

Magnetic Reading[™]



i-Ready Learning

Magnetic Reading[™]



NOT FOR RESALE

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15 14 13 12 11 10 9 8 7 6 5 4 23

23 22

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Table of Contents

UNIT	Overcoming Obstacles	8
1	FOCUS STANDARD: Summarize a Story from The Save	12
	LESSON 2 Finding Myself FOCUS STANDARD: Determine Theme from Stand Up, Yumi Chung! from Wonder from Garvey's Choice	28
	The New Kid FOCUS STANDARD: Make Inferences from How to Make S'mores, Part 1 from How to Make S'mores, Part 2 from How to Make S'mores, Part 3	44
	LESSON 4 Turn It Around FOCUS STANDARD: Compare and Contrast Characters Earl of Twirl, Scene 1 Earl of Twirl, Scene 2 Earl of Twirl, Scene 3	60
	FOCUS STANDARDS: Make Inferences, Summarize a Story, Determine Theme, Compare and Contrast Characters from Get a Grip, Vivy Cohen!	
	Tía Perla Contra	MAR
2 Magnetic Reading	Table of Contents ©Curriculum Associates, LLC Copyir	ng is not permitted.



UNIT 2

Art in America 8	34
LESSON 5 The Harlem Renaissance	86
FOCUS STANDARD: Determine Main Ideas and Key Details	
from The Great Migration	88
Writers of the Harlem Renaissance	92
from Stompin' at the Savoy	97
LESSON 6 The Arts of the People	02
FOCUS STANDARD: Summarize a Text	
Preserving the Flavor of Life	.04
The Song Hunter	.08





Table of Contents (continued)



Earth's Water 10	60
LESSON 9 Water and Humans	L62
FOCUS STANDARD: Determine the Meaning of Figurative Language	
from Water Rolls, Water Rises	164
Rain in Summer	168
Untitled	169
Spring as Adversary	170
from Out of the Dust	173
LESSON 10 Fresh Water	178
FOCUS STANDARD: Make Inferences	
Water, the Liquid of Life	180
Hidden Water	
Water, Water Everywhere	
LESSON 11 Water Problems and Solutions	L 94
FOCUS STANDARD: Compare Text Structures: Compare-Contrast,	
Problem-Solution	
Tackling the Clean Water Crisis	196
Tiny Oysters Do a Big Job	200
A Winning Idea	205
Water Heroes	207
CONNECT IT The Future of Water	212
FOCUS STANDARDS: Make Inferences; Compare Text Structures:	
Compare-Contrast, Problem-Solution	
From Toilet to Tap: A New Way to Save Water	214
After the Flush	216







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Magnetic Reading | Table of Contents

Table of Contents (continued)

UNIT	Underground Railroad	282
5	LESSON 15 Slavery in the United States	284
	FOCUS STANDARD: Explain Reasons and Evidence	
	Liberty and Justice for All?	. 286
	Resisting Slavery	. 290
	Finding Freedom	. 295
	LESSON 16 The Hard Path to Freedom	300
	FOCUS STANDARD: Analyze Multiple Accounts	
	William Still: Father of the Underground Railroad	. 302
	Stories of Freedom from The Underground Railroad	. 306
	A Woman Called Moses	. 311
	Letter to Harriet Tubman	. 313
	LESSON 17 Stories of the Underground Railroad	318
and Art	FOCUS STANDARD: Compare Stories	
(1/1)	from North by Night	. 320
	from Eliza's Freedom Road: An Underground Railroad Diary	
	from I Survived the Battle of Gettysburg, 1863	
	from 47	. 331
42 11 1 2	CONNECT IT The Fight for Freedom	336
	FOCUS STANDARDS: Analyze Multiple Accounts, Explain Reasons	
	and Evidence	
	A Promise of Freedom	. 338
	Closer to Freedom	. 340
		National Park
	TSTE V	
6 4 4 5 11	THE CONTRACTOR OF THE CONTRACT	
6 Magnetic Reading	Table of Contents ©Curriculum Associates, LLC Copying is	not permitted.







