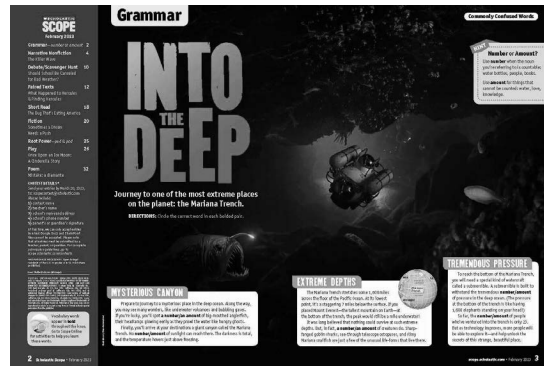


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“Into the Deep”



ANSWERS TO ACTIVITIES AND PROMPTS IN THE MAGAZINE

Mysterious Canyon

Prepare to journey to a mysterious place in the deep ocean. Along the way, you may see many wonders, like underwater volcanoes and bubbling gases. If you're lucky, you'll spot **a number/an amount** of big-mouthed anglerfish, their headlamps glowing eerily as they prowl the water like hungry ghosts.

Finally, you'll arrive at your destination: a giant canyon called the Mariana Trench. No **number/amount** of sunlight can reach there. The darkness is total, and the temperature hovers just above freezing.

Extreme Depths

The Mariana Trench stretches some 1,500 miles across the floor of the Pacific Ocean. At its lowest point, it's a staggering 7 miles below the surface. If you placed Mount Everest—the tallest mountain on Earth—at the bottom of the trench, the peak would still be a mile underwater!

It was long believed that nothing could survive at such extreme depths. But, in fact, **a number/an amount** of creatures do. Sharp-fanged goblin sharks, see-through telescope octopuses, and slimy Mariana snailfish are just a few of the unusual life-forms that live there.

Tremendous Pressure

To reach the bottom of the Mariana Trench, you will need a special kind of watercraft called a submersible. A submersible is built to withstand the tremendous **number/amount** of pressure in the deep ocean. (The pressure at the bottom of the trench is like having 1,600 elephants standing on your head!)

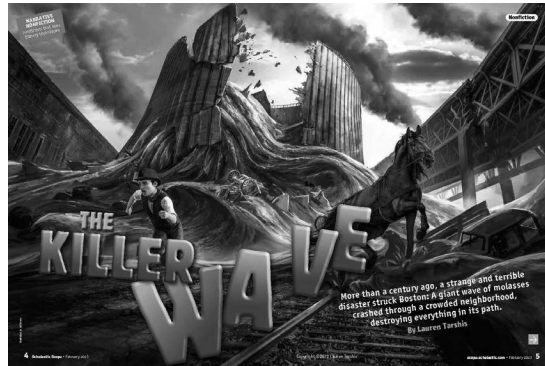
So far, the **number/amount** of people who've ventured into the trench is only 23. But as technology improves, more people will be able to explore it—and help unlock the secrets of this strange, beautiful place.

ANSWERS TO ACTIVITY SHEET

NUMBER OR AMOUNT?

1. number
2. number
3. amount
4. number
5. amount
6. amount, number
7. Answers will vary.

“The Killer Wave”



ANSWERS TO ACTIVITIES AND PROMPTS IN THE MAGAZINE

WRITING PROMPT, PAGE 9 :

Responses will vary. Sample response:

As made evident in author Lauren Tarshis's narrative nonfiction article “The Killer Wave,” the Boston molasses flood had a powerful and lasting impact on both Boston's North End and on America.

The molasses flood caused terrible damage, injuries, and loss of life in Boston's North End. Tarshis explains that many people in the path of the molasses wave were swept away by it, killing 21 and injuring 150 others (8). In addition, houses, buildings, cars, and railways were crushed by the colossal wave, and it took years for the neighborhood's residents to rebuild all that had been lost (8-9). Fortunately, after several years at trial, United States Industrial Alcohol was found liable for the damage, explains Tarshis. The victims of the disaster were awarded \$628,000 (\$10 million in today's money). This was a big victory for the North End's residents (9).

The North End was not the only place impacted by the bizarre and terrible disaster, but fortunately, its impact on the rest of the country was positive. Tarshis explains that the trial that followed the disaster resulted in “Massachusetts's first comprehensive building codes, a set of rules to follow when constructing homes, buildings, and

other structures” (9). She goes on to explain that “these codes were later adopted in cities and states across the country. Many of the standards in place today are a result of the molasses flood” (9). The importance of these new codes in Massachusetts and beyond cannot be overstated. As Tarshis explains, “for many construction projects before the disaster, no one had to submit building plans or allow inspectors to come to construction sites to ensure that work was being done properly and safely” (9). In other words, buildings and construction sites became safer for everyone because of the trial and the victims who participated in it. What's more, the trial itself also had a positive impact on our country. Tarshis explains that “more than 1,000 people testified throughout the trial—including technical experts, such as engineers and architects, who explained why the tank might have broken apart. It was one of the first trials in history to incorporate expert testimony, which is now a standard practice” (8-9). In other words, the trial set the standard for a practice that is now common in courtrooms across the country. As tragic as this preventable disaster was, we can thank it not only for making our buildings and structures today safer, but also for helping to improve courtroom proceedings.



ANSWERS TO ACTIVITY SHEETS

WRITING PLANNER: THE BOSTON MOLASSES FLOOD

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

- Effect 1:** Many people in the path of the molasses wave were swept away by it. Twenty-one people were killed and 150 were injured (8).

Effect 2: Houses and buildings were crushed by the molasses wave. It took years for the neighborhood's residents to rebuild (8-9).

Effect 3: Answers will vary but should be similar to: After several years, USIA was found liable and the victims of the disaster were awarded \$628,000 (\$10 million in today's money). This was a big victory for them (9).
- Effect 1:** Tarshis explains: "The trial also led to important changes that have made the entire country safer. For many construction projects before the disaster, no one had to submit building plans or allow inspectors to come to construction sites to ensure that work was being done properly and safely" (9). She also writes that the trial resulted in "Massachusetts's first comprehensive building codes, a set of rules to follow when constructing homes, buildings, and other structures" (9). She goes on to say that "these codes were later adopted in cities and states across the country. Many of the standards in place today are a result of the molasses flood" (9).

Effect 2: Tarshis explains that "more than 1,000 people testified throughout the trial—including technical experts, such as engineers and architects, who explained why the tank might have broken apart. It was one of the first trials in history to incorporate expert testimony, which is now a standard practice" (8-9).

"THE KILLER WAVE"

CLOSE-READING QUESTIONS

- This information puts the molasses disaster in historical context. It tells what the people of the North End had gone through in the recent past and helps the reader understand their emotions. It also evokes the reader's sympathy and makes the molasses disaster seem all the more tragic.

- Residents were bothered by the fact that the tank was ugly, blocked light, made rumbling noises, and leaked. Some residents didn't complain because they felt powerless against the giant company that owned the tank, USIA. Also, many people mistrusted immigrants at the time; some residents thought that no one would listen to them if they complained.
- The repetition of "*Rat, tat, tat, tat*" builds suspense and creates a feeling of impending doom. The reader knows something terrible is coming.
- Author Lauren Tarshis uses vivid descriptive language. She writes that the molasses wave was more destructive than a wave of ocean water. She uses words and phrases like "violent swirl," "staggering," and "colossal" to suggest the size and speed of the wave. She shows the wave's destructive power by listing the things it wrecked—a three-story fire station, houses, cars. The mood could be described as terrifying, urgent, or panicky.
- The immigrants who lived in the North End had little influence and few resources to fight a big company like USIA. Before the explosion, they felt powerless. Yet they managed to fight for and get justice during the trial. Their victory gave them power.
- Because of the trial's ruling, comprehensive building codes were passed in Massachusetts and then adopted in cities and states across the country. These codes are rules that must be followed when constructing homes, buildings, or other structures to ensure that the work is done properly and safely.

"THE KILLER WAVE"

CRITICAL-THINKING QUESTIONS

- It seems like the disaster could have been prevented quite easily. It was common knowledge that the molasses tank was poorly constructed. It leaked, shards broke off, and it made strange noises for years before it fell apart. If the tank had been properly built and maintained, the spill likely never would have happened.
- Students may offer that this story shows the consequences of putting business interests over people, and of rushing or cutting corners when building something. It also reminds us that our legal system can and should hold businesses accountable for their actions.
- Answers will vary. Students may say that learning about the Boston Molasses Flood and other



historical disasters provides valuable information that influences our practices and policies today.

