

Table of Contents

1. GRAMMAR: "SECRETS OF THE SKULLS"	PAGE 1
2. NARRATIVE NONFICTION: "CODE TALKERS"	PAGES 2-5
Writing Task	2
Featured Skill: Key Ideas and Details	2
Close-Reading and Critical-Thinking Questions	2-3
Quizzes (two levels)	3-4
Vocabulary	4
Core Skills activities	4-5
Word Study	5
Video Discussion Questions	5
3. PAIRED TEXTS: "WHICH ANIMAL IS THE DEADLIEST?" AND "THE EXTRAORDINARY POWERS OF THE TINY MOSQUITO"	PAGES 6-10
Writing Task	6-7
Featured Skill: Synthesis	7
Close-Reading and Critical-Thinking Questions	7-8
Quizzes (two levels)	8-9
Vocabulary	9
Core Skills activities	9-10
4. SHORT READ: "THE RISE OF THE MEME"	PAGE 11-13
Writing Task	11
Short Write Kit	11-12
Quizzes (two levels)	12
Core Skills activities	12-13
5. DEBATE: "DO YOU NEED RECESS?"	PAGE 14
Writing Task	14
Vocabulary	14
6. PLAY: OLYMPIANS RISING	PAGES 15-18
Writing Task	15
Featured Skill: Theme	15
Close-Reading and Critical-Thinking Questions	15-16
Quizzes (two levels)	16-17
Vocabulary	17
Genre Exploration	18
7. FICTION: "FOLLOW THE WATER"	PAGE 19-24
Writing Task	19-20
Featured Skill: Character	20
Close-Reading and Critical-Thinking Questions	20-22
Vocabulary	22
Quizzes (two levels)	22-23
Genre Exploration	23-24
Core Skills activities	24
8. ROOT POWER: "LOST IN THE CORN MAZE"	PAGE 25
Root Challenge	25
Root Power	25

“Secrets of the Skulls”



ANSWERS TO ACTIVITIES AND PROMPTS IN THE MAGAZINE

Works of Art

Does the thought of seeing a skull send shivers down your spine? For Laura Martinez, it's just another day as a sugar skull maker.

There is nothing scary about Martinez's skulls. **They're** colorful works of art that she sells through her business, East Los Sweets.

Sugar skulls are popular decorations during Día de los Muertos, or Day of the Dead. This holiday is celebrated on November 1 and 2 in Mexico and other places around the globe. During the celebration, people remember **their** loved ones who have passed away.

Honoring the Dead

For more than a decade, Martinez has crafted sugar skulls in a corner of her father's bakery in Los Angeles, California. The skulls are placed on Day of the Dead altars, called ofrendas, that honor the dead.

The altars are commonly decorated with photos of loved ones who have died, as well as **their** favorite foods and drinks. People also scatter marigolds around the altars; **their** bright color and strong smell are believed to help guide the dead back to their families.

Making Skulls

To make her skulls, Martinez presses a sand-like mixture of water, meringue powder, and sugar into skull

molds. Once the sugar skulls harden, she pops them out of the molds. Now **they're** ready to decorate!

Martinez carefully adds round eyes, grinning mouths, and flower crowns. The detail work can take hours, but she considers it an honor. "It's very touching," Martinez says. "I'm helping you to celebrate your deceased relative."

ANSWERS TO ACTIVITY SHEET

THERE, THEIR, OR THEY'RE?

1. they're
2. there
3. their
4. there

Yesterday, my younger sisters challenged me to a game of Scrabble. Usually, I avoid playing games with them because they're terrible cheaters. But their pleading wore me down, and it was raining, so I agreed. We set up the board on the dining room table, removing Princess, the cat that likes to sleep there. Then we picked our tiles. There are only two blank tiles, and I got them both! Things were looking good. The girls obviously didn't like their tiles. They kept trying to sneak their hands into the tile bag for new ones. There is not much else to say about the game, except that it went on and on. When it finally ended and my sister Lisa won, I was very ready to get out of there!

“Code Talkers”



ANSWERS TO ACTIVITIES AND PROMPTS IN THE MAGAZINE

WRITING PROMPT, PAGE 10

Responses will vary but should include a basic introduction to the code talkers, along with reasons the United States Postal Service should honor them with a commemorative stamp series. These might include:

- The code talkers were pioneers, creating a fast, unbreakable code to be used in wartime communications.
- The code talkers were key to the Allies' victory in World War II.
- The code talkers had a powerful impact on Native communities, inspiring members to preserve and restore their disappearing languages and cultures.

ANSWERS TO ACTIVITY SHEETS

FEATURED SKILL: KEY IDEAS AND DETAILS

Responses will vary. Sample responses:

1. The code talkers were pioneers in developing an unbreakable code for military communication using Diné, the Navajo language. This code was used for transmitting sensitive and strategic messages, and it was never broken by the enemy.
2. The U.S. Marines had spent months battling the Japanese Imperial Army for months for control of

the island of Guadalcanal. After the code talkers arrived, the Marines began using their ingenious and unbreakable code to communicate. Bruchac writes, “Code talkers tracked enemy positions and shared ship movements and attack plans. They called for food and medical supplies.” Eventually, the U.S. was able to take control of Guadalcanal. This gave America hope that America and its allies could win the war. More and more code talkers were trained, and American forces pushed north, taking control of more and more islands in the Pacific. Eventually, Japan surrendered. The code likely helped bring the war to an end more quickly, saving countless lives.

3. The code talkers' work helped preserve the Navajo people's language and culture, which had once been under threat of disappearing because of so-called Indian boarding schools. The accomplishments of the code talkers inspired members of other Native communities to preserve and restore their own languages.

“CODE TALKERS”

CLOSE-READING QUESTIONS

1. Boarding schools were meant to eliminate Native cultures and replace them with “mainstream American” ways of life. These schools caused families to lose contact, children to die, and traditional languages and cultures to disappear. The trauma inflicted by these schools continues to be felt in Native communities today.



2. Joining the United States Marines was complicated for Nez because it was the United States government that had required Nez and hundreds of thousands of other Native children to attend boarding schools where they were stripped of their language, cultural traditions, and contact with their families. It was the United States government that had waged war on his ancestors, forcing them off their lands and killing thousands. Despite this painful history, Nez saw the United States as his country too and believed that it was worth protecting.
3. Previous codes consisted of letters and numbers, making them easy to break, especially by the Japanese, who were expert code breakers. Diné, however, was a language with many tones and complex grammar that was extremely difficult to learn; no one but the Navajo people could speak it well. Additionally, previous codes required machines on both ends that encoded and decoded the numbers and letters, a process that could take hours. Two pairs of Navajo code talkers could send and receive messages in just minutes.
4. To turn the tide is to reverse the trend or course of events. For example, if a team is losing and then a player scores a point and the team starts winning, you could say the player turned the tide for the team. The United States Marines had been battling the Japanese Imperial Army for control of the island of Guadalcanal for months, and things were not looking good. Once the Marines began using the Diné code, they were finally able to take control of Guadalcanal. After that, more code talkers were trained and eventually all crucial radio messages in the Pacific were sent using the Navajo code. This unbreakable code helped American forces take control of more and more islands.
5. The Navajo men's way of life prior to joining the Marines provided them with superior strength, endurance, and marksmanship. They also depended on their cultural and spiritual traditions to help them survive, like Nez and Begay's corn pollen prayer. When the men returned home, ceremonies such as the Enemy Way that was performed on Nez helped heal the spiritual and psychological wounds of war.

"CODE TALKERS"

CRITICAL-THINKING QUESTION

1. The work of the Navajo code talkers was important not only because it played a significant role in helping the U.S. and its allies win World War II, but also because it inspired Native nations whose languages had been in danger of disappearing to preserve and restore them.