Communication)40
LESSON 18 Beyond Spoken Words	348
from Song for a Whale, Part 1	. 350
from <i>Song for a Whale,</i> Part 2	. 354
from Song for a Whale, Part 3	. 359
LESSON 19 From Here to There	364
FOCUS STANDARD: Find Information A Visual History of Communication	766
Live Wires	
The Emoji: From Idea to Reality	
LESSON 20 How Do YOU Say It?	
FOCUS STANDARD: Integrate Information	
The Right Word in the Right Place	. 382
A Different Kind of Dictionary	. 386
Eating Your Words	. 391
What's That Sign?	. 393
CONNECT IT Messages in Code	398
FOCUS STANDARDS: Find Information, Integrate Information	
Greetings from Earth	
Reaching Out to Aliens Is a Numbers Game	. 402
UNIT ASSESSMENTS	408
Unit 1	410
Unit 2	. 418
Unit 3	. 428
Unit 4	440
Unit 5	452
Unit 6	464
Glossary of Terms	. 476

Earth's Water



LESSON 11

Water Problems and Solutions



CONNECT IT

The Future of Water







Water Problems and Solutions

FOCUS QUESTION

How can we make sure living things get the clean water they need?

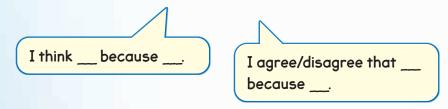
NOTICE AND WONDER

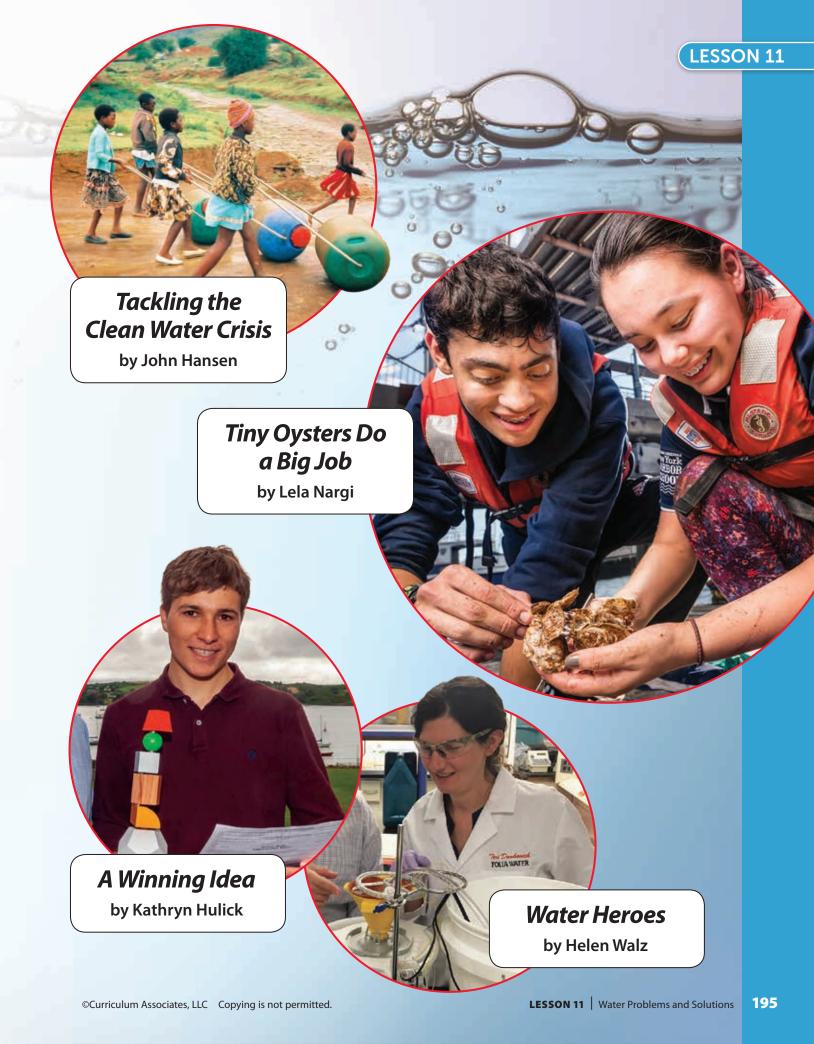
Look at the four texts you will read in this lesson. What do you notice? What do you wonder? Discuss your ideas with a partner.