“THE KILLER WAVE”

VOCABULARY PRACTICE

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

“THE KILLER WAVE” QUIZ

***Higher Level (HL)**

1. C (author’s purpose; R.6)
2. A, B (development of ideas; R.3)
3. B (vocabulary; R.4)
4. B (central idea; R.2)
5. A (central idea; R.2)
6. C (text evidence; R.1)
7. The fact that most of the residents of the North End were poor immigrants is important to the story because it’s likely the reason that nothing was done about the clearly faulty tank. As Tarshis explains, “In the early 20th century, many Americans viewed immigrants with suspicion and prejudice. Even a person bold enough to complain about the tank would have had a hard time finding someone willing to listen and help” (7). In other words, people distrusted the residents of the North End and treated them unfairly. For this reason, the North End residents could not get anyone to listen to their fears about the tank, especially a big and powerful company like USIA. And the residents were right. As Tarshis explains, one man brought steel shards that had broken off from the tank to USIA’s offices and was “brushed off” (7). Would they have brushed off this clear evidence of imminent catastrophe had a different person from a different neighborhood brought it to them? Probably not. This is likely why author Lauren Tarshis felt it important to include the information that most residents of the North End were poor immigrants. (key ideas and details, author’s purpose, text evidence, writing an explanatory text; R.2, R.6, R.1, W.2)

8. Answers will vary. Sample response: Tarshis writes, “The tank was constructed hastily, and just a few hours after it was first filled with molasses, brown syrup began leaking from the seams, oozing like blood from invisible wounds.” This line contains a simile in which Tarshis compares the leaking molasses from the tank to blood oozing out of wounds. Comparing leaking molasses to the oozing blood out of wounds not only helps readers visualize the flow of syrup seeping out of the tank, but also fills readers with feelings of dread, hinting at the damage and hurt yet to come. (figurative language, author’s craft, writing an explanatory text; R.4, W.2)

“THE KILLER WAVE” QUIZ

***Lower Level (LL)**

1. C (author’s purpose; R.6)
2. A, B (development of ideas; R.3)
3. B (vocabulary; R.4)
4. B (central idea; R.2)
5. A (central idea; R.2)
6. C (text evidence; R.1)
7. The residents of the North End felt like there was nothing they could do about USIA’s dangerous and unsightly molasses tank because they were poor immigrants. As Tarshis explains, “In the early 20th century, many Americans viewed immigrants with suspicion and prejudice. Even a person bold enough to complain about the tank would have had a hard time finding someone willing to listen and help” (7). In other words, people distrusted the residents of the North End and treated them unfairly. For this reason, the North End residents could not get anyone to listen to their fears about the tank, especially a big and powerful company like USIA. And the residents were right. As Tarshis explains, one man brought steel shards that had broken off from the tank to USIA’s offices and was “brushed off” (7). Would they have brushed off this clear evidence of imminent catastrophe had a different person from a different neighborhood brought it to them? Probably not. (key ideas and details, author’s purpose, text evidence, writing an explanatory text; R.2, R.6, R.1, W.2)
8. Answers will vary. Sample response: Tarshis writes, “The tank was constructed hastily, and just a few hours after it was first filled with molasses, brown syrup began leaking from the seams, oozing like blood from invisible wounds.” This line contains a



simile in which Tarshis compares the leaking molasses from the tank to blood oozing out of wounds. Comparing leaking molasses to the oozing blood out of wounds not only helps readers visualize the flow of syrup seeping out of the tank, but also fills readers with feelings of dread, hinting at the damage and hurt yet to come. (figurative language, author's craft, writing an explanatory text; R.4, W.2)

CORE SKILLS WORKOUT: SUMMARIZING

*Higher Level (HL)

1. a Boston neighborhood in January 1919
2. the Italian immigrant families of Boston's North End neighborhood, specifically that of Anthony Di Stasio
3. the explosion of a giant molasses storage tank, which sent a colossal wave of molasses through the North End, ripping apart homes and buildings, sweeping away cars, and killing 21 people and injuring 150 others; the wave carried Anthony for several blocks, crashing him into a lamppost and knocking him out
4. United States Industrial Alcohol, the company that used the molasses to make industrial alcohol, built the tank poorly. A lawsuit forced them to pay residents of the North End what would equal \$10 million in today's money.
5. Massachusetts and other cities and states across the U.S. passed building codes that make us safer today.
6. Answers will vary.

Summary:

Lauren Tarshis's narrative nonfiction article "The Killer Wave" is about an unusual disaster that struck a Boston neighborhood in 1919. The neighborhood was home to many families who had immigrated to America from Italy. A company called United States Industrial Alcohol (USIA) had built a giant molasses storage tank there. Molasses was used to make industrial alcohol, an ingredient for bombs. One January day, young Anthony Di Stasio was walking home when he heard a loud explosion and saw the three-story tank crack open and unleash a wave of molasses. As the molasses swept through the streets, it ripped apart homes and buildings and swept away cars. The wave carried Anthony for several blocks, crashing him into a lamppost and knocking him out. The molasses wave killed 21 people and injured 150 others. Luckily, however, Anthony survived. In the end, USIA had to pay what would equal \$10 million in today's money to residents of the neighborhood because it had built the tank poorly. Because of the trial's ruling, Massachusetts and cities

and states across the U.S. passed building codes that make us safer today.

CORE SKILLS WORKOUT: SUMMARIZING

*Lower Level (LL)

Lauren Tarshis's narrative nonfiction article "The Killer Wave" is about an unusual disaster that struck a Boston neighborhood in 1919. The neighborhood was home to many families who had immigrated to America from Italy. A company called United States Industrial Alcohol (USIA) had built a giant molasses storage tank there. Molasses was used to make industrial alcohol, an ingredient for bombs. One January day, young Anthony Di Stasio was walking home when he heard a loud explosion and saw the three-story tank crack open and unleash a wave of molasses. As the molasses swept through the streets, it ripped apart homes and buildings and swept away cars. The wave carried Anthony for several blocks, crashing him into a lamppost and knocking him out. The molasses wave killed 21 people and injured 150 others. Luckily, however, Anthony survived. In the end, USIA had to pay what would equal \$10 million in today's money to residents of the neighborhood because it had built the tank poorly. Because of the trial's ruling, Massachusetts and cities and states across the U.S. passed building codes that make us safer today.

SENSORY DETAILS SCAVENGER HUNT

Page 1:

Answers will vary. Sample answers:

- A tower of pancakes—fresh from the griddle, drenched in sweet, sticky maple syrup, and topped with pats of melting butter—is on the table.
- I opened the door to the locker and was assaulted by a sour reek so foul that I began to retch.

Page 2:

Answers will vary. Sensory details may include:

sight: "As if the North End weren't already grim enough, now a five-story steel tank towered over the neighborhood, blotting out the sun and blocking the view of the harbor"; "brown syrup began leaking from the seams, oozing like blood from invisible wounds"; "the tank cracked apart like a massive egg, unleashing 2.3 million gallons of thick, sticky molasses"; "The molasses formed a colossal brown wave—25 feet high at first, and traveling at a staggering 35 miles per hour"; "The dark syrup was far heavier and more destructive than a wave of ocean water, and it moved with incredible power";



“The support beams beneath the elevated railway collapsed, ‘as if by the smash of a giant’s fist,’ as one journalist later wrote.”

smell: “the stink of garbage and horse manure that wafted up from the streets”

sound: “honking motorcars and clattering horse-drawn wagons”; “it rumbled and groaned, as though its steel walls were crying out in pain”; “*Rat, tat, tat, tat, Rat, tat, tat, tat, Rat, tat, tat, tat.* This was the sound of thousands of steel rivets popping out of place”; “Next came a thundering explosion. ‘Run!’ a man screamed. ‘It’s the tank!’”

taste: “So despite its bitter taste, it was molasses that sweetened early Americans’ favorite treats, like pumpkin pie, cornbread, and gingerbread cookies”; “The wave pulled Anthony under, molasses gushing into his mouth.”

touch: “After weeks of freezing cold, the temperature had risen to 40 degrees. Anthony’s tattered wool coat flapped open”; “sticky brown syrup”; “Within seconds, the suffocating goo had crushed a number of wooden houses and flattened a three-story fire station. It swept away motorcars and snapped electrical poles”; “The wave pulled Anthony under, molasses gushing into his mouth”; “The firefighter held Anthony’s limp body and looked at his molasses-coated face.”

Page 3:

simile:

“Anthony looked up just as the tank cracked apart like a massive egg, unleashing 2.3 million gallons of thick, sticky molasses”; The comparison of the tank to a cracking egg helps me understand just how easily the tank broke apart and unleashed molasses upon the North End.

personification:

“... just a few hours after it was first filled with molasses, brown syrup began leaking from the seams, oozing like blood from invisible wounds. Every time the tank was refilled, it rumbled and groaned, as though its steel walls were crying out in pain.”; The comparison of the tank to an injured person in agony helps me understand that the tank was in terrible condition and getting worse.

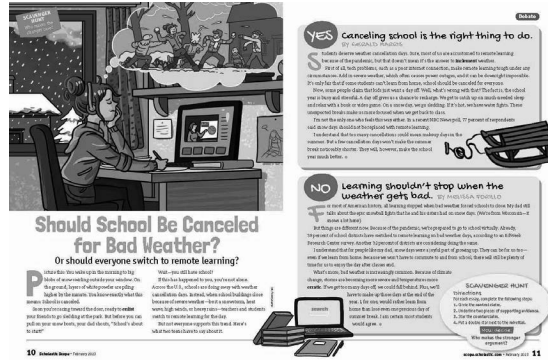
onomatopoeia:

Rat, tat, tat, tat,
Rat, tat, tat, tat,

Rat, tat, tat, tat.

The repetition of these noises builds suspense and helps me understand that something terrible is about to happen.

“Should School Be Canceled for Bad Weather?”