"CODE TALKERS" QUIZ

***Higher Level (HL)**

1. C (vocabulary; R.4)
2. D (text structure; R.5)
3. D (text structure; R.5)
4. B (key ideas and details; R.2)
5. B (inference; R.1)
6. D (summarizing; R.2)
7. Diné was an ideal language for secret communication for multiple reasons. For starters, as author Joseph Bruchac explains in his article "Code Talkers," Diné has many tones and complex grammar, which make it difficult to learn unless one begins as a child (7). This meant that no one but the Navajo people spoke Diné well. There weren't books widely written about it either, explains Bruchac (7). This meant that it would not be a familiar language to the Japanese Imperial Army. Up to that point, Americans had been using letters and numbers for codes, and Japanese had been easily breaking their codes. When the Diné code was introduced, the Japanese couldn't break it. Additionally, previous codes required machines on both ends that encoded and decoded the numbers and letters, a process that could take hours (7). Two pairs of Navajo code talkers speaking Diné could send and receive messages in just minutes. These factors made Diné ideal for secret communication. (key ideas and details, writing an explanatory text; R.2, W.2)
8. The code talkers' legacy is a significant and enduring one. Not only were these heroic Marines pioneers who created a fast, unbreakable code for wartime communications, they also played a critical role in helping the U.S. and its allies win World War II. What's more, the work of the code talkers highlighted the importance of language and culture, and it inspired Native nations whose languages had been in danger of disappearing to preserve and



restore them. (key ideas and details, writing an explanatory text; R.2, W.2)

“CODE TALKERS” QUIZ

***Lower Level (LL)**

1. C (vocabulary; R.4)
2. D (text structure; R.5)
3. D (text structure; R.5)
4. B (key ideas and details; R.2)
5. B (inference; R.1)
6. D (summarizing; R.2)
7. Diné was chosen as a language for secret communication because no one outside of the Navajo nation could speak it well. As author Joseph Bruchac explains in his article “Code Talkers,” Diné has many tones and complex grammar, which make it difficult to learn unless one begins as a child (7). This meant that no one but the Navajo people spoke Diné well. There weren’t books widely written about it either, explains Bruchac (7). This meant that it would not be a familiar language to the Japanese Imperial Army. Up to that point, Americans had been using letters and numbers for codes, and Japanese had been easily breaking their codes. When the Diné code was introduced, the Japanese couldn’t break it. This is one of the many reasons Diné was chosen as a language for secret communication. (key ideas and details, writing an explanatory text; R.2, W.2)
8. The code talkers’ legacy is a significant and enduring one. Not only were these heroic Marines pioneers who created a fast, unbreakable code for wartime communications, they also played a critical role in helping the U.S. and its allies win World War II. What’s more, the work of the code talkers highlighted the importance of language and culture, and it inspired Native nations whose languages had been in danger of disappearing to preserve and restore them. (key ideas and details, writing an explanatory text; R.2, W.2)

“CODE TALKERS”

VOCABULARY PRACTICE

1. oasis
2. enacted
3. platoon’s
4. declassified
5. allies
6. indispensable

7. *Design Your Oasis*
8. *To the Front*
9. *Declassified!*
10. *My Platoon*

CORE SKILLS WORKOUT: SUMMARIZING

***Higher Level (HL)**

1. Chester Nez and the other Navajo Marines known as “code talkers”
2. joined the Marines and created a secret code using their native language, Diné
3. during World War II
4. on the islands of the Pacific front where the United States was fighting Japan
5. to allow U.S. forces to quickly send messages that enemy forces could not understand
6. It helped the U.S. and its allies win World War II. It also inspired Native nations whose languages had been in danger of disappearing to preserve and restore those languages.

Summary:

Author Joseph Bruchac’s narrative nonfiction article “Code Talkers” tells the story of Chester Nez and the other Navajo men known as “code talkers.” During World War II, these men were recruited by the U.S. Marines to create a secret code using their complex native language, Diné. The code allowed U.S. forces fighting on the islands of the Pacific front to quickly send messages enemy forces could not understand. The U.S. took control of island after island and the code was never broken. Eventually, Japan surrendered and the U.S. and its allies won World War II. The code talkers’ work also inspired members of Native nations whose languages had been in danger of disappearing to preserve and restore those languages.

CORE SKILLS WORKOUT: SUMMARIZING

***Lower Level (LL)**

Author Joseph Bruchac’s narrative nonfiction article “Code Talkers” tells the story of Chester Nez and the other Navajo code talkers. During World War II, these men were recruited by the U. S. Marines to create a secret code using their complex native language, Diné. The code allowed U.S. forces fighting on the islands of the Pacific front to quickly send messages enemy forces could not understand. The U.S. took control of island after island and the code was never broken. Eventually, Japan surrendered and the U.S. and its allies won World War II. The code talkers’ work also inspired members of



Native nations whose languages had been in danger of disappearing to preserve and restore those languages.

CORE SKILLS WORKOUT: TEXT FEATURES

Answers will vary. Sample answers:

1. After three years at a boarding school, the student does not look like the same person. His formerly flowing hair has been cut short and is worn tight to his head. He no longer wears jewelry; his earrings and many necklaces are gone. He now wears a suit and tie instead of his own clothing. His skin seems much lighter, perhaps from being forced to stay indoors. The editors likely included these two images to make it easy for readers to see how drastically a student's appearance changed after a short time at a boarding school, making clear that an effort was made to erase a student's identity and culture.
2. This image shows a bright, orderly, and pleasant-looking classroom; it has even been colorized (in a time of black and white photography). The image does not match the description in the caption of boarding schools as harsh, violent, traumatic places. Perhaps the U.S. government created this image to portray their policy and treatment of Native children in a positive light.
3. The map shows the area controlled by Japan during WWII and where battles were fought, including battles in which code talkers served. The map helps readers understand the Japanese empire had taken control of many places in Asia and the Pacific, and how Guadalcanal was just one of many islands that the U.S. fought to gain control of with the help of the Navajo code talkers.
4. It appears the code talkers substituted Diné phrases for English words that resemble or connect to the military object in some way. For example, fighter planes fly like hummingbirds fly, battleships glide through the water like whales glide through the water, grenades resemble potatoes in shape and size, bombs look like giant eggs, and tanks are armored vehicles that protect soldiers inside, like the protective shell of a tortoise.

WORD STUDY: TRANSMISSION

"across" words

- E
- D
- B

- F
- C
- A
- G

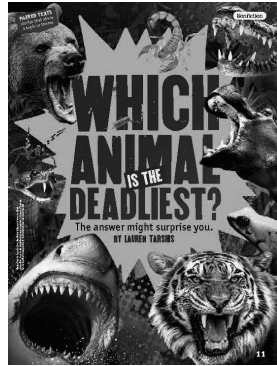
"send" words

- E
- F
- B
- A
- C
- D
- G

VIDEO DISCUSSION QUESTIONS

1. According to the video, the work of the code talkers was very important. Joseph Bruchac says the code talkers and the unbreakable code they developed using their language, Diné, helped "turn the tide of World War II." (To turn the tide is to reverse the trend or course of events.) In other words, the code talkers changed the course of the war and helped the U.S. prevail.
2. Answers will vary slightly. Students might say that Bruchac likely included the information about the Long Walk to show how the U.S. government has mistreated the people of the Navajo Nation in the past. It's important to understand this history when learning about the code talkers because the code talkers, who are Navajo, volunteered to help defend the U.S. despite the terrible way they and their ancestors had been treated by the U.S. Understanding this helps you understand a bit more about the character of the code talkers.
3. Answers will vary slightly. Students may say that Bruchac had his work read by experts, including code talkers and members of the Navajo community, because he wanted to make sure that he got the facts right. He likely wanted the people who reviewed his writing to alert him to any errors or inaccuracies.

“Which Animal Is the Deadliest?” and “The Extraordinary Powers of the Tiny Mosquito”



ANSWERS TO ACTIVITIES AND PROMPTS IN THE MAGAZINE

WRITING PROMPT, PAGE 15

Responses will vary. Sample response:

Lauren Tarshis’s article “Which Animal Is the Deadliest?” and Adea Braun’s infographic “The Extraordinary Powers of the Tiny Mosquito” both inform readers about mosquitoes, but their purposes are very different. While Tarshis’s purpose is to inform readers about the problems mosquitoes have long caused for humans, Braun’s purpose is to inform readers about the impressive abilities of mosquitoes and the important role they play in their ecosystems.

Tarshis achieves her purpose through her word choices, the information she includes, and the way she structures her article. She uses adjectives such as “deadliest,” “dangerous,” and “fearsome” to describe mosquitoes. She refers to them as “a nuisance” and “a disease-spreading menace.” She uses verbs like “combat,” “tormented,” and “battling” when describing humans’ relationship with mosquitoes. She presents statistics about the deadly illnesses they transmit to humans, such as dengue fever, West Nile virus, and malaria. She explains, for example, that in 2021, malaria killed more than 600,000 people across Africa, Asia, and Central and South America (13). Clearly,

Tarshis is full of concern for human health and is mostly anti-mosquito. Braun, on the other hand, presents mosquitoes not as a nuisance but as “Magic Spitters,” “Super Sniffers,” and “Plant Growers.” She describes their senses and abilities as “extraordinary” (15). Braun sounds as though she appreciates and is impressed by mosquitoes.

If I had read only Tarshis’s article, I would have had a deep understanding of serious mosquito-borne illnesses, but I would not have understood the important flip side to mosquitoes presented in Braun’s infographic, that mosquitoes’ saliva contains chemicals that stop blood from clotting and which may be able to help treat human diseases caused by blood clots. Taken together, these details show that while mosquitoes spread dangerous illnesses to people, they may also have the ability to help heal people.

Reading only Braun’s infographic would have given me a very positive view of mosquitoes; I would not have learned about the problem of deadly mosquito-borne illnesses. Additionally, reading both texts gave me a deeper understanding of mosquitoes’ relationship with living things other than humans. Braun’s infographic explains the important role mosquitoes play in their ecosystems. She writes, “Most mosquitoes feed on nectar, not blood. As they fly from one flower to another, they sometimes transfer pollen. This is called pollination—and it helps plants reproduce” (15). Tarshis’s article, meanwhile, states that “some experts have raised concerns that significantly reducing mosquito populations could harm ecosystems.