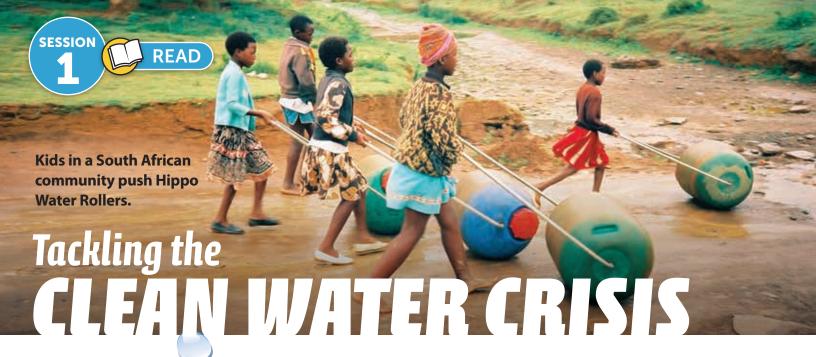
THINK AHEAD

Each of the following questions relates to a topic you will read about in this lesson. Discuss each question with your partner, sharing what you know already or making predictions.

- What causes water to become polluted?
- How much water can one oyster clean in a day?
- What supplies might you need to purify water?







by John Hansen



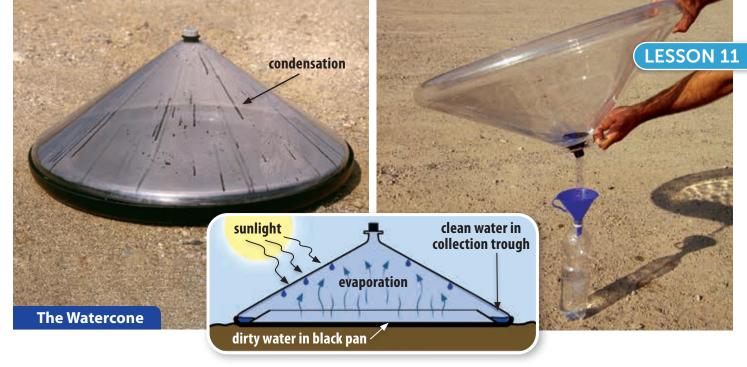
- 1 For many people, getting a drink of water is so easy that they hardly think about it. But nearly a billion people in the world, including some in the United States, struggle daily to get safe, clean drinking water. Hundreds of thousands—mostly kids—get sick each year as a result of contaminated water.
- 2 There's no single solution to the clean water problem. That's because people in different places have different needs. To meet those needs, inventors have worked on a variety of ways to get safe water to people.
- 3 In some places, people have access to clean drinking water, but the water is far away. They may have to carry it for miles in a heavy water can—a few gallons at a time—to get it home. An invention called the Hippo Water Roller allows a person to haul 23 gallons (87 liters) of water in just one trip. The Hippo is basically a big barrel with a long handle attached. The clever, low-tech design makes the Hippo easy to roll long distances over rough ground.
- 4 In other places, people only have access to contaminated water and they need a way to clean it. The following inventions—the Watercone and the Slingshot—are similar in that both are low-maintenance, portable ways to purify water. Plus, they work well in remote places far from the large water-treatment plants that serve towns and cities.

low-tech = made with simple technology and few materials

Stop & Discuss

What problem does the author identify in this part of the text?