ANSWERS TO ACTIVITIES AND PROMPTS IN THE MAGAZINE

Answers will vary slightly. Here is a sample response:

	Gerald Harris	Melissa Forillo
line(s) that express the or central claim	"Students deserve weather cancellation days."	"Learning shouldn't stop when the weather gets bad."
two pieces of evidence that support the central claim	<p>"First of all, tech problems, such as a poor internet connection, make remote learning tough under any circumstances. Add in severe weather, which often causes power outages, and it can be downright impossible."</p> <p>"The fact is, the school year is busy and stressful. A day off gives us a chance to recharge."</p>	<p>"Because of the pandemic, we're prepared to go to school virtually. Already, 39 percent of school districts have switched to remote learning on bad weather days, according to an EdWeek Research Center survey."</p> <p>"... bad weather is increasingly common. Because of climate change, storms are becoming more severe and temperatures more erratic. If we get too many days off, we could fall behind."</p>
line(s) that express a counterclaim	"Sure, most of us are accustomed to remote learning because of the pandemic,"	"I understand that for people like my dad, snow days were a joyful part of growing up."
line(s) that contain the rebuttal	"But that doesn't mean it's the answer to inclement weather... tech problems, such as a poor internet connection, make remote learning tough under any circumstances. Add in severe weather, which often causes power outages, and it can be downright impossible."	"They can be for us too—even if we learn from home. Because we won't have to commute to and from school, there will still be plenty of time for us to enjoy the day after classes end."

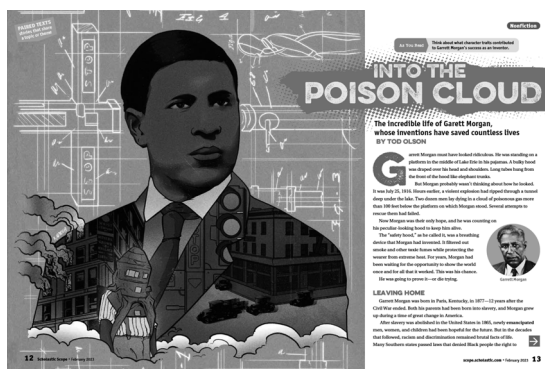


ANSWERS TO ACTIVITY SHEET

VOCABULARY PRACTICE

1. I'm planning a surprise birthday party for a friend—I'm handling the food and decorations, and I've enlisted some friends to handle the invitations.
2. Due to inclement weather, the concert in the park planned for this evening has been canceled.

“Into the Poison Cloud” and “6 Qualities of a Successful Inventor”



ANSWERS TO ACTIVITIES AND PROMPTS IN THE MAGAZINE

WRITING PROMPT, PAGE 17

Responses will vary. Sample response:

As made evident in Tod Olson's article "Into the Poison Cloud," inventor Garrett Morgan possessed the qualities described in Mackenzie Carro and Alessandra Potenza's article "6 Qualities of a Successful Inventor." Of those six, the three that contributed to Morgan's success the most were his desire to solve problems, his insatiable curiosity, and his resilience.

Morgan was the ultimate problem-solver and was always determined to come up with innovative solutions to help those around him. First, as Olson explains, Morgan developed a breathing device that would help firefighters stay safe while fighting deadly fires (13-16). During Morgan's time, fires were a "deadly menace" in the U.S. and firefighters often suffocated from smoke and fumes because they did not have the right equipment (14). Recognizing this problem, Morgan decided to develop a solution: his safety hood. Olson goes on to explain that Morgan also solved another problem: dangerous and chaotic street traffic. In Cleveland, Morgan witnessed a girl suffer terrible injuries in a car crash because, at that time, city streets were a chaotic mess of pedestrians, cars, horses,

and trolleys. This made terrible accidents a common occurrence. Morgan was determined to find a solution and eventually invented a new traffic signal that stopped vehicles in all directions before the signal changed to Go. The pause reduced the risk of accidents, making streets safer for everyone (16). He ended up patenting and selling the design, which contributed to his success as an entrepreneur.

Morgan's curiosity drove him to never stop learning. And his desire to learn helped him to become the successful entrepreneur and inventor that he turned out to be. Olson explains that as a child, Morgan liked to take things apart and put them back together to see how they worked (14). And even after he had to quit school to help his family, he never stopped learning about the world. For example, while employed at a factory, he taught himself to repair the sewing machines in his spare time. His boss was so impressed that he paid Morgan for the idea. Eventually, he was able to run his own tailor shop (14). Morgan also hired tutors to teach him what he never learned in school and kept a giant stack of *National Geographic* magazines (16). It was this endless curiosity and drive to keep learning that enabled him to dream up and create the life-saving—and extremely successful—devices that he ultimately did.

Lastly, Morgan could not have found so much success had he not possessed great resilience. Morgan showed resilience by continuing to educate himself after he was forced to quit school at the end of sixth grade (14). When



faced with racism and discrimination in Kentucky, he showed resilience again by moving to Ohio in search of opportunities. Then, when he continued to encounter racism and discrimination when trying to sell his safety hood, Morgan did not give up but instead devised creative ways to demonstrate, and eventually sell, his product all over the country. If Morgan had given up when he faced challenges, he would not have been able to go on to create the successful products and businesses that he did.

ANSWERS TO ACTIVITY SHEETS

WRITING PLANNER: GARRETT MORGAN'S SUCCESS

Responses will vary. Sample responses:

1. problem solving, curiosity, resilience
2. **problem solving:** "he witnessed a girl suffer terrible injuries in a car crash caused by chaotic traffic. Morgan was again determined to help. Eventually, he came up with a new kind of traffic signal. It briefly stopped vehicles in all directions at busy intersections before the signal changed to Go. The pause reduced the risk of accidents, making streets safer." (p. 16) Morgan ended up patenting and selling the design, which contributed to his success as an entrepreneur.
3. **curiosity:** "In fact, although Morgan loved school, he had to quit after sixth grade to earn money for his family. Yet even without teachers or books, he continued to study the world around him. He was always taking things apart and putting them back together—just to figure out how they worked. Morgan had a gift he didn't want to waste: insatiable curiosity." (p. 14); "In his spare time, he taught himself how to repair the factory's sewing machines. Soon he had invented a new way to keep the machines from breaking. His employer was so impressed that he promoted Morgan and paid him \$150 for the idea—about \$5,000 in today's money. By 1910, Morgan had become a successful businessperson, running his own tailoring shop, with dozens of employees." (p. 14); "According to his granddaughter Sandra Morgan, he never stopped learning. He hired tutors to teach him the things he never got to learn in school. He kept a giant stack of *National Geographic* magazines." (p. 16) It was this endless curiosity and drive to keep learning that enabled him to dream up

and create the life-saving—and extremely successful—devices that he ultimately did.

4. **resilience:** "But convincing people to buy it would be difficult. Nearly all his potential customers were White, and many were reluctant to do business with a Black man. Morgan wasn't about to let that stop him, though. To market his breathing device, he would have to get creative. He hired White salesmen and organized demonstrations of his invention around the country. Often, he went along, pretending to be an assistant." (p. 15) If Morgan had given up when he faced challenges, he would not have been able to go on to create the successful products and businesses that he did.

"INTO THE POISON CLOUD"

CLOSE-READING QUESTIONS

1. Olson develops the idea of Morgan's curiosity when he explains that Morgan liked to take things apart and put them back together to see how they worked. Olson further develops the idea when he explains that Morgan taught himself to repair the sewing machines at a factory in Cleveland where he worked. The information that Morgan invented a fire safety hood—which he later adapted for use as a gas mask for troops fighting in World War I—and a traffic signal also develops the idea. In addition, Olson states that Morgan kept a giant stack of *National Geographic* magazines and hired tutors for himself.
2. Olson supports his statement that Morgan's gas mask was "desperately needed" by explaining that at the time, firefighters had no way of protecting themselves from smoke and fumes and would suffocate trying to rescue people. The caption "What he did: Protected Firefighters" also supports the statement with an example of how deadly fires could be in cities in the early 1900s, explaining that 146 people died in the Triangle Waist Company factory fire.
3. It is clear that the men on the platform had little faith that Morgan's safety hood would be effective. The detail that the mayor shook Morgan's hand and "said simply, 'Goodbye,' as though he did not expect to see Morgan again" and the detail that only three people volunteered to enter the tunnel with Morgan show what little confidence they had in Morgan's device.



“6 QUALITIES OF A SUCCESSFUL INVENTOR”

CLOSE-READING QUESTION

1. Resilience is the capacity to recover quickly from difficulties; toughness. Morgan showed resilience by continuing to educate himself after he was forced to quit school at the end of sixth grade. Facing racism and discrimination in Kentucky, he showed resilience again by moving to Ohio in search of opportunities. Then, when he faced racism and discrimination again when trying to sell his safety hood, Morgan did not give up but instead hired White salesmen to demonstrate his product all over the country.