For example, animals that eat mosquitoes might suffer” (14). Taken all together, these details show that mosquitoes are not all bad or all good; they’re creatures with which humans have a complex relationship.

Reading both texts helped me understand that we need to solve the problem of mosquito-borne illnesses, but we also need to think carefully about the consequences of eradicating the mosquito.

ANSWERS TO ACTIVITY SHEETS

FEATURED SKILL: SYNTHESIS

Responses will vary. Sample responses:

1. Tarshis’s purpose is to inform readers about the problems mosquitoes have long caused for humans.
2. Braun’s purpose is to inform readers about the impressive abilities of mosquitoes and the important role they play in their ecosystems.
3. Tarshis makes her purpose clear through the use of adjectives like “deadliest,” “dangerous,” and “fearsome” to describe mosquitoes. She refers to them as “a nuisance” and “a disease-spreading menace.” She uses verbs like “combat,” “tormented,” and “battling” when describing humans’ relationship with mosquitoes. Then, she presents statistics about the deadly illnesses they transmit to humans, such as dengue fever, West Nile virus, and malaria. She explains, for example, that in 2021, malaria killed more than 600,000 people across Africa, Asia, and Central and South America. Clearly, she is full of concern for human health and is mostly anti-mosquito.
4. Braun makes her purpose clear through subtitles like “Magic Spitters,” “Super Sniffers,” and “Plant Growers.” She describes their senses and abilities as “extraordinary.” Braun sounds as though she appreciates and is impressed by mosquitoes.
5. If I had read only Tarshis’s article, I wouldn’t know about an important flip side to mosquitoes presented in Braun’s infographic: mosquitoes’ saliva contains chemicals that stop blood from clotting and may be able to help treat human diseases caused by blood clots. However, I would know about the problem of serious mosquito-borne illnesses. Taken together, these details show that while mosquitoes spread

dangerous illnesses to people, they may also have the ability to help heal people.

6. If I had read only Braun’s infographic, I wouldn’t know about the problem of serious mosquito-borne illnesses. Additionally, reading both texts gives me a deeper understanding of mosquitoes’ relationship with living things other than humans. Braun’s infographic makes clear the important role mosquitoes play in their ecosystems. She writes, “Most mosquitoes feed on nectar, not blood. As they fly from one flower to another, they sometimes transfer pollen. This is called pollination—and it helps plants reproduce.” Tarshis’s article explains that “some experts have raised concerns that significantly reducing mosquito populations could harm ecosystems. For example, animals that eat mosquitoes might suffer.” Taken all together, these details show that mosquitoes are not all bad or all good; they’re creatures with which humans have a complex relationship.

“WHICH ANIMAL IS THE DEADLIEST?”

CLOSE-READING QUESTIONS

1. In the introduction, Tarshis provides a statistic about mosquito-borne illnesses that illustrates how long they have plagued humans: Some experts estimate they’ve killed nearly half of all people who have ever lived. In the section “An Ancient Problem,” she provides examples of humans from various times and places who dealt with the problem of mosquitoes: Egyptian pharaohs, Chinese empresses, Mayan farmers, and George Washington’s troops. In the text feature “Malaria Through Time,” she provides details about the traces of malaria found in King Tut’s 3,500-year-old mummy and the roots of an effective medicine used to treat malaria today—the wormwood plant used by Chinese healers to treat the disease 1,600 years ago.
2. Mosquitoes are a problem for humans because they transmit deadly illnesses such as dengue fever, West Nile virus, and malaria. About 230 million people are infected with malaria each year. In 2021, malaria killed more than 600,000 people across Africa, Asia, and Central and South America. People in rural parts of developing countries with little access to medical care are especially at risk.



3. When a female mosquito bites a person infected with malaria, the mosquito slurps up blood that contains malaria parasites. A few days later, when the mosquito has its next blood meal, these parasites get injected into the new person being bitten.
4. Some solutions that have been explored are nets coated with mosquito-killing chemicals to protect people while they sleep, the genetic alteration of male mosquitoes so that female offspring don't survive, a medicine called artemisinin, a vaccine called Mosquirix, the spraying of an insecticide called DDT, and the killing of mosquito larvae with essential oils and yeast. Many of these solutions have led to a reduction in malaria cases, but they have not been effective enough or have been otherwise problematic. For example, over time mosquitoes adapt to the chemicals on the nets, and the vaccine reduces malaria cases by only 40 percent. DDT successfully killed mosquitoes in the U.S., but it turned out to be extremely harmful to humans and the environment, and it is now banned in many nations. As Tarshis writes, "the search for new weapons in the war on malaria continues."

"THE EXTRAORDINARY POWERS OF THE TINY MOSQUITO" CLOSE-READING QUESTIONS

1. Tarshis uses the adjectives "deadliest," "dangerous," and "fearsome" to describe mosquitoes. She refers to them as "a nuisance" and "a disease-spreading menace." She uses verbs like "combat," "tormented," and "battling" when describing humans' relationship with mosquitoes. She is full of concern for human health and is mostly anti-mosquito. Adele Braun, on the other hand, calls mosquitoes "Magic Spitters," "Super Sniffers," and "Plant Growers." She describes their senses and abilities as "extraordinary." Braun sounds as though she admires and is impressed by mosquitoes.
2. Tarshis's article describes the problem of serious mosquito-borne illnesses. Braun's infographic presents a flip side: She explains that mosquitoes' saliva contains chemicals that stop blood from clotting and may help treat human diseases caused by blood clots. Taken together, these details show that while mosquitoes spread dangerous illnesses to

people, they may also have the ability to help heal people.

"WHICH ANIMAL IS THE DEADLIEST?" AND "THE EXTRAORDINARY POWERS OF THE TINY MOSQUITO" CRITICAL-THINKING QUESTION

1. Answers will vary.

PAIRED TEXTS QUIZ

***Higher Level (HL)**

1. C (central ideas; R.2)
2. B (supporting details, text structure; R.2, R.5)
3. A (text structure; R.2, R.5)
4. D (central ideas; R.2)
5. A (tone; R.4)
6. D (key ideas, synthesis, text evidence; R.2, R.9, R.1)
7. Author Lauren Tarshis supports her statement that "Malaria too is an age-old menace" by providing information about how long malaria has been around and why it is a threat to humans. Tarshis writes, "The disease has been sickening humans for many thousands of years" (12) and explains that scientists have detected malaria in mummies from ancient Egypt, including that of King Tut. These details show that malaria is "an age-old menace" by showing that it has indeed been around for a very long time. Additionally, Tarshis supports the idea that malaria has not only been around for a long time, but has also been a problem for a long time by explaining that malaria is still sickening and killing people today. She writes that "about 230 million people are infected with malaria each year" and notes, "In 2021 alone, malaria killed an estimated 619,000 people across Africa, Asia, and Central and South America . . ." (13). These details show that malaria is a threat to human health, and thus, a menace. (key ideas and details, text evidence, writing explanatory text; R.2, R.1, W.2)
8. Information about a new malaria treatment would better fit into the article "Which Animal Is the Deadliest?" The article is about mosquitoes and how the diseases they spread, especially malaria, are a serious problem. The article also includes information about possible solutions to the malaria problem, including vaccines and other treatments that have been developed. The infographic, on the other hand, provides a list of valuable and impressive



traits of mosquitoes. There is no mention of malaria, so information about malaria treatments would not fit in the infographic. (key ideas and details, synthesis, writing explanatory text; R.2, R.1, R.9, W.2)

PAIRED TEXTS QUIZ

*Lower Level (LL)

1. C (central ideas; R.2)
2. B (supporting details, text structure; R.2, R.5)
3. A (text structure; R.2, R.5)
4. D (central ideas; R.2)
5. A (tone; R.4)
6. D (key ideas, synthesis, text evidence; R.2, R.9, R.1)
7. Author Lauren Tarshis supports her statement that “Malaria too is an age-old menace” by providing information about how long malaria has been around and why it is a threat to humans. Tarshis writes, “The disease has been sickening humans for many thousands of years” (12) and explains that scientists have detected malaria in mummies from ancient Egypt, including that of King Tut. These details show that malaria is “an age-old menace” by showing that it has indeed been around for a very long time. Additionally, Tarshis supports the idea that malaria has not only been around for a long time, but has also been a problem for a long time by explaining that malaria is still sickening and killing people today. She writes that “about 230 million people are infected with malaria each year” and notes, “In 2021 alone, malaria killed an estimated 619,000 people across Africa, Asia, and Central and South America . . .” (13). These details show that malaria is a threat to human health, and thus, a menace. (key ideas and details, text evidence, writing explanatory text; R.2, R.1, W.2)
8. Information about a new malaria treatment would better fit into the article “Which Animal Is the Deadliest?” The article is about mosquitoes and how the diseases they spread, especially malaria, are a serious problem. The article also includes information about possible solutions to the malaria problem, including vaccines and other treatments that have been developed. The infographic, on the other hand, provides a list of valuable and impressive traits of mosquitoes. There is no mention of malaria, so information about malaria treatments would not

fit in the infographic. (key ideas and details, synthesis, writing explanatory text; R.2, R.1, R.9, W.2)

VOCABULARY PRACTICE

1. B
2. A
3. A
4. A
5. First-time campers are prone to experiencing homesickness when they first arrive.
6. The rain has been such a nuisance this week; our game has been canceled twice!
7. The tea was potent and I felt a bit jittery from all the caffeine.
8. Giraffes adapted to a change in their food supply by developing long necks.

