outer shell

4 Paragraph 6 states, “The jackknife clam has an appropriate name because it has about the same shape as a closed jackknife.” Explain what the word appropriate mean as it is used in the passage. Support your definition with one context clue from the passage.

Go back and see what you can check off on the Self Check on page 117.
Lesson 13  (Student Book pages 119–126)
Unfamiliar Words

Theme: Science and Engineering

LESSON OBJECTIVES

• Use context clues to help determine the meanings of unfamiliar words and phrases.
• Use domain-specific knowledge to determine the meanings of content- or subject-area words and phrases.

THE LEARNING PROGRESSION

• Grade 3: CCLS RI.3.4 focuses on academic and domain-specific words and phrases relevant to grade 3 content.
• Grade 4: CCLS RI.4.4 focuses on academic and domain-specific words and phrases relevant to grade 4 content.
• Grade 5: CCLS RI.5.4 focuses on academic and domain-specific words and phrases relevant to grade 5 content.

PREREQUISITE SKILLS

• Use context clues.
• Recognize synonyms and antonyms.

TAP STUDENTS’ PRIOR KNOWLEDGE

• Tell students they will be reading passages that might have unfamiliar words and phrases. Indicate they will use context clues to help them understand what different words and phrases mean.
• Ask students to explain what they do if they read a sentence or a paragraph they don’t understand. (reread the section; ask a question about the sentence or paragraph) Now ask students what they do if they read a word they don’t understand. (ask a friend or a teacher what it means; look up the word in a dictionary, a glossary, or online) How could rereading a section of text help a reader figure out the meaning of an unfamiliar word? (There might be clues about the meaning of the word.)
• Discuss with students why it is not a good idea to read an unfamiliar word and just continue reading. (You might not understand the main idea or what the author is saying.) Point out that you might misunderstand the point of the text and get the wrong idea entirely.
• Explain to students that identifying unfamiliar words and finding appropriate context clues will increase their understanding of the information in a text.

Teacher Toolbox

<table>
<thead>
<tr>
<th>Prerequisite Skills</th>
<th>RI.4.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ready Lessons</td>
<td>✓</td>
</tr>
<tr>
<td>Tools for Instruction</td>
<td>✓ ✓</td>
</tr>
<tr>
<td>Interactive Tutorials</td>
<td>✓</td>
</tr>
</tbody>
</table>

CCLS Focus

RI.4.4 Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a grade 4 topic or subject area.

ADDITIONAL STANDARDS: RI.4.1; RI.4.2; RI.4.7; RI.4.8; W.4.2; W.4.7; SL.4.1; SL.4.2; SL.4.4; SL.4.5; L.4.1; L.4.1.g; L.4.4.a; L.4.4.b; L.4.5.a (See page A39 for full text.)
AT A GLANCE

By reading a paragraph, students practice using context clues to determine the meanings of general academic and domain-specific words and phrases.

STEP BY STEP

• Ask students what a context clue is. (evidence in a text that tells how a word or phrase is used in that text) Tell students that context clues are a means for figuring out words and phrases they don’t know.

• Ask a volunteer for a definition of synonym. (a word with the same meaning as another word) Ask another volunteer for a definition of antonym. (a word with the opposite meaning of another word) Ask students how they can use synonyms and antonyms as context clues. (A word they don’t know might be surrounded by synonyms and antonyms they do know.)

• Tell students that when they encounter an unfamiliar word or phrase, they can scan nearby sentences for synonyms and antonyms to help decode the word or phrase.

• Have students read “Inventing the Crane.” Then have them do the activity. They will underline conceived of, and then underline context clues for that word.

• Point out the table. Direct students’ attention to the words in bold print. Discuss how these words are context clues to the meaning of conceived of. Then have them complete the definition of conceived of in the table.

Genre Focus

Informational Text: Science Experiment

A science experiment is a form of technical text. It includes detailed instructions that tell how to do or make something related to a field of science, e.g., life science, physical science, or earth and space science. The steps are given sequentially, or in the order they need to be completed.

Science experiments, like how-to texts, usually include a list of materials. This list is introduced before the first step and provides a reference for the reader to see and gather what is needed.

Experiments often use transition words such as first, then, next, and finally to clarify the order of events. They may also contain labeled graphics to assist the reader. In this lesson, students will read an experiment about candles.