“INTO THE POISON CLOUD” AND “6 QUALITIES OF A SUCCESSFUL INVENTOR”

CRITICAL-THINKING QUESTIONS

1. This saying means that new ideas or ways of doing things are created when there is a problem that needs to be solved. Morgan saw many problems that inspired him to create solutions. For example, he saw a need for better protection for firefighters and also for increased safety for drivers and pedestrians, and in response, he created two lifesaving devices: a safety hood and a new traffic signal.
2. Ideas for what might be rewarding: the excitement of starting something new, the satisfaction of seeing your ideas come to life, being your own boss, having a creative and interesting job, the possibility of becoming rich and/or famous, and the opportunity to make a real and important difference in the world. Ideas for what might be challenging: you risk losing a lot of money, you might face a lot of rejection, your job might take over your life, it's your responsibility to fix anything that goes wrong, and there aren't any guarantees for success.

VOCABULARY PRACTICE

1. Toxic
2. prototype; ingenious or innovative
3. menace
4. invested; ingenious or innovative
5. emancipated

PAIRED TEXTS QUIZ

***Higher Level (HL)**

1. C (text structure; R.5)
2. A, C (supporting details; R.2)
3. D (text structure, text features; R.5)

4. B (vocabulary; R.4)
5. A (vocabulary; R.4)
6. B (synthesis; R.9)
7. Author Tod Olson develops the idea that Garrett Morgan is determined in several ways. First, Olson explains that despite Morgan having to quit school after the sixth grade to earn money for his family, he never stopped studying the world around him (14). Olson goes on to explain that Morgan knew he wanted to work with his mind, but that he couldn't do it in the segregated South. So, determined to find greater opportunity, he left his home and headed north, to Ohio (14). The fact that Morgan left his home state to ensure that he could pursue his dreams shows that he is determined. Olson further develops the idea that Morgan was determined when he explains the difficulties Morgan faced when trying to market his breathing device and how he overcame those difficulties. Olson explains that, because Morgan was Black and because of the discrimination that existed at the time, it would be hard to convince people to do business with him (15). However, Morgan did not give up. Olson writes, “Morgan wasn't about to let that stop him, though. To market his breathing device he would have to get creative” (15). And get creative he did: He hired White salesmen, posed as an assistant, and demonstrated how the safety hood worked in a tent filled with deadly gasses (15). Morgan clearly would stop at nothing—even risking his life—to show that his device worked so he could get it in the hands of the people who desperately needed it. This shows that he was extremely determined. (key ideas and details, text evidence, writing explanatory text; R.5, R.2, R.1, W.2)
8. Answers will vary. Sample response: Tod Olson's article “Into the Poison Cloud” shows that Garrett Morgan was a problem-solver in several ways. First, as Olson explains, Morgan developed a breathing device that would help firefighters stay safe while fighting deadly fires (13-16). During Morgan's time, fires were a “deadly menace” in the U.S. and firefighters often suffocated from smoke and fumes because they did not have the right equipment (14). Recognizing this problem, Morgan decided to develop a solution: his safety hood. Olson goes on to explain that Morgan also solved another problem: dangerous and chaotic street traffic. Olson explains



that in Cleveland, Morgan witnessed a girl suffer terrible injuries in a car crash because, at that time, city streets were a chaotic mess of pedestrians, cars, horses, and trolleys (16). This made terrible accidents a common occurrence. Morgan was determined to find a solution and eventually invented a new traffic signal that stopped vehicles in all directions before the signal changed to Go. The pause reduced the risk of accidents, making streets safer for everyone (16). Both of these examples show that Morgan was a gifted problem-solver. (synthesis, explanatory writing; R.9, W.2)

PAIRED TEXTS QUIZ

*Lower Level (LL)

1. C (text structure; R.5)
2. A, C (supporting details; R.2)
3. D (text structure, text features; R.5)
4. B (vocabulary; R.4)
5. A (vocabulary; R.4)
6. B (synthesis; R.9)
7. Author Tod Olsen develops the idea that Garrett Morgan is determined in several ways. One way he does this is by including the details about Morgan moving to Ohio so that he could reach his full potential. Olson explains that despite Morgan having to quit school after the sixth grade to earn money for his family, he never stopped studying the world around him (14). Olson goes on to explain that Morgan knew he wanted to work with his mind, but that he couldn't do it in the segregated South. So, determined to find greater opportunity, he left his home and headed north, to Ohio (14). The fact that Morgan left his home state to ensure that he could pursue his dreams shows that he is determined. (key ideas and details, text evidence, writing explanatory text; R.5, R.2, R.1, W.2)
8. Answers will vary. Sample response: Tod Olson's article "Into the Poison Cloud" shows that Garrett Morgan was a problem-solver in several ways. First, as Olson explains, Morgan developed a breathing device that would help firefighters stay safe while fighting deadly fires (13-16). During Morgan's time, fires were a "deadly menace" in the U.S. and firefighters often suffocated from smoke and fumes because they did not have the right equipment (14). Recognizing this problem, Morgan decided to develop a solution: his safety hood. Olson goes on to

explain that Morgan also solved another problem: dangerous and chaotic street traffic. Olson explains that in Cleveland, Morgan witnessed a girl suffer terrible injuries in a car crash because, at that time, city streets were a chaotic mess of pedestrians, cars, horses, and trolleys (16). This made terrible accidents a common occurrence. Morgan was determined to find a solution and eventually invented a new traffic signal that stopped vehicles in all directions before the signal changed to Go. The pause reduced the risk of accidents, making streets safer for everyone (16). Both of these examples show that Morgan was a gifted problem-solver. (synthesis, explanatory writing; R.9, W.2)

CORE SKILLS WORKOUT: TEXT EVIDENCE

*Higher Level (HL)

1. B
2. B
3. A. Possible answers include: "Yet even without teachers or books, he continued to study the world around him. He was always taking things apart and putting them back together—just to figure out how they worked"; "In his spare time, he taught himself how to repair the factory's sewing machines. Soon he had invented a new way to keep the machines from breaking"; "According to his granddaughter Sandra Morgan, he never stopped learning. He hired tutors to teach him the things he never got to learn in school. He kept a giant stack of *National Geographic* magazines."
- B. This line supports the idea that Garrett Morgan had a curious mind and was constantly teaching himself new skills and seeking out knowledge about the world around him.
4. A character trait that led Garrett Morgan to success was his desire to solve problems. As author Tod Olson writes in his article "Into the Poison Cloud," "One day in Cleveland, [Morgan] witnessed a girl suffer terrible injuries in a car crash caused by chaotic traffic. Morgan was again determined to help" (16). While most people might mourn this tragedy and then move on with business as usual, Morgan couldn't carry on: He was compelled to do something to prevent these common, grisly accidents from continuing. Olson explains that Morgan eventually came up with a new signal that made traffic less chaotic and greatly reduced the risk



of accidents (16). It was this insatiable desire to problem-solve that led Morgan to success as an inventor.

CORE SKILLS WORKOUT: TEXT EVIDENCE

*Lower Level (LL)

1. B
2. B
3. A. Possible answers include: "Yet even without teachers or books, he continued to study the world around him. He was always taking things apart and putting them back together—just to figure out how they worked"; "In his spare time, he taught himself how to repair the factory's sewing machines. Soon he had invented a new way to keep the machines from breaking"; "According to his granddaughter Sandra Morgan, he never stopped learning. He hired tutors to teach him the things he never got to learn in school. He kept a giant stack of *National Geographic* magazines."
B. This line supports the idea that Garrett Morgan had a curious mind and was constantly teaching himself new skills and seeking out knowledge about the world around him.

CORE SKILLS WORKOUT: TEXT FEATURES

Answers will vary. Sample response:

1. **I see:** old-timey cars and trucks, a burning building, signs on the building written in English, a man wearing an odd head covering that might be an early gas mask, a serious and dignified looking man in suit looking into the distance, a stoplight and some other kind of traffic signaling device, technical drawings of the traffic device and the mask in the background of the illustration
I think: This story will be set in the past in the United States, maybe in the early 1900s. I think the man pictured created these inventions, which might have improved firefighting and driving cars on city streets.
I wonder: Did this man invent these devices? If he grew up in the early 1900s, what was life like for him as a Black man in America?
2. The fire seen in the opening illustration is the burning Triangle Waist Factory pictured in "What he did: protected firefighters." The caption explains that this fire happened in 1911. Inset is a photo of inventor Garrett Morgan wearing his "safety hood," a device that protected firefighters and allowed them

to save more people. I wonder why fires were such a deadly problem in cities back then. The text feature "What he did: made busy streets safer" confirms that city streets also had their problems, as they were a mess of trolleys, horses, cars, and pedestrians. I wonder when people stopped using horses as transportation.

CORE SKILLS WORKOUT: EXPLORING TEXT STRUCTURE Higher Level (HL) and Lower Level (LL)

Page 1:

CAUSE: Even after slavery was abolished, racism and discrimination remained brutal facts of life, especially in the South. Shameful laws and policies trapped Black people in poverty; Morgan had to quit school after 6th grade to earn money for his family. There were few opportunities for him in the South.
EFFECT: Garrett Morgan left his family and headed north, to Ohio.

Page 2:

PROBLEM 1: In the early 1900s, fires spread easily in American cities. Firefighters had a hard time rescuing people from these fires because they didn't have the proper equipment to protect themselves.
SOLUTION 1: Morgan invented a safety hood, a device that fit over a firefighter's head and shoulders. Breathing tubes stretched from the hood to the floor, where the cleanest air was located, and wet sponges filtered out fumes. The device enabled firefighters to stay in burning buildings longer and rescue more people.
PROBLEM 2: Morgan witnessed a girl suffer terrible injuries in a car crash because, at that time, city streets were a chaotic mess of pedestrians, cars, horses, and trolleys. This made terrible accidents a common occurrence.
SOLUTION 2: Morgan invented a new traffic signal that stopped vehicles in all directions before the signal changed to Go. The pause reduced the risk of accidents, making streets safer for everyone.