CORE SKILLS WORKOUT:

FINDING AND USING TEXT EVIDENCE

*Higher Level (HL)

Answers will vary slightly. Sample responses:

1. C
2. A
3. C
4. B; I chose B because the fact that over 600,000 people were killed by malaria in one year alone shows that the disease is deadly.
5. A, C, E
6. Evidence D does not support the statement because it is about how malaria continues to be a problem. This does not show how long mosquitoes have existed.
7. C; Answer choice B is incorrect because it does not include a sentence that states how that evidence supports the central idea. Answer choice A is incorrect because it does not use text evidence in the form of a direct quotation; the evidence is paraphrased instead.
4. Scientists are working to solve the problem of malaria by developing ways to treat and prevent malaria as well as ways to reduce the number of mosquitoes. Some solutions that have been explored are nets coated with mosquito-killing chemicals to protect people while they sleep, the genetic alteration of male mosquitoes so that female offspring don’t survive, a medicine called artemisinin,



a vaccine called Mosquirix, and the killing of mosquito larvae with essential oils and yeast (13-14). Many of these solutions have led to a reduction in malaria cases, but have still not been effective enough to eradicate the disease. For example, Tarshis writes of the malaria vaccine, “though the vaccine is groundbreaking, it has been shown to reduce malaria cases only by about 40 percent” (14). She also explains that experts have raised environmental concerns about solutions that entail reducing mosquito populations (14). Clearly, the work continues for scientists in the fight against malaria.

CORE SKILLS WORKOUT: FINDING TEXT EVIDENCE

Lower Level (LL)

1. A, C
2. A; I chose A because the fact that over 600,000 people were killed by malaria in one year alone shows that the disease is deadly.
3. Answers may include: “Mosquitoes can beat their wings 800 times *per second*!; “While mosquitoes can taste with their mouths, experts believe that they also taste with receptors on their feet!; “Mosquito saliva contains special substances that stop blood from clotting.”; “Mosquitoes have been around for a long, long, *long* time. Evidence suggests they were buzzing around dinosaurs 100 million years ago!”
4. Answers will vary slightly. Sample response: Many different solutions have been developed to help solve the problem of malaria.

CORE SKILLS WORKOUT: EXPLORING TEXT STRUCTURE

*Higher Level (HL) and Lower Level (LL)

Page 1:

PROBLEM: About 230 million people are infected with malaria each year.

SOLUTION 1: Nets treated with mosquito-killing chemicals have been distributed in malaria-prone regions around the world.

SOLUTION 2: Both a malaria medicine, artemisinin, and a vaccine, Mosquirix, have been created.

SOLUTION 3: Scientists are working on figuring out how to genetically alter male mosquitoes so that their female offspring don’t survive into adulthood.

Page 2:

Answers will vary but may include:

- Mosquitoes are the deadliest creatures on Earth in terms of how many people they kill.
- Mosquitoes transmit malaria and other deadly diseases to humans.
- Mosquitoes thrive in moist areas like swamps and marshes.
- There are 3,500 species of mosquitoes. Only about 40 of them transmit malaria to humans.
- Only female mosquitoes feed on blood.
- Mosquitoes can beat their wings 800 times per second.
- Mosquitoes are pollinators.
- Mosquitoes taste with their feet as well as with their mouths.
- Their saliva contains substances that stop blood from clotting.
- Mosquitoes have been on Earth longer than humans have—perhaps for 100 million years or longer.
- They can smell a person’s breath from 100 feet away.
- They have an extraordinary ability to sense temperature.

“The Rise of the Meme”



ANSWERS TO ACTIVITIES AND PROMPTS IN THE MAGAZINE

WRITING PROMPT, PAGE 17:

Answers will vary. Sample response:

Memes are a powerful form of communication because they are easy to create and share widely. As author Mary Kate Frank explains in her article “The Rise of the Meme,” creating memes has become simpler than ever. She writes, “Digital tools allow you to riff on existing memes or to create entirely new ones with just a few clicks or taps” (17). No doubt, the ease of meme-making helps us express our thoughts and ideas and build on those of others in practically no time. What’s more, once a meme is created, with just one more click, it can be shared far and wide on the internet, spreading from user to user and connecting us to people all over the world. Consider this statistic Frank includes: “Today, more than one million memes are shared everyday on Instagram alone” (17). That’s just one of many social media platforms where memes are shared, and that’s for just one day! Can you imagine how many memes are shared across Tumblr, Facebook, Reddit, text messages, etc.? Clearly, memes are one of the most influential and powerful forms of communication we use today.

ANSWERS TO ACTIVITY SHEETS

SHORT WRITE KIT

Answers will vary. Sample responses:

Your Claim:

Memes are a powerful form of communication because they are easy to create and share widely.

Text Evidence 1:

“Digital tools allow you to riff on existing memes or to create entirely new ones with just a few clicks or taps.” (p. 17)

Commentary:

No doubt, the ease of meme-making helps us express our thoughts and ideas and build on those of others in practically no time. What’s more, once a meme is created, with just one more click, it can be shared far and wide on the internet, spreading from user to user and connecting us to people all over the world.

Text Evidence 2:

“Today, more than one million memes are shared everyday on Instagram alone.” (p. 17)

Commentary:

That’s just one of many social media platforms where memes are shared, and that’s for just one day! Can you imagine how many memes are shared across Tumblr, Facebook, Reddit, text messages, etc.?

Paragraph:

Memes are a powerful form of communication because they are easy to create and share widely. As author Mary Kate Frank explains in her article “The Rise of the Meme,”



creating memes has become simpler than ever. She writes, “Digital tools allow you to riff on existing memes or to create entirely new ones with just a few clicks or taps” (17). No doubt, the ease of meme-making helps us express our thoughts and ideas and build on those of others in practically no time. What’s more, once a meme is created, with just one more click, it can be shared far and wide on the internet, spreading from user to user and connecting us to people all over the world. Consider this statistic Frank includes: “Today, more than one million memes are shared everyday on Instagram alone” (17). That’s just one of many social media platforms where memes are shared, and that’s for just one day! Can you imagine how many memes are shared across Tumblr, Facebook, Reddit, text messages, etc.? Clearly, memes are one of the most influential and powerful forms of communication we use today.

“THE RISE OF THE MEME” QUIZ

*Higher Level (HL)

1. B, D (text structure; R.5)
2. C (vocabulary; R.4)
3. A, B, D (central idea; R.2)
4. A (summarizing; R.2)
5. As Mary Kate Frank explains in her article “The Rise of the Meme,” memes have changed a great deal over time. The word “meme” was coined in 1976 and is defined as any idea or behavior that is passed from person to person (17). Thinking of memes that way, it’s clear why Frank writes that memes “have existed in various forms for thousands of years” (17). Surely, ideas and behaviors have been passed from person to person for as long as humans have been on the planet. And of course, in 1976, the internet and smartphones were not part of our daily lives, so memes at that time obviously were not digital content as they are today. Frank gives an example of a pre-digital meme: About two decades ago, variations of a World War II poster that read “Keep Calm and Carry On” became extremely popular, appearing on items such as mugs and T-shirts (16-17). Memes as we know them today first appeared in the early 2000s, but even since then, they have continued to change as technology has changed. Frank notes that the memes of the early 2000s were pretty simple—just images combined with captions. Today’s memes, on the other hand, can

also include music, sound effects, and video or animation (17). Another change to memes is that because they are now so easy to make and share, they are more common and more popular than ever. (central ideas, writing explanatory text; R.2, W.2)

“THE RISE OF THE MEME” QUIZ

*Lower Level (LL)

1. B, D (text structure; R.5)
2. C (vocabulary; R.4)
3. A, B, D (key ideas and details; R.2)
4. A (summarizing; R.2)
5. As Mary Kate Frank explains in her article “The Rise of the Meme,” memes have changed a great deal over time. The word “meme” was coined in 1976 and defined as any idea or behavior that is passed from person to person (17). Thinking of memes that way, it’s clear why Frank writes that memes “have existed in various forms for thousands of years” (17). Surely, ideas and behaviors have been passed from person to person for as long as humans have been on the planet. And of course, in 1976, the internet and smartphones were not part of our daily lives, so memes at that time obviously were not digital content as they are today. Frank gives an example of a pre-digital meme: About two decades ago, variations of a World War II poster that read “Keep Calm and Carry On” became extremely popular, appearing on items such as mugs and T-shirts (16-17). Memes as we know them today first appeared in the early 2000s, but even since then, they have continued to change as technology has changed. Frank notes that the memes of the early 2000s were pretty simple—just images combined with captions. Today’s memes, on the other hand, can also include music, sound effects, and video or animation (17). Another change to memes is that because they are now so easy to make and share, they are more common and more popular than ever. (central ideas, writing explanatory text; R.2, W.2)

CORE SKILLS WORKOUT: CENTRAL IDEAS AND DETAILS

*Higher Level (HL) and Lower Level (LL)

Section Title: “New Meanings”

Central Idea: Memes have existed in some form for thousands of years, but they are always changing.