Explain the problem and why it is a problem.



- 5 The Watercone is a simple, low-tech device. All it needs to work is direct sunlight. Dirty or salty water is poured into a round black pan. A clear plastic cone is placed on top. As the sun evaporates the water, clean drops form inside the cone and then trickle down into a collection trough. The Watercone can only produce 2 quarts (about 2 liters) of clean water per day, so multiple cones are usually required to meet a group's needs. Still, the Watercone is a good option in places without electricity, and it is inexpensive and easy to transport.
- 6 By contrast, the Slingshot is a complex machine that is smaller than a dishwasher. It runs on electricity, but it uses less power than a microwave. It can clean extremely dirty water, removing dirt, salt, chemicals, viruses, and bacteria. A hose sucks the source water into the machine. The water is boiled, evaporated, and condensed back into liquid, all at very precise temperatures.
- 7 The Slingshot can produce about 200 gallons (757 liters) of clean water per day. The machine's high output and low energy use make it a good solution for towns and villages. The downside is that, unlike the Watercone, the Slingshot is expensive and can be hard to transport to the many remote towns and villages that need it.
- 8 The United Nations has warned that the world's water shortage will get worse. In the years ahead, clean water inventions will become as necessary to life as water itself.

output = amount produced

Stop & Discuss

How do the Watercone and the Slingshot help to solve the clean water crisis?

Use text details to support your response.

Both inventions help people ___.



Analyze Text Structure

- **Text structure** refers to the way the information in a text is organized.
- Understanding how the author has organized information helps you find and remember important details.
- A text that uses a **compare-contrast structure** describes how things are similar to or different from one another.

Reread/Think

Reread "Tackling the Clean Water Crisis." Then complete the chart by adding details to compare and contrast the three inventions.

	Hippo	Watercone	Slingshot
Main purpose	transport clean water	purify water	
Level of technology	low-tech		
Amount of water provided		2 quarts	
Energy source	people		
Cost	not stated	inexpensive	
Easy to move?			

Talk

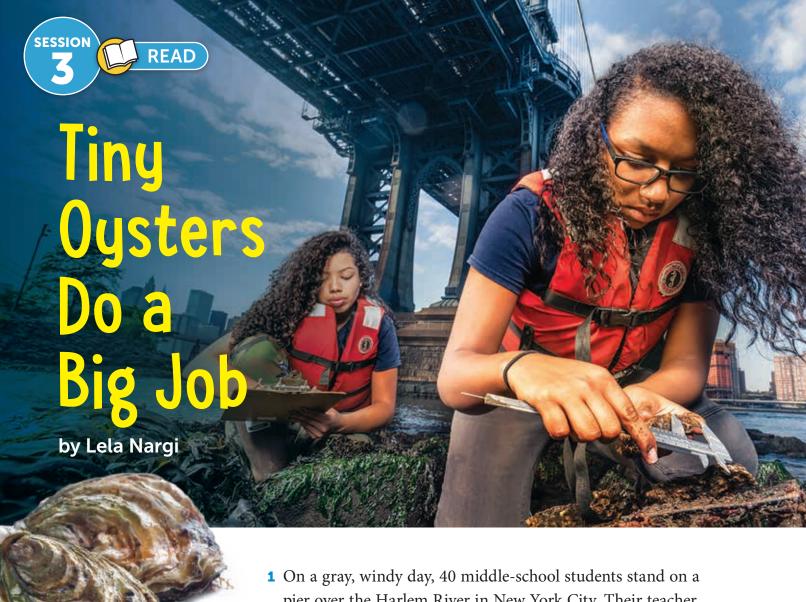
Why did the author organize the information in "Tackling the Clean Water Crisis" in a compare-contrast text structure? How does the structure help you understand the topic?