Page 3:

In 1865 . . . the Civil War ends in the United States; slavery is abolished.
In 1877 . . . Garrett Morgan is born in Paris, Kentucky.
After Morgan finished sixth grade . . . Morgan quits school to help support his family.



As a teen . . . knowing there are few opportunities for him in the South, Morgan moves north, to Ohio.

By 1910 . . . Morgan is a successful businessman with his own tailor shop and dozens of employees. He begins work on his safety hood.

In 1912 . . . Morgan debuts his safety hood to the public, marketing it through white salesmen in demonstrations around the country.

On July 24, 1916 . . . Morgan uses his safety hoods to remove workers trapped in a tunnel under Lake Erie that is full of toxic fumes. Two men are saved.

In 1917 . . . American troops overseas during WWI use a version of Morgan's hood to protect them from the poison gas that was being used as a weapon.

In 1963 . . . Garret Morgan dies.

VIDEO DISCUSSION QUESTIONS

1. Answers will vary.
2. Answers will vary. Students will likely say that all three inventions have impacted the way we communicate and enabled us to share knowledge and ideas more widely. Out of all three, the internet provides the fastest and easiest way to share information. Students may also observe that the internet has in many ways lessened the importance of both paper and the printing press in our society. For example, the internet has led to people using paper less frequently in order to communicate and share ideas. Now, much of our exchange of information is done online.
3. Answers will vary.
4. Answers will vary.
5. Answers will vary.

"The Bug That's Eating America"



ANSWERS TO ACTIVITIES AND PROMPTS IN THE MAGAZINE

WRITING PROMPT, PAGE 19:

Answers will vary. Here is a sample response:

Lanternflies are a problem in the U.S. but not in their native ecosystem because in the U.S., lanternflies have no natural predators. As author Mary Kate Frank explains, in their natural habitat in parts of Asia, lanternflies aren't a problem because there is a certain type of wasp that preys on the lanternflies and keeps their numbers low (18-19). Because the wasps keep the number of lanternflies in check, there are not enough lanternflies to wipe out native plants (19). In the U.S., on the other hand, this is not the case. Unfortunately, lanternflies have *no* natural predators here, explains Frank, which means their population grows and grows (19). What's more, Frank explains that "over its six-month lifetime, one female will lay two or three masses of up to 50 eggs. And they lay their eggs on just about any hard surface. That includes trains, cars, and trucks, which then transport the eggs to new locations" (19). In other words, these insects will only continue to spread across the country rapidly and easily—causing massive damage as they devour all kinds of plants and trees. The U.S. must quickly find a solution to the problem of the lanternfly.

ANSWERS TO ACTIVITY SHEETS

SHORT WRITE KIT

Answers will vary. Sample responses:

Your Claim: Lanternflies are a problem in the U.S. but not in their native ecosystem because in the U.S., lanternflies have no natural predators.

Text Evidence 1:

"In their natural habitat, lanternflies live in balance with their ecosystem. A certain type of wasp, for example, preys on lanternflies, which helps keep their population from growing too large. That, in turn, means there aren't enough lanternflies to wipe out plants that other creatures need for survival." (pp. 18-19)

Commentary:

These predators turn out to be critically important to a balanced ecosystem: Wasps eat most of the lanternflies and therefore, lanternflies can't wipe out the plants there.

Text Evidence 2:

"Here in the U.S., however, spotted lanternflies are an invasive species with no natural predators. As a result, their numbers are exploding. Over its six-month lifetime, one female will lay two or three masses of up to 50 eggs. And they lay their eggs on just about any hard surface. That includes trains, cars, and trucks, which then transport the



eggs to new locations. By last summer, the bugs had made their way to 14 states, mostly in the Northeast.” (p. 19)

Commentary:

In other words, these insects will only continue to reproduce rapidly on surfaces that allow them to spread across the country easily—causing massive damage as they devour all kinds of plants and trees.

Paragraph:

Lanternflies are a problem in the U.S. and not in their native ecosystem because in the U.S., lanternflies have no natural predators. As author Mary Kate Frank explains, in their natural habitat in parts of Asia, lanternflies aren't a problem because there is wasp there that preys on them and keeps their numbers low (18-19). These predators turn out to be critically important to a balanced ecosystem: Wasps eat most of the lanternflies and therefore lanternflies can't wipe out the plants there. However, this is not the case in the U.S. Unfortunately, lanternflies have no natural predators here, explains Frank, which means their population grows and grows (19). What's more, Frank explains that “over its six-month lifetime, one female will lay two or three masses of up to 50 eggs. And they lay their eggs on just about any hard surface. That includes trains, cars, and trucks, which then transport the eggs to new locations” (19). In other words, these insects will only continue to reproduce rapidly on surfaces that allow them to spread across the country easily—causing massive damage as they devour all kinds of plants and trees. The U.S. must quickly find a solution to the problem of the lanternfly.

“THE BUG THAT'S EATING AMERICA” QUIZ

***Higher Level (HL)**

1. C (key ideas and details; R.2)
2. B (interpreting text; R.4)
3. C (key ideas and details; R.2)
4. C (vocabulary; R.4)
5. B (key ideas and details; R.2)
6. C (figurative language; R.4)
7. Hitchhikers travel by getting free rides in someone else's vehicle. Lanternflies are like hitchhikers in that they travel in a similar way, by “riding” on the hard surfaces of trains, cars, and trucks (19). As author Mary Kate Frank explains, lanternflies are native to parts of Asia, but they were spotted in Pennsylvania in 2014 after they “likely hitched a ride with a shipment of landscaping supplies from China” (18).

She goes on to explain that lanternflies will lay eggs on “just about any hard surface,” which includes “trains, cars, and trucks.” This means that the eggs of lanternflies travel around the world in the same way a hitchhiker might: by getting a ride in someone's vehicle. (interpreting text, key ideas, writing explanatory text; R.4, R.2, W.2)

8. Solving the problem of the lanternfly is important for multiple reasons. First, the problem of lanternflies is costly. Author Mary Kate Frank writes that “in Pennsylvania alone, lanternflies cause about \$50 million in damage each year” and that “experts say that amount could grow to \$324 million annually if the insects aren't stopped” (19). If the problem of the lanternfly is not solved, and the insects are able to spread even further across the U.S., the cost of the damage will be unimaginable. What's more, since lanternflies are causing agricultural damage, it's not just money that is lost, but also crops and plants that people and other creatures rely on for food. For these reasons, a solution to the problem of the lanternfly must be found. (key ideas and details, text evidence, supporting a claim; R.2, R.1, W.1)

“THE BUG THAT'S EATING AMERICA” QUIZ

***Lower Level (LL)**

1. C (key ideas and details; R.2)
2. B (interpreting text; R.4)
3. C (key ideas and details; R.2)
4. C (vocabulary; R.4)
5. B (key ideas and details; R.2)
6. C (figurative language; R.4)
7. Hitchhikers travel by getting free rides in someone else's vehicle. Lanternflies are like hitchhikers in that they travel in a similar way, by “riding” on the hard surfaces of trains, cars, and trucks (19). As author Mary Kate Frank explains, lanternflies are native to parts of Asia, but they were spotted in Pennsylvania in 2014 after they “likely hitched a ride with a shipment of landscaping supplies from China” (18). She goes on to explain that lanternflies will lay eggs on “just about any hard surface,” which includes “trains, cars, and trucks” (19). This means that the eggs of lanternflies travel around the world in the same way a hitchhiker might: By riding in someone's



vehicle. (interpreting text, key ideas, writing explanatory text; R.4, R.2, W.2)

8. Solving the problem of the lanternfly is important for multiple reasons. First, the problem of lanternflies is costly. Author Mary Kate Frank writes that “in Pennsylvania alone, lanternflies cause about \$50 million in damage each year” and that “experts say that amount could grow to \$324 million annually if the insects aren’t stopped” (19). If the problem of the lanternfly is not solved, and the insects are able to spread even further across the U.S., the cost of the damage will be unimaginable. What’s more, since lanternflies are causing agricultural damage, it’s not just money that is lost, but also crops and plants that people and other creatures rely on for food. For these reasons, a solution to the problem of the lanternfly must be found. (key ideas and details, text evidence, supporting a claim; R.2, R.1, W.1)

CORE SKILLS WORKOUT: CENTRAL IDEAS AND DETAILS

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

Answers will vary slightly. Sample responses:

Section Title: “Sap Slurpers”

Central Idea: The spotted lanternfly is a rapidly spreading and destructive invasive species in the U.S.

Supporting Details:

- Lanternflies have no natural predators in the U.S., so their population grows and grows.
- Lanternflies devour the plants other creatures need to survive.
- Lanternflies reproduce and spread rapidly and with ease.
- Lanternflies cause \$50 million in damage yearly, which could grow to \$324 million if they aren’t stopped.