Supporting Details:

- *Meme* can refer to any behavior or idea that spreads from person to person.
- The term *meme* was coined in 1976, long before smartphones or the internet existed.
- A World War II era poster that said "Keep Calm and Carry On" was turned into a meme in 2000, when lighthearted riffs on the original started to appear on everything from T-shirts to mugs to greeting cards.

Section Title: "Millions of Memes"

Central Idea: Memes are easy to create and share.

Supporting Details:

- With the rise of the internet, people began to create and share memes as we know them today.
- New digital tools make riffing on memes, creating new memes, and sharing memes even easier and less time consuming now than 20 years ago.
- More than one million memes are shared every day on Instagram alone.
- Memes make it easy for us to quickly capture and relate complicated ideas and feelings to others.

Section Title: "Memes in Museums"

Central Idea: Memes reveal much about us as a society.

Supporting Details:

- Memes project our values and customs.
- Memes reveal what we find funny.
- Memes reveal who and what is popular at a given point in time.
- Today's memes will likely be studied by future generations.
- Memes may one day be artifacts in museums.

Central Idea of the Article: Memes are a powerful form of communication.

“Do You Need Recess?”



ANSWERS TO ACTIVITIES AND PROMPTS IN THE MAGAZINE

Answers will vary, but an excellent response to the prompt on page 19 should include some of the following points:

YES!

1. Recess offers a chance to be active. (Answer provided)
2. Taking breaks during the day can facilitate learning by giving your brain a chance to rest and process information.
3. Other countries that outshine the U.S. in test scores, including Finland and Japan, have multiple breaks a day.

NO!

1. Adding recess back to the schedule could lead to shorter lunch periods or less time to go from class to class.
2. Recess requires an adult to monitor students during their free time, and not all schools have funding for this.
3. Recess can lead to injuries if play gets out of hand.

ANSWERS TO ACTIVITY SHEET

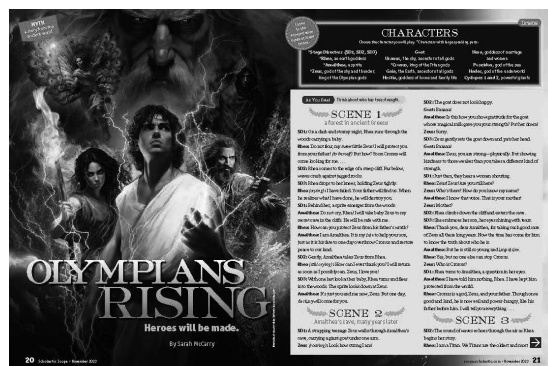
VOCABULARY PRACTICE

1. C
2. B
3. C
4. B

Answers will vary but should be similar to the following:

5. Turning off all devices an hour before bed can facilitate a good night's sleep.
6. The veterinarian told us to closely monitor our dog for two weeks after her surgery.
7. Aesha participates in so many extracurricular activities, I don't know when she sleeps! On top of school, she sings in the choir, plays on the softball team, tutors, and has her own cupcake business.
8. To help sweaters retain their shape, don't hang them to dry after washing. Lay them flat instead.
9. Because there hasn't been any rain this summer, the governor has mandated that people only use water for drinking and bathing; filling up swimming pools or washing cars is not allowed.

Olympians Rising



ANSWERS TO ACTIVITIES AND PROMPTS IN THE MAGAZINE

WRITING PROMPT, PAGE 24

Responses will vary. Sample response:

Sarah McCarry's play *Olympians Rising* contains many heroic characters who help to defeat Cronus, the cruel Titan king poisoned by hatred and fear. The true hero of the story, however, is the sprite Amalthea. It is Amalthea who protects Zeus until it is time for him to end his father's reign of terror. More importantly, it is Amalthea's guidance that helps Zeus make the right choice at the end of the play to end the cycle of suffering. In Scene 2, Amalthea instills in Zeus the virtue of showing mercy and kindness to those weaker than him. Later in Scene 8, when Zeus is at an important crossroads, Zeus remembers Amalthea's advice that "showing kindness to those weaker than you takes a different kind of strength." This inspires Zeus to show mercy to his father. Furthermore, Amalthea is also the one who brews the magical potion that frees Zeus's siblings, who were essential in defeating Cronus and bringing peace to the land. In these ways, Amalthea proves that she is the hero of the play.

ANSWERS TO ACTIVITY SHEETS

FEATURED SKILL: THEME

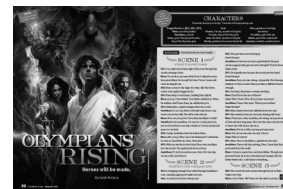
Answers will vary. Sample responses:

- Zeus:** Zeus rescues his siblings and defeats Cronus with kindness and mercy, restoring peace to the land.
- Rhea:** Rhea saved Zeus by putting a stone in his baby blanket so that Cronus swallowed the stone instead of Zeus. If she had not saved Zeus, Zeus would not have saved his siblings and defeated Cronus.
- Amalthea:** Amalthea raises Zeus and teaches him about real strength. In a pivotal moment near the play's end, she reminds him that "showing kindness to those weaker than you takes a different kind of strength," which inspires Zeus to show mercy to his father. She also brews the magical potion that frees Zeus's siblings.
- The Cyclopes:** The Cyclopes give the gods magical abilities so that they can defeat Cronus and bring peace to the land. For example, they give Zeus thunder and lightning, which Zeus uses to destroy Cronus's palace and trap him.

OLYMPIANS RISING

CLOSE-READING QUESTIONS

- The mood is dark, intense, frightening, etc. Details that help create the mood include the phrase "dark and stormy night," the steep cliff and waves crashing on jagged rocks, Rhea's crying, and the looming threat of Zeus's father's wrath.
- Cronus believed his father had cursed him and that his children would one day turn against him. He ate Zeus's brothers and sisters so they could not threaten his power. Rhea took Zeus away from



Cronus because she did not want Zeus to meet the same fate as his siblings.

3. Cronus, Zeus's father, killed Uranus, Zeus's grandfather. As he was dying, Uranus placed a curse on Cronus: "Your children will one day turn against you, just as you have turned against me." Zeus has just expressed that he wants to take revenge against Cronus for eating Zeus's siblings, which is why Rhea chooses this moment to warn Zeus against killing his father. If Zeus were to take revenge against Cronus, he would be repeating his father's mistakes. The curse would likely continue to the next generation, with Zeus's future children turning against him and killing him. "The cycle of suffering" would continue indefinitely. It is up to Zeus to put an end to the cycle by not letting his anger overcome him.
4. You can infer that Cronus's subjects greatly fear him. They feel small and inferior in his presence.
5. These lines foreshadow that Zeus will emerge as a leader and become king of the Olympians, as he is described in the character box. At the beginning of the play, Amalthea says of Zeus, "it is his fate to one day overthrow Cronus and restore peace to our land." And Zeus does exactly that. He begins by freeing his siblings from Cronus's stomach and then leads them in a battle against Cronus. Cronus is defeated and Zeus banishes him to the Elysian Fields. After this, peace is restored.
6. In Scene 8, Zeus is remembering what Amalthea said to him in Scene 2, when he was showing off by carrying a sheep that did not enjoy being carried. Zeus thinks of Amalthea's words in Scene 8 because he is at an important crossroads, where he can either defeat Cronus (who is in a position of weakness) or show mercy and kindness. He is realizing how what Amalthea said in regard to the sheep applies to his current situation.

OLYMPIANS RISING

CRITICAL-THINKING QUESTIONS

1. Answers will vary. Students who agree may say that at the very beginning of the play, Amalthea teaches Zeus how "showing kindness to those weaker than you takes a different kind of strength." By sparing Cronus, Zeus is putting this lesson into action. Additionally, if he had killed Cronus, he would be

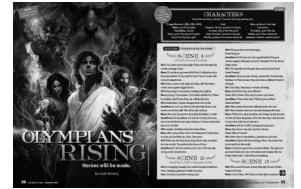
repeating his father's mistakes, taking a risk that the cycle of suffering would continue. Those who disagree may say that Cronus's actions—eating his own children, treating his subjects with cruelty, and starting a war—are unforgivable.

2. Answers will vary. Students may say that the epilogue changes their opinion of Zeus because the peace that Zeus created was impermanent. He shows maturity in Scene 8 when he decides to spare Cronus, even stating, "I will not become like him." Thus, it may be disappointing to learn that Zeus, like his father, started a war. It seems doubtful that Zeus truly learned the lessons about strength, kindness, and forgiveness that he appeared to have mastered. Other students may say that their opinion of Zeus is unchanged because starting a new war does not take away from the fact that he saved his siblings, ended the first war, and defeated the evil Cronus.
3. Responses will vary.