I think he used a compare-contrast structure because ___.

The compare-contrast structure helps me understand ___.

Write

Explain why the author chose a compare-contrast text structure for "Tackling the Clean Water Crisis." What do the similarities and differences in the three inventions help you understand about the clean water crisis?	WRITING CHECKLIST ☐ I explained why the author chose a compare-contrast text structure.
	 ☐ I included details from the text to support my thinking. ☐ I used complete sentences. ☐ I used correct spelling, punctuation and capitalization.



Stop & Discuss

What do the student scientists hope to do with the oysters' help?

Underline the sentence that supports your response.

- 1 On a gray, windy day, 40 middle-school students stand on a pier over the Harlem River in New York City. Their teacher pulls a long, slimy rope out of the river. "Stand back!" he calls. Attached to the end of the rope is a metal cage. Inside are clusters of small, shelled animals—oysters.
- 2 Today, the students are scientists whose job it is to measure how much the oysters have grown and test the river water for pollutants. They will report their findings to researchers at the Billion Oyster Project (BOP). The students hope to help make the city's waterways, including the Harlem River and New York Harbor, healthy again, and the oysters are helping! How do they do that?

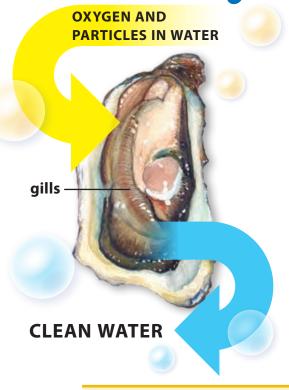
Nature's Water Filters

- oysters are a critical part of the underwater community they share with plants, fish, and other wildlife. One reason is that oysters are filter feeders; they eat by pumping large amounts of water through their gills and filtering the water to get food. In fact, a single oyster can filter up to 50 gallons (189 liters) of water per day! In addition to tiny living things, oyster gills trap sand, clay, and some contaminants. This filtering process cleans the water, making it safe and healthy for aquatic plants and animals to thrive.
- 4 Furthermore, oysters provide a habitat for many kinds of underwater life forms. New oysters attach their shells to older ones to form big reefs, creating many small spaces where other animals can live. Because so many life forms depend on them, oysters are called a keystone species. If a keystone species disappears, other plants and animals may die off with it.

Trouble for Oysters

- 5 That's exactly what happened 100 years ago in New York Harbor. Before then, lots of oysters lived in the harbor. These oysters were delicious—maybe too delicious. By the early 1900s, the oyster population was in danger. People were eating the oysters faster than they could grow back.
- 6 But the oysters were in trouble for another reason, too.
 Pollution was pouring into the waters of the growing city.
 Oysters that filter and absorb too many pollutants become sick and unable to reproduce, and New York Harbor became so polluted that few animals could live in it. Since the 1970s, new laws have helped reduce pollution in the harbor. Some fish had reappeared, but oysters were still missing—until recently.

Filter Feeding



contaminants = substances that make something dirty

reproduce = make offspring

Stop & Discuss

Which statement best explains why scientists who study water pollution are interested in oysters?

- Oysters eat by trapping tiny living things in their gills.
- Oysters clean water and create homes for other species.
- Oysters have been in danger since the early 1900s.







Scientists at Work

- 7 The kids on the Harlem River gather around the cage. "The oysters definitely look much bigger now," says a student named Kelly.
- 8 Her classmate Bianca picks out a clump of the animals. Karina, Bianca's twin, measures an oyster using a tool called a caliper, and Bianca logs the measurement. The students measure all the oysters and compare notes. The biggest oyster is more than two inches long, a healthy size for its age.
- 9 Lastly, the students pull up buckets of water to check how cloudy it is and measure its oxygen levels. Cloudy water is a problem because too much sediment (bits of sand, clay, and other things) can block sunlight and stop plants from growing. As more oysters are added to the harbor and continue to grow, the water should become clearer and hold more oxygen. Other animals should return too, like the mud crabs and barnacles the students find in the oyster cage. It's a sign the oysters are busy creating a healthier environment in the river.
- 10 In a few months, a new group of students will check the cage again. When these oysters are big enough, they will be moved to a healthy reef in the middle of the harbor. For today, everyone agrees: the future is looking bright for New York Harbor.