Section Title: “The Bug Slayers”

Central Idea: Officials, scientists, and innovative teens are dedicated to solving the problem of the invasive lanternfly.

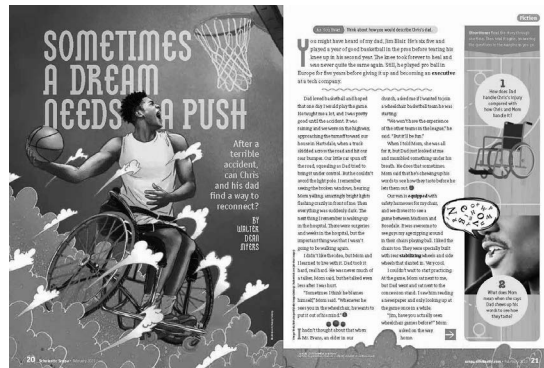
Supporting Details:

- The Pennsylvania Department of Agriculture is urging citizens to kill every lanternfly they see.
- Eighth-grader Milan Zhu has studied lanternflies and found the best way to kill them. She is also spreading the word about the invasive insects on TV.
- Other teens have engineered lanternfly traps as well as drones that spot lanternfly eggs.

- Experts say killing lanternflies won’t solve the problem, but will buy scientists time to find a long-term solution.

Central idea of the article: The spotted lanternfly is an invasive species causing serious damage across the northeastern United States, but teens are finding innovative ways to help control their spread until scientists find a solution.

"Sometimes a Dream Needs a Push"



ANSWERS TO ACTIVITIES AND PROMPTS IN THE MAGAZINE

WRITING PROMPT, PAGE 24 :

Essays will vary. Sample response:

My dad's name is Jim Blair. He loves basketball. In fact, he was a professional basketball player here in the United States and then in Europe until an injury forced him to quit. Now he's an executive at a tech company.

A love for the game of basketball is something my dad and I share. He's taught me a lot about the game, and I was quite good until I too experienced an injury that forced me to quit. My dad, my mom, and I were in a terrible car crash that caused me to lose the ability to walk. My dad, who was driving, blamed himself for my injury for a long time and found it difficult to even see me in a wheelchair. He grew very quiet and detached from our family.

Eventually, we were able to get through this difficult time together. I joined a wheelchair basketball team, which helped the two of us reconnect. He comes to practice and helps me and my teammates work on fundamentals. He is very supportive and encouraging. I think he has made peace with what happened and realizes we can both still play and enjoy basketball together. I can't wait until next season, when my dad will hopefully be able to continue working with us and we will have a victorious season.

ANSWERS TO ACTIVITY SHEETS

WRITING PLANNER: CHRIS'S DAD

Responses will vary. Sample responses:

1. Jim Blair
2. My dad loves basketball. He was a professional basketball player here in the U.S. and then in Europe until an injury forced him to quit. Now he's an executive at a tech company.
3. My dad and I both love the game of basketball. He's taught me a lot about the game. I was quite good until I too was forced to quit because of an injury.
4. My dad, my mom, and I were in a terrible car crash that caused me to lose the ability to walk. My dad, who was driving, blamed himself for my injury for a long time and found it difficult to even see me in a wheelchair. He grew very quiet and detached from our family. But eventually, we were able to get through this difficult time together. I joined a wheelchair basketball team and it helped the two of us reconnect. He helps me and my teammates work on fundamentals. He is very supportive and encouraging. I think he has made peace with what happened and realizes we can both still play and enjoy basketball together.
5. Answers will vary.



6. Answers will vary.

“SOMETIMES A DREAM NEEDS A PUSH”

CLOSE-READING QUESTIONS

1. Compared to Chris and Mom, Dad has a much harder time accepting Chris’s injury. Chris says that he and Mom “learned to live with it,” while Dad “took it hard, real hard.” Mom says she thinks that Dad—who was driving when the car accident occurred that led to Chris being unable to walk—blames himself for Chris’s injury and finds it difficult to see Chris in his wheelchair.
2. Perhaps Mom means that Dad likes to really think about what he says before he says it—or at least, before he says it in a way that anyone else can understand.
3. Mom and Chris may be surprised by Dad’s comments because at the Madison-Rosedale game, Dad didn’t seem to be paying much attention—and when Mom asked him a question about the game, he muttered something impossible to understand. What’s more, Dad normally tries to avoid thinking about the fact that Chris is in a wheelchair, but here he is, talking about getting involved in Chris’s wheelchair basketball team—a place where Dad cannot avoid facing the fact that Chris is in a wheelchair.
4. Chris is probably nervous because he wants to impress his dad. Chris knows that basketball means a lot to Dad, which likely makes the stakes feel higher. Plus, Chris says earlier that he was pretty good at basketball before the accident, so he might feel pressure to show that he can still be good at the sport. As for Dad, he is patient and encouraging with Chris. Dad doesn’t show any sign of being disappointed or unhappy with Chris at all.
5. The simile comparing the practice to a collision derby helps you understand that the basketball players are running into each other and still have a long way to go before they have any hope of winning a game.
6. The team has brought Chris and Dad closer together and given them an opportunity to connect. Dad comes to games when they are on the weekends and sometimes attends practices, where he coaches the players. This gives Dad an opportunity to share his knowledge with Chris. Also, by being involved with the team, Dad is constantly confronting the fact that Chris is in a wheelchair; you sense that Dad has begun to make peace with Chris’s injury from the

fact that Dad continues to be involved with the team. Chris clearly enjoys his dad being involved—he says he likes it when Dad is talking about the team and says “we,” that it makes him feel good when Dad teaches the players fundamental skills, and that he likes having Dad come to practice.

7. Answers will vary, but the title may refer to Chris needing a little push—that is, a little encouragement or something to get him started—to achieve his dream of playing basketball, which he stopped doing after the accident. Chris gets such a push from the invitation to join the basketball team and also from his dad’s coaching. The title could also refer to Chris dreaming of having a closer relationship with his dad or of Dad letting go of his guilt over the accident and allowing life to go on, both of which also happened with a “push” from getting involved in the basketball team. And the title could refer to Dad getting a push to be more communicative and more involved in Chris’s life from Chris’s mom, who pushes him to talk more than once in the story.

“SOMETIMES A DREAM NEEDS A PUSH”

CRITICAL-THINKING QUESTIONS

1. Answers will vary. Students may say that Chris probably doesn’t really think that Dad said he could never play as well as Chris in a chair. It’s possible, of course, but it seems a bit out of character for Dad. Given the way Dad mumbles, it seems likely that Chris has no idea what Dad said—he’s making a joke and expressing confidence in himself, perhaps, or imagining Dad saying what Chris thinks is the truth.
2. Answers will vary.
3. Students may say that the story contains the message that success isn’t about winning or being the best, it’s about making an effort, learning and growing, and doing the best you can.

“SOMETIMES A DREAM NEEDS A PUSH”

VOCABULARY PRACTICE

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



“SOMETIMES A DREAM NEEDS A PUSH” QUIZ

***Higher Level (HL)**

1. D (key ideas and details; R.1)
2. B (character; R.3)
3. D (character; R.3)
4. B (figurative language; R.4)
5. D (text structure, character; R.5, R.3)
6. B, C (theme; R.2)
7. Wheelchair basketball has a positive effect on Chris and Dad’s relationship. As a result of Chris joining the team, Dad goes from feeling distant and negative around his family to feeling connected, engaged, and positive. At the beginning of the story, Mom says she thinks that Dad—who was driving when the car accident that led to Chris being unable to walk occurred—blames himself for Chris’s injury and finds it difficult to see Chris in his wheelchair. This appears to be true based on the way Dad acts when the family goes to watch a wheelchair basketball game together. Dad sits by the concession stand, reads a newspaper, and seems completely uninterested in something Chris is clearly very excited about. In the car, Dad grumbles and seems to complain under his breath. But the next day, Dad calls Mr. Evans, Chris’s coach. It turns out he was paying attention, and he wants to come to practice the next day and help Chris and his teammates prepare for their upcoming game. At practice Dad is positive, encouraging, and even jokes around. His optimism keeps the team from feeling dejected when they’re down at halftime of their game. Clearly, basketball has given Chris and Dad an opportunity to connect and work through a difficult time. (character, text evidence, writing an explanatory text; R.2, R.1, W.2)
8. Chris can teach us much about resilience. Throughout the story, Chris faces difficulty with optimism and determination. While Dad has a difficult time dealing with Chris’s injury, Chris “learns to live with it” (21): He enjoyed playing basketball before his accident, and he doesn’t let his accident stop him from continuing to play basketball. After watching his first wheelchair basketball game, Chris can’t wait to start playing, even when Dad’s reaction isn’t so positive. Chris’s resilience is especially apparent after his first game—even though his team loses, he and his teammates feel great and celebrate how well they played. They all agree to stay in the league and start preparing for next season.