Have students share other experiments they have read or where they would expect to read an experiment. Examples of familiar science experiments include whether magnetism affects different types of materials, the extent to which light affects the germination of seeds, and how salt and sugar influence the freezing temperature of water (as on pages 24 and 25 of the student book).
AT A GLANCE

Students read a passage about fire and use context clues to figure out the meaning of general academic phrases.

STEP BY STEP

• Invite volunteers to tell what they learned on the previous page about using context clues to figure out unfamiliar words.
• Tell students that they will read a passage and use context clues to figure out the meanings of two phrases they might not know.
• Read aloud the passage “Fire and Air.”
• Then read the question: “What are the meanings of to combust and vigorous as they are used in the text?”
• Tell students you will do a Think Aloud to demonstrate a way of answering the question.

Think Aloud: First I’ll find the sentence with the phrase to combust and underline it. (paragraph 1, sentence 2) Then I’ll reread the sentences before and after to look for clues that help me figure out what to combust means.

• Help students reread all three sentences and circle possible clues. Then have them compare those clues with the information in the first table.

Think Aloud: The context clues I found are both about how a fire begins. The first clue is about starting a fire, and the second clue is about what’s needed for burning to begin. These clues tell me that to combust means “to start burning.”

• Have students complete the table for to combust.

Think Aloud: Now I’m going to follow the same process to figure out the meaning of vigorous. First, I’ll find the sentence with vigorous and underline it. (paragraph 2, second to last sentence) The surrounding text gives me a lot of clues for what vigorous might mean. I read that blowing makes the fire “strengthen,” “making it vigorous,” and the “fire will grow bigger, brighter, and stronger.” I’ll use these context clues to determine the meaning of the vigorous.

• Have students complete the table for vigorous. Invite volunteers to share their answers.

ELL Support: Suffixes

• Explain to students that many English words have suffixes. A suffix is a group of letters that is added to the end of a word to change its meaning.

• Work with students to show how the meaning of a word changes when a suffix is added to it. Display the word dangerous. Then ask students if they can identify the base word (danger) and the suffix (-ous). Explain that the suffix -ous means “characterized by” or “known for.” Tell students that adding the suffix -ous to danger changes its meaning to “known for danger.”

• Point out the suffix -ous in vigorous. Tell students that vigor means “strong and healthy.” Ask them to suggest a meaning for vigorous. (known for being strong and healthy) (L.4.4.b)
Students read an experiment. They answer a multiple-choice question and analyze context clues to help them determine the meaning of an unfamiliar word.

**STEP BY STEP**

- Tell students they will read an experiment.
- Close Reading will help students look for clues in the text about the meaning of the word *monitor*. Hint will help students by reminding them to look for the answer that means the same thing as *monitor*.
- Have students read the passage, circle the word *monitor*, and then underline words or phrases in surrounding sentences that give clues about the meaning of the word, as directed by Close Reading.
- Ask volunteers to share the clues they underlined. Discuss why those clues help readers understand the meaning of *monitor*. If necessary, ask: What should you be doing to the candles after you put a jar over them? What does the passage tell you to do before blowing out the last candle?
- Have students circle the answer to the question, using the Hint to help. Then have students respond to the prompt in Show Your Thinking. Place students into pairs to discuss the Pair Share question. Guide them to repeat the process above to figure out the meaning of the word *extinguished*.

**ANSWER ANALYSIS**

**Choice A** is incorrect. Students doing the experiment should be careful, but it is not the meaning of *monitor*.

**Choice B** is correct. Context clues for *monitor* include *pay attention to* and *keep watching*.

**Choice C** is incorrect. The teacher starts the fire (lights the candles); the student monitors what happens.

**Choice D** is incorrect. The phrase *over time* tells how long students should be monitoring the candles.

**ERROR ALERT:** Students who did not choose B might have had trouble finding context clues. Tell students to find *monitor*, reread nearby sentences, and look for commands or phrases that tell them to do something that might be similar to *monitor*.