OLYMPIANS RISING QUIZ

*Higher Level (HL)

1. B (vocabulary; R.4)
2. D (inference; R.1)
3. A, C (inference; R.1)
4. D (theme; R2)
5. C (figurative language; R.4)
6. A, B, C (theme; R.2)
7. Zeus's intelligence and physical strength help him defeat Cronus and bring peace to the land. Rhea brews a magical potion for Cronus to drink. If Zeus's siblings are alive, the potion will free them. Zeus cleverly disguises himself as a humble traveler and tricks his father into drinking the potion by appealing to Cronus's egotism, telling Cronus, "Only the most fearsome warriors of my people are strong enough to drink it." Zeus's physical strength helps him defeat Cronus when Zeus releases a bolt of lightning that destroys Cronus's palace and traps him underneath. Though he ultimately defeats Cronus, Zeus is impetuous, quick to anger, and unforgiving, and these traits nearly keep him from bringing peace to the land. For example, in Scene 4 when Rhea tells Zeus about his father's misdeeds, Zeus says, "I want more than [my siblings'] freedom. I want revenge." However, at the last possible moment, Zeus realizes



that if he kills his father the cycle of suffering will never stop. Zeus decides to banish Cronus instead of killing him. (character development, writing arguments to support claims; R.3, W.1)

8. The helpers play a tremendous role in the story, and Zeus would not have been able to defeat Cronus without them. For starters, Rhea saves Zeus's life when he is a baby. She puts a stone in Zeus's baby blanket, tricking Cronus into swallowing the stone instead of Zeus. Rhea then runs away with Zeus and leaves him with Amalthea so that he can grow up in safety. If Rhea had not saved Zeus from Cronus, Zeus would not have saved his siblings and defeated Cronus. Amalthea is another character who helps Zeus in his journey. She raises him and teaches him about real strength. In a pivotal moment near the play's end, she reminds him that "showing kindness to those weaker than you takes a different kind of strength," which inspires Zeus to show mercy to his father. She also brews the magical potion that frees Zeus's siblings. Once his siblings are free, they too play an important role in helping Zeus, fighting alongside him in the battle against Cronus. His sister Hestia wisely points out that if Zeus lets Cronus live among them, they will all live in fear; this prompts Zeus to banish Cronus. Lastly, the Cyclopes play an important role. They give the gods magical abilities so that they can defeat Cronus. For example, they give Zeus thunder and lightning, which Zeus uses to destroy Cronus' palace and trap him. (central ideas, character development, writing explanatory text; R.2, R.3, W.2)

OLYMPIANS RISING QUIZ

*Lower Level (LL)

1. B (vocabulary; R.4)
2. D (inference; R.1)
3. A, C (inference; R.1)
4. D (theme; R.2)
5. C (figurative language; R.4)
6. A, B, C (theme; R.2)
7. Zeus's intelligence and physical strength help him defeat Cronus and bring peace to the land. Rhea brews a magical potion for Cronus to drink. If Zeus's siblings are alive, the potion will free them. Zeus cleverly disguises himself as a humble traveler and

tricks his father into drinking the potion by appealing to Cronus's egotism, telling Cronus, "Only the most fearsome warriors of my people are strong enough to drink it." Zeus's physical strength helps him defeat Cronus when Zeus releases a bolt of lightning that destroys Cronus's palace and traps him underneath. (character development, writing arguments to support claims; R.3, W.1)

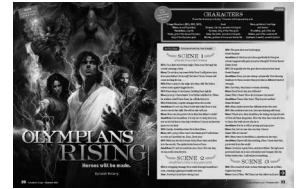
8. Answers will vary. Sample responses:
Rhea: She saves Zeus by putting a stone in his baby blanket, tricking Cronus into swallowing the stone instead of Zeus. She runs away with Zeus and leaves him with Amalthea so that he can grow up in safety. If Rhea had not saved Zeus from Cronus, Zeus would not have saved his siblings and defeated Cronus.
Amalthea: She raises Zeus and teaches him about real strength. In a pivotal moment near the play's end, she reminds him that "showing kindness to those weaker than you takes a different kind of strength," which inspires Zeus to show mercy to his father. She also brews the magical potion that frees Zeus's siblings.
Zeus's siblings: They help Zeus in his battle against Cronus. His sister Hestia wisely points out that if Zeus lets Cronus live among them, they will all live in fear; this prompts Zeus to banish Cronus.
the Cyclopes: They give the gods magical abilities so that they can defeat Cronus. For example, they give Zeus thunder and lightning, which Zeus uses to destroy Cronus's palace and trap him. (central ideas, character development, writing explanatory text; R.2, R.3, W.2)

VOCABULARY PRACTICE

1. B
2. A
3. C
4. B

Answers to questions 5-8 will vary. Sample responses:

5. From the time Stella was a toddler she knew it was her destiny to be an award-winning actor.
6. The army refused to yield to its enemy and continued fighting with all its might.
7. In the woods, Sam met a witch who made a prophecy that he would grow up to rule a kingdom.
8. I would cower if I saw a bear.



GENRE EXPLORATION: OLYMPIANS RISING

Page 1:

Has nonhuman or immortal characters: The play features immortal gods and goddesses: Rhea, Zeus, Hestia, Hera, Poseidon, and Hades.

Has imaginary creatures or beasts: Amalthea is a sprite, or fairy. The Cyclopes are one-eyed giant sorcerers.

Has heroes or heroines with superhuman abilities: Magical goat's milk gives Zeus superhuman strength. The Cyclopes give Zeus and his siblings magical abilities: Poseidon controls the seas with a magical trident, Zeus can control thunder and lightning, Hades can become invisible with a magical helmet, Hera can protect women and help people find happiness in marriage, and Hestia can bring joy and peace to life at home.

Reflects a culture's values: The play suggests that one can change their fate for the better, and that kindness is a form of true strength.

Teaches lessons about human emotions and behaviors: The play suggests that impulsivity and revenge are dangerous, and that power can corrupt.

Comes from long ago: The myth of the Olympians' defeat of the Titans dates back to ancient Greece.

Explains events in nature: Lightning and thunder are Zeus's weapons; what happens in the sea is controlled by Poseidon.

Explains the creation of the world: The Titans' parents, Uranus and Gaia, were the Earth and sky themselves and the ancestors of all gods. The story also explains how the Olympians came to rule the world.

Page 2:

1. Answers will vary.
2. **A.** *Olympians Rising* celebrates kindness and mercy. Through Amalthea's teachings to Zeus, these traits are described as true strength, and it is these traits that allow Zeus to overthrow the evil Cronus and restore peace to the land (at least temporarily).
B. Impulsivity and a thirst for power are portrayed as dangerous and deadly.

“Follow the Water”



ANSWERS TO ACTIVITIES AND PROMPTS IN THE MAGAZINE

WRITING PROMPT, PAGE 31:

Responses will vary. Sample response:

In Jennifer L. Holm’s work of science fiction “Follow the Water,” Georgie, 15, lives on Mars with her parents. In the story, both Georgie and her parents “follow the water.” They do this in different ways, but in both cases, following the water means maintaining a sense of hope in the face of great uncertainty.

Georgie’s parents are geologists who are on Mars for the purpose of finding underground water for the colony there. So far, no water has been found. Water has to be shuttled in from Earth every two months, then rationed and recycled. Georgie explains that “some scientist told NASA that they should ‘follow the water’—that is, follow the scientific evidence of where the water has been before, to find new water” (27). So that is what Georgie’s parents do: They literally follow signs of water on the planet in hopes of improving life for colonists and making it possible for more people to come to Mars in the future. But searching for water on Mars is a difficult and dangerous job. In fact, the reason Georgie’s parents are on Mars is because the last batch of geologists there died in a catastrophic dust storm. Nonetheless, Georgie’s parents continue to search for water because they have hope that they will find it. This is made clear when Georgie’s dad tells her about the traces of water he and her mom recently found in a core sample.

Georgie asks, “How do you know you’ll find water, Dad? I mean, how can you know for sure?” Her dad responds, “Nothing’s ever certain, Georgiana . . . You just have to have hope” (30).

Georgie also “follows the water,” so to speak. Georgie can never stop thinking about water, and how there isn’t any on Mars. She hates the dust and the dehydrated food and the lack of real showers and baths. She calls Mars a “deserted rock out in space” (26). In addition to thinking about the lack of water on Mars, she thinks about the abundance of water on Earth and the happy memories she has of spending time in the water with her grandmother, Nana. When Georgie finds out Nana has cancer and only about five months to live, Georgie decides to return to Earth to see her. In this way, Georgie “follows the water” by traveling back to Earth. This is a difficult decision because Mars’s gravity causes humans to lose bone mass, and no one knows exactly how returning to Earth would affect Georgie. Her doctor believes it could shatter her legs, put her in a body cast for months, or even cause her to never walk again. What’s more, the journey to Earth takes six months, and Nana might have only five months to live. Georgie faces the possibility of returning to Earth, suffering immense physical consequences, and never getting to see Nana at all.