(character, text evidence, writing an explanatory text; R.2, R.1, W.2)

“SOMETIMES A DREAM NEEDS A PUSH” QUIZ

***Lower Level (LL)**

1. D (key ideas and details; R.1)
2. B (character; R.3)
3. D (character; R.3)
4. B (figurative language; R.4)
5. D (text structure, character; R.5, R.3)
6. B, C (theme; R.2)
7. Over the course of the story, Dad’s attitude changes from distant and negative to engaged and positive. At the beginning of the story, Mom says she thinks that Dad—who was driving when the car accident that led to Chris being unable to walk occurred—blames himself for Chris’s injury and finds it difficult to see Chris in his wheelchair. This appears to be true based on the way Dad acts when the family goes to watch a wheelchair basketball game together. Dad sits by the concession stand, reads a newspaper, and seems completely uninterested in something Chris is clearly very excited about. In the car Dad grumbles and seems to complain under his breath. But the next day, Dad calls Mr. Evans, Chris’s coach. It turns out he was paying attention, and he wants to come to practice the next day and help Chris and his teammates prepare for their upcoming game. At practice, Dad is positive, encouraging, and even jokes around. His optimism keeps the team from feeling dejected when they’re down at halftime of their game. Clearly, basketball has given Chris and Dad an opportunity to connect and work through a difficult time. You sense that Dad has made peace with Chris’s injury and is feeling positive about what the future holds for Chris, the team, and their family. (character, text evidence, writing an explanatory text; R.2, R.1, W.2)
8. Throughout the story, Chris has a positive attitude. While Dad has a difficult time dealing with Chris’s injury, Chris “learns to live with it” (21): He enjoyed playing basketball before his accident, and he doesn’t let his accident get in the way of continuing to play basketball. After watching his first wheelchair basketball game, Chris can’t wait to start playing, even when Dad’s reaction isn’t so positive. Chris’s positive attitude is especially apparent after his first game—even though they lose, he and his teammates



feel great and celebrate how well they played. They all agree to stay in the league and start preparing for next season. (character, text evidence, writing an explanatory text; R.2, R.1, W.2)

“The Journal of Captain Hela”



ANSWERS TO ACTIVITIES AND PROMPTS IN THE MAGAZINE

ROOT CHALLENGE

Answers will vary. Sample responses:

- expedition:** a journey or trip taken on foot to explore something
bipedal: two-footed; using two legs for walking
pedal: to push pedals; foot-operated levers on a bike
impediment: an obstacle; something that prevents you from moving forward or progressing
tripod: a three-legged stand for supporting something
centipede: a many legged creature
- Answers will vary. Words might include: *pedestal, pedicure, podiatrist, pedometer, pedestrian, quadruped*
- Sentences will vary.
- Drawings will vary.

ANSWERS TO ACTIVITY SHEETS

ROOT POWER

Answers will vary. Sample responses:

Part 1: Meaning

expedition: a journey or trip taken on foot to explore something

bipedal: two-footed; using two legs for walking

pedal: to push pedals; foot-operated levers on a bike

impediment: an obstacle; something that prevents you from moving forward or progressing

tripod: a three-legged stand for supporting something

centipede: a many legged creature

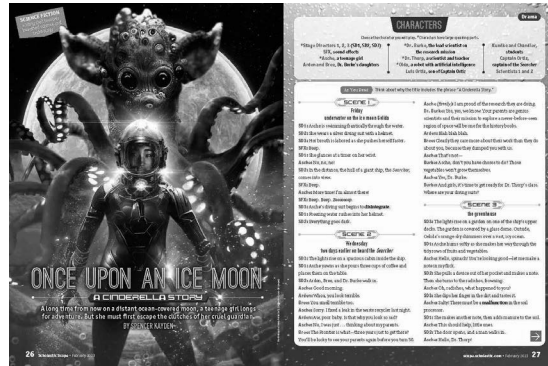
Part 2: Practice

- centipedes
- expedition
- pedals
- tripod
- impediments
- Bipedal

Part 3: Root Challenge

Answers will vary.

Once Upon an Ice Moon: A Cinderella Story



ANSWERS TO ACTIVITIES AND PROMPTS IN THE MAGAZINE

WRITING PROMPT, PAGE 31

Slideshows and essays will vary, but should include the elements presented below in the “Writing Planner: Space Cinderella” activity.

ANSWERS TO ACTIVITY SHEETS

WRITING PLANNER: SPACE CINDERELLA

Answers will vary slightly. Sample responses:

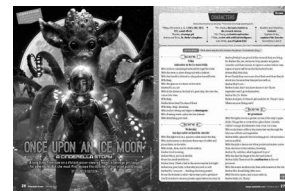
- **A helpful grandmother figure:** Oida is like Asche’s fairy godmother: She supports Asche emotionally when she’s missing her parents and being treated unkindly, she helps Asche complete her duties so she can go on the dive, and after Asche’s first diving suit is destroyed, Oida provides her with a special new suit.
- **A mother or father who is absent or who has passed away:** Asche’s parents are exploring a never-before-seen region of space that takes three years to reach. She likely will not see them again until she’s almost 30.
- **A special event to attend:** Asche wants to join Dr. Thorp’s Underwater Explorations class and be able

to join the divers who are going out to the ice shelf to investigate the markings the drones found on the ice.

- **A heroine known for her kindness:** Asche forgives Arden and Bree for what they did to her mother’s suit, and holds out her hand in a gesture of friendship at the end of the story, despite their cruelty.
- **A heroine with a special connection to animals and nature:** Asche is a talented and caring gardener. She understands and communicates with the creature at the ice shelf.
- **Patterns of three:** n/a
- **Magic:** n/a
- **A lost item as proof of identity:** Asche doesn’t lose an item, but her mother’s suit is what allows Dr. Burke to identify her.
- **A cruel stepmother or stepsisters:** Asche’s parents are on a research mission and have left her in the care of Dr. Burke, who is a cruel guardian. Her daughters are also cruel to Asche.
- **“Rags to riches” (from servant to royalty):** At the beginning of the story, Asche is stuck doing chores all day; at the end of the story, she is recognized for her amazing abilities.

ONCE UPON AN ICE MOON CLOSE-READING QUESTIONS

1. Scene 1 is a flash-forward—a scene that takes place later in the story’s sequence of events. Chronologically, the events of Scene 1 take place at the end of Scene 9. The playwright likely begins the



play this way to build interest and suspense through the scene's intense and frantic mood: At the end of the scene, everything goes dark and readers are left wondering what happens next and whether Asche will make it out alive.

2. Dr. Burke, Arden, and Bree are cruel to Asche. For example, in Scene 2, they tell her she looks and smells terrible and they insult her parents. They treat her as if she's their servant, rather than someone who's been left in their care. Dr. Burke assigns her impossible amounts of work and refuses to let her join Dr. Thorp's class. Just before the ice-shelf expedition, Asche finds that Arden and Bree have shredded her diving suit so she can't go. It seems Dr. Burke and her daughters resent Asche and her parents. This is confirmed in Scene 10, when Dr. Burke tells Asche, "Ha! I was supposed to go to the Frontier. Me. But the Commission gave my spot to your perfect mother. Was I supposed to be honored when your parents asked me to be your guardian? Like it was some sort of consolation prize?"
3. In Scene 3, readers get the sense that Asche is deeply connected to the "earth" that exists on the *Searcher*: a garden covered by a glass dome. She is responsible for cultivating the fruits and vegetables that feed the inhabitants of the research vessel, and she is not only very knowledgeable about the plants and their needs, but also sees them as friends. The message Dr. Thorp delivers to her at the end of the scene reveals that Asche yearns to join the Underwater Explorations class, suggesting that Asche has a strong sense of curiosity or desire for adventure.
4. In Scene 9, Asche has a special connection with the creature the researchers encounter at the ice shelf. While everyone else is frightened and ready to kill the creature, Asche remains calm and fearlessly communicates with the creature, which she knows means no harm to anyone. She tells the creature it is extraordinary and gently touches its face, and all are released safely.
5. Oida helps Asche by providing her with emotional support when she is missing her parents and upset about how Arden, Bree, and Dr. Burke treat her. Oida also helps Asche by completing Asche's endless list of chores so that Asche can go on the expedition, and by providing a diving suit to replace the one that

Arden and Bree destroyed. Luis is another helper. He is a good friend to Asche and stays back to make sure she is able to go on the expedition. Later, he tells his father, who is the ship's captain, how Dr. Burke has been treating Asche.

ONCE UPON AN ICE MOON CRITICAL-THINKING QUESTIONS

1. Answers will vary. Students may say that the play suggests good will always prevail and evil will be punished.
2. Answers will vary. Students may say that the play suggests that there is power in forgiveness and that Asche forgives Arden and Bree because she is a kind person and believes they are truly sorry.
3. Answers will vary.
4. Answers will vary.

VOCABULARY PRACTICE

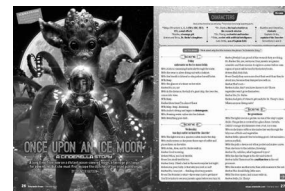
1. C
2. B
3. A
4. D

Answers to questions 5-8 will vary.