**ELL Support: Regular Plurals**

- Remind students that nouns name people, places, things, or ideas. Students can look at the endings of nouns to know how many. To form the plural of a regular noun, you add either *s* or *es*.
- Display this sentence: “I put away the toy.” Help students identify the noun (*toy*) and tell how many (*one*). Then work together to form the plural (*toys*) and tell how many (*more than one*).
- Display the words *beach, pass, and feather*. Work with students to form the plurals. Be sure to pronounce the words as you explain how each plural is formed. (*beach and pass: add *es; feather: add *s*)
- Point out on page 121 the regular plural nouns *candles, tealights, saucers,* and *jars. (L.4.1)*
Students read a passage twice about bridges and tunnels. After the first reading, ask three questions to check your students’ comprehension of the text.

**STEP BY STEP**

• Before students read the passage the first time, have them read the Study Buddy think aloud. What does the Study Buddy make them think about?

**Tip:** The Study Buddy tells students to circle unfamiliar words the first time they read the passage and then to underline context clues during the second reading.

• After students read the Study Buddy, have them read the text silently without referring to the Close Reading text.

• After the first reading, ask the following questions to check students’ comprehension of the text:

  Why is this text named “Over Bridge, Under Tunnel”? (It is about bridges, which are over water, and tunnels, which are underground.)

  What two famous structures are described in this text? (the Golden Gate Bridge in San Francisco, California, and the Channel Tunnel, or “Chunnel,” that connects England and France)

  What is the Golden Gate Bridge known for? (its length, height, and great beauty)

  Now have students reread the text. Tell them to follow the directions in the Close Reading.

**Tip:** To help students understand how to find context clues, remind them that context clues may be definitions or restatements, synonyms, antonyms, or other words that they can use to infer the meaning of the unfamiliar word.

• Finally have students answer the questions on page 123. When students have finished, use the Answer Analysis to discuss correct and incorrect responses.

**Tier Two Vocabulary: Design**

• If you have a blackboard or whiteboard, point to it and say, “The design of this board is to give plenty of space to write so everyone can see.”

• Ask students what the design of their desk helps them do. (It gives a space to write and read.) If you wish, repeat with other common objects, such as pencils, windows, doors, and so on.

• Now have students find the word design in paragraph 2. Ask them to look at the context, i.e., the surrounding words and concepts. Have students explain what design means. If necessary, guide them to understand that it means “its planned purpose.” (L.4.4.a)
Lesson 13
A
NSWER
YNAL
Part 4: Guided Practice Lesson 13
L13: Unfamiliar Words
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Step by Step

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

Tip: The Hint for question 3 provides a clue about Latin roots. Help students who need more support by telling them that the prefix sub- means “under.” Also guide them to figure out that subterranean is used as an adjective, or describing word.

• Discuss with students the Answer Analysis below.

Answer Analysis

1. The correct choice is B. Context clues in nearby sentences include “get in the way of people traveling” and “barriers.” Choices A, C, and D all describe bridges and tunnels. They are not clues to the meaning of obstacles and do not appear in sentences near the word in paragraph 1.

2. The correct choice is D. Context clues in nearby sentences include “famous” and “People come from all over the world . . . to look at it.” Choices A, B, and C are all words that could be used to describe the Golden Gate Bridge, but they are not supported by context clues in the text.

3. Sample response: The word subterranean means “underground.” Context clues for the meaning of the word include “runs beneath the English Channel,” “hard to get a good view of,” and the fact that the Channel Tunnel is a tunnel, defined as a “passageway under the ground, under a body of water, or through a mountain.”

Reteaching

Use a table to show how to use context clues to answer question 3. Draw the table below, leaving the boxes blank. Have students fill in the boxes, using information from the passage. Sample responses are provided.

<table>
<thead>
<tr>
<th>Phrase Before</th>
<th>Sentence with Word</th>
<th>Phrase After</th>
</tr>
</thead>
<tbody>
<tr>
<td>...the world’s most famous tunnel...</td>
<td>It’s hard to get a good view of a subterranean passage.</td>
<td>...runs beneath the English Channel...</td>
</tr>
</tbody>
</table>

Meaning of word: Subterranean means “underground.”

Integrating Standards

Use these questions to further students’ understanding of “Over Bridge, Under Tunnel.”

1. What is the main idea of this text? Provide two details that support this main idea. (RI.4.2)

   The main idea of this text is that bridges and tunnels help people get from one place to another. Bridges help people get over water, highways, or railroad tracks. Tunnels help people travel below the ground.