But Georgie is willing to take the risk. As she stows away on a supply shuttle, her friend Buddy asks if she’s sure she knows what she’s doing. Georgie replies by echoing what her father said about his search for water on Mars: “Nothing’s ever certain . . . You just have to have hope” (31). Clearly, Georgie understands that things may not go the



way she wants them to, but as the shuttle's engines start up, Georgie thinks of Earth and "all that blue water ahead" (31). She thinks about Nana and how happy Nana will be to see her. She takes the great risk of returning to Earth because she has hope that she will not lose her ability to walk and because she has hope that her grandma will still be alive when she arrives. Like her parents, she follows the water, and like her parents, it is because she is full of hope.

ANSWERS TO ACTIVITY SHEETS

FEATURED SKILL: CHARACTER

Responses will vary. Sample responses:

1. "Some scientist told NASA that they should 'follow the water'—that is, follow the scientific evidence of where the water has been before, to find new water." (p. 27)
2. Georgie's parents, who are geologists searching for water on Mars
3. Searching for water on Mars is a difficult and dangerous job. The reason Georgie's parents are there is that the last batch of geologists died in a catastrophic dust storm.
4. Her parents are willing to search for water on Mars despite the risks because they have hope that they will find it. This is made clear when Georgie's dad tells her about the traces of water he and her mom recently found in a core sample. Georgie asks, "How do you know you'll find water, Dad? I mean, how can you know for sure?" Her dad responds, "Nothing's ever certain, Georgiana . . . You just have to have hope" (30).
5. Georgie can never stop thinking about water, which Mars does not have. She hates the dust and the dehydrated food and the lack of real showers and baths. She calls Mars a "deserted rock out in space" (26). In addition to thinking about the lack of water on Mars, she can't stop thinking about the abundance of water on Earth and the happy memories she has of spending time in the water with her grandmother, Nana. When Georgie finds out Nana has cancer and only about five months to live, Georgie decides to return to Earth to see Nana. In this way, Georgie "follows the water" by traveling back to Earth.

6. This is a difficult decision because Mars's gravity causes humans to lose bone mass, and no one knows exactly how returning to Earth would affect Georgie. Her doctor believes it could shatter her legs, put her in a body cast for months, or even cause her to never walk again. What's more, the journey to Earth takes six months, and Nana might have only five months to live. Georgie faces the possibility of returning to Earth, suffering immense physical consequences, and never getting to see Nana at all.
7. As Georgie stows away on a supply shuttle, her friend Buddy asks if she's sure she knows what she's doing. Georgie echoes what her father said to her about his search for water on Mars: "Nothing's ever certain . . . You just have to have hope" (31). Clearly, Georgie understands that things may not go the way she wants them to, but as the shuttle's engines start up, Georgie thinks of Earth and "all that blue water ahead" (31). She thinks about Nana and how happy Nana will be to see her. She takes the great risk of returning to Earth because she has hope that she will not lose her ability to walk and because she has hope that her grandma will still be alive when she arrives.

"FOLLOW THE WATER"

CLOSE-READING QUESTIONS

1. Georgie hates being on Mars. She calls it "a deserted rock out in space" and "this dumb planet." She describes the discomfort of living there: the "crazy weather, the subzero cold, the dust storms" and the "stale, musty air." The compound where the colonists live she describes as "a rabbit warren of connecting plastic tunnels." She complains of being a "lab rat," of being the only teenager and having no friends, of eating rehydrated food. She also says, in the second section of the story, that she cannot stop thinking about water, which Mars does not have. That Georgie dislikes Mars is also revealed through how the story begins, with Georgie dreaming of being back on Earth, floating in the water with her grandmother and enjoying the "freedom of the waves" and the peacefulness. Georgie's feelings are clear: She would rather be on Earth.
2. Georgie is commenting that the science fiction novel she read, about life for the first colonists on Mars,



gets a lot wrong—and that life on Mars is much less pleasant than it's made out to be in the novel. She has just said that in the novel, colonists live "a comfortable life in beautiful domed cities that have amazing views of the landscape," and that the novel's author makes life on Mars "sound not half bad."

When she comments "Which is why it's called science fiction and not reality," she is making the point that in reality, life on Mars is pretty bad.

3. You can infer that Georgie doesn't have much confidence in humanity or hope for humanity's future. She seems to think people will make the same mistakes on Mars that they made on Earth, such as polluting the environment and consuming all the natural resources.
4. Water plays a large and positive role in Georgie's memories. She remembers fondly the many summers she spent on the Jersey Shore with her grandma, swimming in the ocean. In fact, she associates her grandma—whom she loves fiercely—with water; when Georgie thinks about Nana, she pictures the two of them floating like "two mermaids in the ocean." Water plays a very different role in Georgie's current reality. On Mars, not only is there no ocean, there's very little water available, period. Water must be strictly conserved and recycled; Georgie describes the water on Mars as tasting awful and being so limited that there's never enough to do anything more than take a sponge bath. So while in Georgie's memories, water is plentiful and soothing, in her present reality, water is scarce and a source of anxiety. Water is also the reason Georgie is on Mars at all: Her parents came to Mars to search for underground water.
5. Georgie feels closer to Nana than to her parents. Georgie says that Nana knows everything about her and that she tells Nana things she would never tell her parents. She refers to Nana as "the only person in the whole world who's ever believed in me," revealing that Georgie does not feel that her parents believe in her. Georgie seems to deeply admire and respect Nana, and she seems to have an easier time relating to Nana than to her own parents. In Georgie's dreams, she and Nana are "two mermaids in the ocean," which suggests that Georgie sees herself and Nana as alike. On the other hand, Georgie does not

seem to relate to her parents' love for geology, and she says "This is how they talk" in a critical way when her dad explains why he and Georgie's mom are not planning to return to Earth.

6. Answers will vary, but it is likely Georgie's parents brought her to Mars because they love her and did not want to be apart from her. Georgie notes that when her father was asked to return to Mars, his one condition was that Georgie come too. Also, however, it seems likely that Georgie's parents really did not think through what could happen to Georgie's body on Mars and what that would mean in terms of her returning to Earth—or perhaps they did think about it, but simply did not imagine how different Georgie's feelings about Mars would be from their own. Georgie's parents, as she describes them, are obsessed with their work and thrilled to be on Mars; it may well have never occurred to them that their daughter would feel otherwise. When Georgie asks how she will ever return to Earth, her dad seems to genuinely not understand why she would ever want to.
7. During the outing, Georgie begins to appreciate what it is about her parent's work that they find so exciting. Georgie describes the canyon her parents take her to as "winding and wild, like something out of a movie" and says that it's the most beautiful thing she has ever seen. She compares it to the ocean and says it gives her a sense of peace. When her parents tell her they believe they have found water, Georgie feels a thrill and observes, not critically, the pride her parents feel in their discovery. And then Georgie's dad says that nothing is ever certain and that you just have to have hope. Georgie says she is shocked when her dad says this; she did not understand until this moment that her dad grapples with uncertainty but is motivated by hope to keep going.
8. Georgie's statement is a reference to her earlier comment that she sometimes wonders if she's someone else's baby that her parents picked up in the hospital by mistake. Now she is repeating the exact words her father said to her earlier about nothing ever being certain and having to have hope; in saying these words, she is acknowledging that she and her father are alike in that they are both able to



maintain a sense of hope in the face of great uncertainty.

9. At the end of the story, Georgie seems to have mixed feelings, but she is ultimately confident in her decision to return to Earth, and she is full of hope. The day before leaving, Georgie is struck by the enormity of what she is leaving behind. She looks at her parents and thinks, “Suddenly, all these little things seem so important—this candy, those smiles, these two strong legs. How can I possibly give this up?” It’s also clear that Georgie understands that things may not go the way she wants them to; she tells Buddy that she’s not certain she’s making the right decision but that “you just have to have hope.” On the morning before she leaves, Georgie hugs her parents hard because, we can infer, she is going to miss them. However, as the shuttle’s engines start up, Georgie thinks of Earth and “all that blue water ahead.” She thinks about Nana and how happy Nana will be to see her.

“FOLLOW THE WATER”

CRITICAL-THINKING QUESTIONS

1. Answers will vary.
2. Answers will vary.
3. Hope motivates everything that happens in the story. Humans colonize Mars because they hope to keep the human race going. Georgie’s parents continue to search for water because they have hope of finding it. Georgie takes the great risk of returning to Earth because she has hope that she will not lose her ability to walk and because she has hope that her grandma will still be alive when she arrives.

VOCABULARY PRACTICE

1. B
2. B
3. A
4. A
5. B
6. A
7. B
8. A

Answers will vary but should be similar to the following:

9. The scientist brought a core sample of rock from the mountain back to the lab to analyze.

10. The basketball team has been running drills for almost two hours, and they can’t sustain this pace!
11. During the milk shortage, we were allowed a ration of one gallon per week.
12. It’s easy to get lost in the castle; it’s a warren of twisting halls, winding staircases, and secret passageways.