ONCE UPON AN ICE MOON QUIZ

*Higher Level (HL)

1. B (vocabulary; R.4)
2. C (text structure, author's purpose; R.5)
3. A, C (text evidence, key ideas and details; R.1, R.2)
4. A (theme; R.2)
5. C (inference; R.1)
6. A, C (genre; R.6)
7. Dr. Burke assigns Asche her daughters' duties because Dr. Burke resents Asche's parents for being the ones to go to the Frontier. Dr. Burke treats Asche cruelly and gives her extra work because she is taking out her negative feelings toward Asche's parents on Asche. This is made clear in Scene 10 when Dr. Burke finally reveals how she really feels about Asche's parents. After returning from the harrowing events at the ice shelf, Asche asks Dr. Burke why Dr. Burke hates her. Dr. Burke replies, "Ha! I was supposed to go to the Frontier. Me. But the Commission gave my spot to your perfect mother. Was I supposed to be honored when your



parents asked me to be your guardian? Like it was some sort of consolation prize?" Clearly Dr. Burke is bitter about her own dreams of going to the Frontier not coming true. She finds it unfair that not only did she not get the role she so desperately wanted and thought she deserved, but that she also has been forced to be responsible for the child of another person who gets to live out her dream. In retaliation, Dr. Burke assigns Asche her daughters' duties. This could be just a way to be cruel, but it is likely to keep Asche away from the action on the ship so that Dr. Burke's daughters have a leg up over Asche on their path to becoming great scientists and explorers on *The Searcher*. (character, writing explanatory texts; R.3, W.2)

8. At the end of Scene 9, as Asche falls unconscious, three divers take hold of her and begin dragging her toward the ship. Readers can infer that these three divers were Luis, Arden, and Bree. You can infer that Luis is one of the divers because he has been helping Asche all along. For example, in Scene 8, he stays back to make sure she is able to go on the expedition. Luis is clearly a good friend to Asche and wouldn't hesitate to help her in a dangerous situation like the one she was in. One can infer that Arden and Bree are the other two divers because in Scene 10, Bree says, "We thought we'd lost you." Then Arden says, "We almost didn't get to you in time." Based on these remarks, you can infer that they were the ones that helped Asche. Asche and Bree likely helped Asche because they just witnessed her saving their mother from the strange creature the group discovered. Watching Asche risk her own safety to help their mother likely made Arden and Bree feel remorseful for the way they had treated her. Watching Asche save their mother also likely spurred Arden and Bree to take action to help save Asche. (inference, character's motivation, text evidence, writing explanatory texts; R.1, R.3, R.1, W.2)

ONCE UPON AN ICE MOON QUIZ

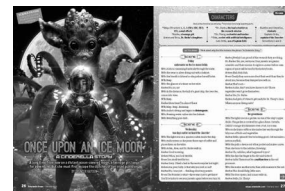
*Lower Level (LL)

1. B (vocabulary; R.4)
2. C (text structure, author's purpose; R.5)
3. A, C (text evidence, key ideas and details; R.1, R.2)
4. A (theme; R.2)

5. C (inference; R.1)
6. A, C (genre; R.6)
7. Scene 10 reveals Dr. Burke's reason for treating Asche so cruelly: She resents Asche's parents for getting to go to the Frontier instead of her. After returning from the harrowing events at the ice shelf, Asche asks Dr. Burke why Dr. Burke hates her. Dr. Burke replies, "Ha! I was supposed to go to the Frontier. Me. But the Commission gave my spot to your perfect mother. Was I supposed to be honored when your parents asked me to be your guardian? Like it was some sort of consolation prize?" Clearly Dr. Burke is bitter about her own dreams of going to the Frontier not coming true. She finds it unfair that not only did she not get the role she so desperately wanted and thought she deserved, but that she also has been forced to be responsible for the child of another person who gets to live out her dream. In retaliation, Dr. Burke assigns Asche her daughters' duties and treats her cruelly. (character, text evidence, writing explanatory texts; R.3, R.1, W.2)
8. At the end of Scene 9, as Asche falls unconscious, three divers take a hold of her and begin dragging her toward the ship. Readers can infer that Arden and Bree are the other two divers because in Scene 10, Bree says, "We thought we'd lost you." Then Arden says, "We almost didn't get to you in time." Based on these remarks, you can infer that they were the ones that helped Asche. Asche and Bree likely helped Asche because they just witnessed Asche's saving their mother from the strange creature the group discovered. Watching Asche risk her own safety to help their mother likely made Arden and Bree feel remorseful for the way they had treated her. Watching Asche save their mother also likely spurred Arden and Bree to take action to help save Asche. (inference, character's motivation, text evidence, writing explanatory texts; R.1, R.3, R.1, W.2)

CORE SKILLS WORKOUT: MAKING INFERENCES

1. Dr. Burke clearly does not want Asche going to the ice shelf. The list of duties she assigns her appears to be intentionally impossible to complete. She is trying to make it so that Asche will not be able to go.
2. Arden and Bree have destroyed Asche's mother's suit so that she cannot go on the ice shelf expedition.



The fact that Arden and Bree are snickering, which means to laugh in a mean way, as they watch her unzip the bag tells readers that they are the culprits.

3. Dr. Burke recognizes the suit as Asche's mother's suit. She is likely angry because Asche has somehow completed the duties designed to keep her off the expedition, and she seems to resent Asche's parents.
4. This interaction shows that Asche has a special connection with nature and living things. While everyone else is frightened and ready to kill the creature, Asche remains calm and fearlessly communicates with it, which she knows means no harm to anyone. She tells the creature it is extraordinary and gently touches its face, and all are released safely.

LITERARY ELEMENTS: GENRE EXPLORATIONS

Page 1:

- **Takes place in the future:** The play's subtitle indicates that this story takes place "a long time from now."
- **Involves space and/or time travel:** The play's characters inhabit a research vessel called the *Searcher* on a moon thousands of light years from Earth. Asche's parents have traveled to a place called the Frontier, three years away, to explore and conduct research in a never-before-seen region of space.
- **Portrays other worlds, universes, or dimensions:** The play takes place on an ice moon called Gelida tens of thousands of light-years from Earth.
- **Grounded in science:** The play's caption "Icy Ocean Moon" explains that it's believed moons like Gelida actually exist. Europa, a moon of Jupiter, is thought to contain a saltwater ocean beneath its icy surface. The caption "Supersmart Robot" explains that robots with extremely advanced artificial intelligence, like Oida, are already in the making.
- **Takes place in the aftermath of a disaster or at the end of a civilization:** n/a
- **Expresses concerns about present day issues:** n/a
- **Has futuristic technology:** flick devices, Oida, the diving suits
- **Has extraterrestrial lifeforms:** The crew of the *Searcher* discovers markings on a cave that were

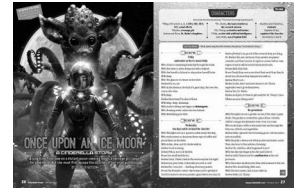
made by intelligent life. They also discover a tentacled creature in Gelida's ocean.

Page 2:

- **A helpful grandmother figure:** Oida is like Asche's fairy godmother: She supports Asche emotionally when she's missing her parents and being treated unkindly, she helps Asche complete her duties so she can go on the dive, and after Asche's first diving suit is destroyed, Oida provides her with a special new suit.
- **A mother or father who are absent or dead:** Asche's parents are exploring a never-before-seen region of space that takes three years to reach. She likely will not see them again until she's almost 30.
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- **Magic:** n/a
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- **A cruel stepmother or stepsisters:** Asche's parents are on a research mission and have left her in the care of Dr. Burke, who is a cruel guardian. Her daughters are also cruel to Asche.
- **"Rags to riches" (from servant to royalty):** At the beginning of the story, Asche is stuck doing chores all day; at the end of the story, she is recognized for her amazing abilities.

Page 3:

1. Answers will vary.
2. Answers will vary. Sample answer: Flicks remind me of smart watches and tablets that send and store media, but perhaps they are more advanced, with hologram projections instead of screens, for



example. Oida, the robot, reminds me of Alexa or Siri, but with more advanced artificial intelligence. I think robots like Oida will exist, but it will take a long time for them to be programmed in human emotion like Oida is.

3. Answers will vary.
4. Answers will vary. Students may offer that stories like these give people hope that even if they are in an awful situation, their lives can get better; that an underdog can end up winning; that goodness and kindness will be rewarded, while evil will be punished; that happy endings are possible; that good will always win the day.

“Mistake”



ANSWERS TO ACTIVITIES AND PROMPTS IN THE MAGAZINE

WRITING PROMPT, PAGE 32

Students' work will vary but should follow the format of a diamante poem as outlined in the activity "Analyzing and Writing Poetry: 'Mistake.'"

ANSWERS TO ACTIVITY SHEETS

ANALYZING AND WRITING POETRY

Answers will vary. Sample responses:

1. Students are likely to choose "a negative connotation."
2. Students are likely to choose "a positive connotation."
3. The poem suggests that a mistake can lead to an opportunity. That the word *mistake* literally leads to the word *opportunity* helps create this idea, suggesting that an actual mistake can lead to an actual opportunity.
4. Students might know of an invention that came about as the result of a mistake, such as the invention of the Play-Doh, potato chips, popsicles, or Post-It Notes. Or they might recall an experience from their own lives or imagine a scenario in which a mistake

leads to an opportunity, such as not making it onto a sports team being the incentive to discover a new activity that they enjoy even more.

5. The illustration shows, in a creative and playful way, the idea of a mistake (a glass of water being spilled) becoming an opportunity for fun (surfing the spilled water).
6. Either answer is acceptable. At first glance, *mistake* and *opportunity* seem to be opposites, but the poem makes the point that a mistake and an opportunity can in fact be the same thing.