2. What evidence does the author provide to show that many people use bridges and tunnels for transportation? (RI.4.8)

   The Golden Gate Bridge is described as connecting San Francisco to northern California, and “people come from all over the world...to cross the Golden Gate.” The author also says that the Channel Tunnel opened in 1994 and has transported millions of people between France and England.
Read the science passage. Then answer the questions that follow.

Seashells
by Bela Mote

1. If you walk along the seashore, you will probably see many kinds of shells. Seashells were once the homes of live animals. The animals that live inside shells have soft bodies, so they need their shells to protect them from harm. Their shells save them from storms or predators such as starfish, birds, and otters. Shells also give the animals a shape. In that way, shells are like skeletons on the outside of the body. When the animals die, the shells remain.

2. Creatures with shells belong to a group of animals called mollusks. Not all mollusks have shells. Of the mollusks that do have shells, there are two main groups.

Univalves

3. More than three-quarters of all mollusks are univalves, a word that means "having a shell that is all one piece." The shells are coiled, and inside the coil is the soft body of the mollusk. Many univalves are named for their appearance. Look at the examples below. Does the helmet shell remind you of a helmet? How about the worm and slipper shells?

4. Some univalves have small holes in their shells. Abalone shells have a series of holes. Water and wastes are expelled, or pushed out, through the holes. The inside of an abalone shell gleams with different rainbow colors. This iridescent substance is called mother-of-pearl.

Bivalves

5. After univalves, bivalves are the next largest group of mollusks. When a bivalve is alive, the two parts of its shell are hinged. After the animal dies, you may find just one part of the shell lying on the beach.

6. Many bivalves have names that reflect their appearance. A jackknife is a knife that folds into its own case. The jackknife clam has an appropriate name because it has about the same shape as a closed jackknife. Are angel wing and kitten's paw fitting names for the shells shown here?

7. There are many different kinds of clams, from very small to very large. The giant clam is the largest bivalve. Some are four feet long and weigh 500 pounds. The giant clam even grows its own food. Tiny plants get caught in the clam. The plants get what they need from the clam, but eventually the clam eats the plants.

8. Another common bivalve is the oyster. All oysters can make pearls, but the pearl oyster makes the most beautiful ones. A pearl is an accident. A grain of sand or something else gets inside the oyster shell. An oyster is creating new shell material all the time. To protect itself from the foreign body, the oyster covers it with the same material that the oyster's shell is made of. The result is a pearl.

AT A GLANCE

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

STEP BY STEP

- Tell students to use what they have learned about using context clues to define unfamiliar words as they read the passage on pages 124 and 125.
- Remind students to circle unfamiliar words and underline clues that appear in nearby sentences.
- Tell students to answer the questions on pages 125 and 126. For questions 1–3, they should fill in the correct circle on the Answer Form.
- When students have finished, use the Answer Analysis to discuss correct responses and the reasons for them. Have students fill in the Number Correct on the Answer Form.

ANSWER ANALYSIS

1. Choice D is correct. Context clues such as “protect them from harm” and “starfish, birds, and otters” show that predators cause harm to other animals. Choice A is incorrect because it only mentions size. An animal can be larger than other animals but not a predator. Choice B is text from paragraph 1, but it is not a clue to the meaning of predators. It describes the animals that live in shells. Choice C is misleading. The text compares shells to skeletons on the outside of mollusks’ bodies. It doesn’t discuss animals with skeletons inside their bodies. (DOK 2)

Theme Connection

- How do all the passages in this lesson relate to the theme of science and engineering?
- What is one fact or idea you learned about science and engineering from each passage in this lesson?
2 Choice B is correct. This phrase appears in the sentence before the sentence with the word *iridescent*. Clues include “gleams” and “rainbow colors.” Choice A indicates a location. It doesn’t help with the meaning of *iridescent*. Choices C and D are from paragraph 5 and describe bivalves. **(DOK 2)**

3 Choice B is correct. Context clues include “two parts of its shell.” Students may also recall that the prefix *bi-* means “two,” as in *bicycle*. Choice A is incorrect because the clues clearly state that bivalves have shells with two parts, not one. Choices C and D are not mentioned in the section about bivalves. The text never directly discusses the strength of outer shells at all. Students can infer the shells are hard, but it does not help with the meaning of *bivalve*. **(DOK 2)**

4 Sample response: The word *appropriate* means “correct” or “accurate.” Context clues in nearby sentences include “names that reflect their appearance” and “fitting names.” **(DOK 3)**

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**Integrating Standards**

Use these questions and tasks as opportunities to interact with “Seashells.”