“FOLLOW THE WATER” QUIZ

*Higher Level (HL)

1. B (character; R.3)
2. B, C (text evidence; R.1)
3. A (interpreting text; R.4)
4. D (character; R.3)
5. C (inference; R.1)
6. D (summarizing; R.4)
7. Georgie dreams about water because there isn’t much water on Mars and because of what water represents. On Mars, the freshwater supply is limited to what can be brought from Earth. As a result, the colonists can’t bathe or wash their hair as they would on Earth. All the water is recycled and rationed and “tastes awful,” according to Georgie. But water represents much more to Georgie than drinking and bathing. It represents the world she left behind—Georgie is a swimmer and has many fond memories with her grandmother on the Jersey Shore. She dreams about being in the sea with her grandmother, who she says understands her more than her parents. She dreams about the two of them as “mermaids.” In other words, water represents home to Georgie. (character, citing textual evidence to support analysis; R.3, R.1)
8. The scene in which Georgie and her parents go out in the rover is important in the story because it signals a major shift in Georgie’s character. Before that scene, Georgie is frustrated with her life on Mars. She talks about how uncomfortable it is—it’s dusty and cold and she can’t have a proper shower. She resents her parents for bringing her there and for not considering how Mars would cause her to lose bone mass. She wants to go back to Earth and to her beloved Nana, but doing so is dangerous because her bones could shatter. Georgie also doesn’t believe her parents pay enough attention to her, as though she is “an experiment that slipped their minds.” She seems to find their work on Mars boring and tedious,



describing her dad's idea of fun as "taking core samples."

But the trip out in the rover changes her attitude. Her parents show her where they believe they'll find water and Georgie can't keep the "excitement" out of her voice. Suddenly, Georgie says the Mars landscape is "serene" and "the most beautiful thing I have ever seen." She describes leaping over the terrain as an exhilarating and powerful experience, while appreciating that the physical strength and freedom of movement she is enjoying may never be possible back on Earth. The scene ends with her dad telling her that "you just have to have hope." It is this scene that convinces Georgie to "have hope" and return to Earth to see Nana. (character, citing textual evidence to support analysis; R.3, R.1)

"FOLLOW THE WATER" QUIZ

*Lower Level (LL)

1. B (character; R.3)
2. B, C (text evidence; R.1)
3. A (interpreting text; R.4)
4. D (character; R.3)
5. C (inference; R.1)
6. D (summarizing; R.4)
7. Georgie dreams about water because there isn't much water on Mars and because of what water represents. On Mars, the freshwater supply is limited to what can be brought from Earth. As a result, the colonists can't bathe or wash their hair as they would on Earth. All the water is recycled and rationed and "tastes awful," according to Georgie. But water represents much more to Georgie than drinking and bathing. It represents the world she left behind—Georgie is a swimmer and has many fond memories with her grandmother on the Jersey Shore. She dreams about being in the sea with her grandmother, who she says understands her more than her parents. She dreams about the two of them as "mermaids." In other words, water represents home to Georgie. (character, citing textual evidence to support analysis; R.3, R.1)
8. In the scene in which Georgie and her parents go out in the rover, Georgie comes to see Mars in a different way. Before that scene, Georgie is frustrated with her life on Mars. She talks about how

uncomfortable it is—it's dusty and cold and she can't have a proper shower. But the trip out in the rover changes her attitude. Her parents show her where they believe they'll find water and Georgie can't keep the "excitement" out of her voice. Suddenly, Georgie says the Mars landscape is "serene" and "the most beautiful thing I have ever seen." She describes leaping over the terrain as an exhilarating and powerful experience. In other words, Georgie has come to see Mars as not a place of total misery but of beauty and wonder. (character, citing textual evidence to support analysis; R.3, R.1)

GENRE EXPLORATION: "FOLLOW THE WATER"

Page 1:

Students should place a check next to the following characteristics:

- Takes place in the future
- Involves space and/or time travel
- Has futuristic technology
- Portrays other worlds, universes, or dimensions
- Is grounded in science

Page 2:

Answers will vary slightly. Sample responses:

Challenge: Getting to Mars

"What It Would Take to Live Here" (slideshow)

- When Mars is closest to Earth, it is about 34 million miles away. At its farthest, Mars is about 250 million miles away. The technology to travel that deep into space doesn't exist yet.
- A trip to Mars could take nine months or longer and would require a large spacecraft and a lot of supplies.

"Follow the Water" (story)

- Georgie says it takes six months to get to Mars. (p. 26)
- Georgie's parents decide not to go back to Earth to see Georgie's grandmother because they would most likely not get there before her grandmother dies. (p. 28)

Challenge: Deadly Radiation

"What It Would Take to Live Here"

- Colonists journeying to and living on Mars would have to be protected from radiation.
- Radiation can cause severe memory loss, brain damage, and cancer.



“Follow the Water”

- The first wave of colonists suffered from the deadly side effects of radiation. (p. 26)
- To protect themselves from radiation, the colonists stay inside thick black plastic buildings. (p. 26)

Challenge: Water

“What It Would Take to Live Here”

- Mars was once covered in lakes, rivers, and an ocean.
- Now, most of the water on Mars is frozen underground and could be toxic. Colonists would have to rely on recycled water.

“Follow the Water”

- The water Georgie uses on Mars is either shipped from Earth or recycled. (p. 27)
- Georgie’s father’s job is to find a water source so that more people can move to Mars. (p. 27)
- Georgie’s father finds a potential water source in a canyon that likely once held liquid water. (p. 30)

Challenge: Food and Air

“What It Would Take to Live Here”

- There is no food or breathable air on Mars.
- To survive on Mars, people would have to generate their own air and food.

“Follow the Water”

- On page 26, Georgie can’t storm out of the medical cabin because she can’t go outside without her “stupid survival suit.”
- Georgie hates drinking the powdered milk they have on Mars. (p. 28)

Challenge: Gravity

“What It Would Take to Live Here”

- There is less gravity on Mars than on Earth because Mars is a smaller planet.
- On Mars, people could jump higher.
- Scientists don’t know exactly how living in a low-gravity environment for a long time would affect the human body. Astronauts on the ISS experience weakened immune systems, fatigue, and muscle and bone loss.

“Follow the Water”

- The doctor on Mars closely watches Georgie’s health because no one is sure how the lower gravity will affect her development. (p. 26)
- When Georgie goes out in the rover, she is able to run fast and leap over boulders “with an ease I could never have on Earth.” (p. 30)

- Georgie has lost a lot of her bone mass and might not be able to walk back on Earth. (p. 29)

Challenge: Weather

“What It Would Take to Live Here”

- Mars is generally very cold, but the temperature varies across the planet and its seasons. Colonists would need special spacesuits and housing to keep them from freezing.
- There are dust storms on Mars. The sticky dust they stir up can damage equipment.

“Follow the Water”

- Georgie hates the dust on Mars. She says that it’s “everywhere . . . Even your belly button.” (p. 27)
- A group of geologists who lived on Mars before her and her parents were killed in a dust storm. (p. 27)

CORE SKILLS WORKOUT: MAKING INFERENCES

1. These lines reveal that Georgie has probably had blood taken several times before and is not happy about being used for research.
2. I can infer from this line that Georgie resents having to give up basic comforts to live on Mars. She uses sarcasm to indicate that she knows washing her hair is not as important as saving humankind, but it’s still a drag.
3. Answers may include: “Those summers were the best parts of my life. Sometimes I wish I could have lived with Nana forever” (p. 28); “Nana is the thing I miss most from Earth” (p. 28); “She’s the only person in the whole world who’s ever believed in me” (p. 28)
4. Georgie’s voice wavering suggests that she is shocked and upset that her brilliant scientist parents did not consider these dangers. She seems to feel that they cared more about their work on Mars than about her well-being.
5. “My dad’s almost out the door when I stop him. I hug him hard too. He’s startled.” (p. 31)
6. You can infer that Georgie isn’t sure if it’s the right decision to stow away. Ultimately, she decides that being with Nana before she dies is more important than anything else in the world, even her own health and well-being.

“Lost in the Corn Maze”



ANSWERS TO ACTIVITIES AND PROMPTS IN THE MAGAZINE

ROOT CHALLENGE

Answers will vary. Sample responses:

1. **ingratiating:** intended to gain favor; flattering
gratifying: giving satisfaction; pleasing
grateful: feeling or showing gratitude; a feeling of thankfulness and appreciation
congratulations: an expression of praise for an achievement or good wishes on a special occasion
2. Answers will vary. Words might include: *gratuity, gratitude, ungrateful, gratification, ingrate, congratulate*
3. Sentences and drawings will vary.

ANSWERS TO ACTIVITY SHEET

ROOT POWER

Answers will vary. Sample responses:

Part 1:

ingratiating: intended to gain favor; flattering
gratifying: giving satisfaction; pleasing
grateful: feeling or showing gratitude; a feeling of thankfulness and appreciation
congratulations: an expression of praise for an achievement or good wishes on a special occasion

Part 2:

Responses to questions 1-4 will vary.

Part 3:

1. Answers will vary. Words might include: *gratuity, gratitude, ungrateful, gratification, ingrate, congratulate*
2. Sentences will vary.
3. Drawings will vary.