1 Which type of seashell do people usually find along the seashore: univalve or bivalve? Support your answer with details from the text. **(RI.4.1)**

People usually find univalves along the seashore. The text says “more than three-quarters of all mollusks are univalves.” That should mean that for every four shells found on the beach, three will be univalves.

2 Write a summary of “Seashells.” Include the text’s main idea and key details. **(RI.4.2; W.4.2)**

Students should include that the main idea of the text has to do with the different types of seashells and mollusks. Supporting details include the different types of mollusks, such as univalves and bivalves, and how some mollusks have names that reflect the appearance of their shells.

3 How do the illustrations in this text help the reader understand what the text says? **(RI.4.7)**

The illustrations help support the text’s main idea that there are many different types of seashells. They show what the different types of seashells look like and why some seashells have the names they do.

4 What does the author mean when she says, “A pearl is an accident”? **(L.4.5.a)**

An accident is something that happens by mistake, so this phrase means that an oyster does not plan to make a pearl.

5 Discuss: Why is it helpful for shell names to be so descriptive of what they look like? For whom would it be helpful? **(SL.4.1)**

Discussions will vary. Remind students to cite information from the text, follow the agreed-upon rules for discussion, and ask one another additional questions they might have.
Additional Activities

Lesson 13

Writing Activities

Informative/Explanatory Text (W.4.2)
- Review “Seashells.” Ask students to think about other animals that have unique body adaptations that help protect them from predators. Examples include porcupines, turtles, and skunks.
- Have students write an informative text about one type of animal. They should follow the format used in “Seashells” and include logical headings, useful illustrations, and descriptive captions.
- Allow time for students to share their texts with the class.

Frequently Confused Words (L.4.1.g)
- Point out the word vary in “Over Bridge, Under Water” and reread the sentence in which it appears. Display the words vary and very. Help students recognize the spelling difference and define each word.
- Direct students to other words in this lesson’s passages that are easily confused with other words. Point to weak (week) and two (to, too) in “Fire and Air” and to there and their in “Seashells.”
- Have students write sentences using the words that they frequently confuse. Examples might be your and you’re, our and are, break and brake, accept and except. Encourage students to share their sentences with partners or the class.

LISTENING ACTIVITY (SL.4.2)
Listen Closely/Paraphrase
- Have small groups of students reread the experiment on page 121.
- Students should take turns rereading the experiment while others listen closely and paraphrase what they heard. They should be able to name each step and the order in which the steps should be done.

DISCUSSION ACTIVITY (SL.4.1)
Talk in a Group/Identify Unfamiliar Words
- Ask students to identify and make a list of words that were unfamiliar to them when they read “Seashells.”
- Have students form small groups to compare and contrast their lists. Encourage students to determine which types of context clues they used for each word. Which words had a nearby definition, synonym, or antonym in the text? Which words required them to make an inference?
- Appoint one member of each group to take notes. Allow 10–15 minutes for discussion. Then have each group share its results with the class.

MEDIA ACTIVITY (SL.4.5)
Be Creative/Draw a Mollusk
- Have students review the illustrations and names of the shells on pages 124 and 125.
- Ask students to think of other things that a shell might look like, such as a baseball glove or a music note. Encourage them to be creative.
- Have students draw a picture of a new shell and include a caption with its name. Remind students that the name should reflect the shell’s appearance.

RESEARCH/PRESENT ACTIVITY (SL.4.4; SL.4.5)
Research and Present/Give a Presentation
- Review “Over Bridge, Under Tunnel.” Ask students to research other examples of bridges and tunnels. They can read about famous examples around the world or local examples in your state or region.
- Have students plan an oral presentation that introduces the different bridges and tunnels.
- Students should produce a visual display, such as a photo collage, to accompany the presentation. Remind students to include why the structures were built and what purpose they serve.