Stop & Discuss

Why does the future look bright for New York Harbor?

Use at least two details from the text to support your response.

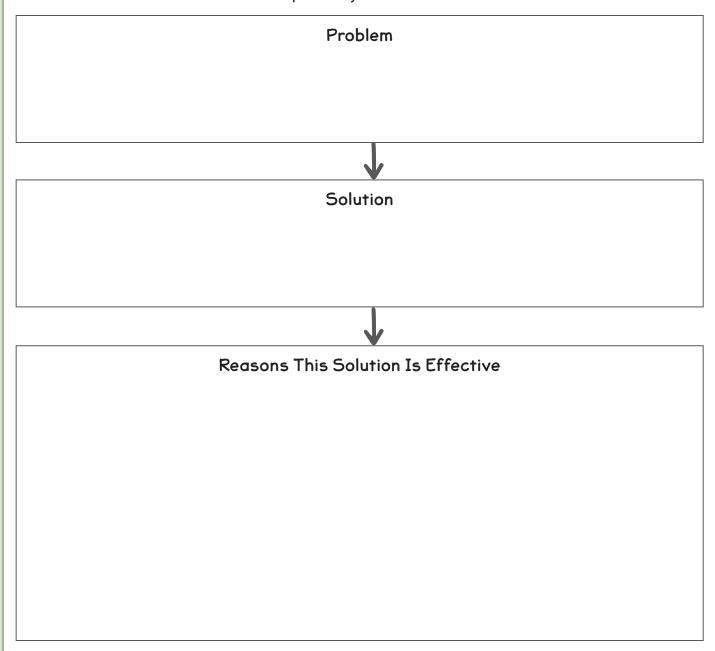


Compare Text Structures

- A text that uses a **problem-solution structure** describes a problem and then explains how the problem is solved.
- Comparing texts on the same topic that use different text structures can help you better understand what each author wants to communicate about the topic.

Reread/Think

Reread "Tiny Oysters Do a Big Job." Add the major problem and solution to the chart. Then list three reasons that explain why this solution is effective.





Talk

With your partner, compare and contrast the text structures of "Tackling the Clean Water Crisis" and "Tiny Oysters Do a Big Job."

- How are both texts alike?
- What text structure did each author use to organize the information?
- How do the text structures help you understand each text better?

"Tackling the Clean Water Crisis" and "Tiny Oysters Do a Big Job" both explain ___.

The ___ text structure of ___ helps me better understand ___ because ___.

Write

Identify the text structures of "Tackling the Clean Water Crisis" and "Tiny Oysters Do a Big Job." Explain why each author used that structure. Then explain how both of these texts help you understand	WRITING CHECKLIST I identified the text structures.
more about the problem of clean water.	☐ I explained why each text structure was a good fit for its topic ☐ I used complete sentences. ☐ I used correct spelling, punctuation and capitalization.



A Winning Idea

by Kathryn Hulick

SESSION

- 1 When high-school student Fionn
 Ferreira visited the beaches near his
 home in West Cork, Ireland, he was
 upset by the huge amounts of plastic trash
 he saw. Then he learned about an even
 bigger problem—microplastics in wastewater.
- 2 Microplastics are tiny pieces of plastic. Some result from the **breakdown** of larger plastic trash, while others come from products like soap and shampoo. These tiny particles flow into sink and shower drains and eventually end up in the ocean. Wastewater treatment plants, where dirty water is cleaned, can remove germs but not microplastics. And that's a problem because most plastics contain chemicals that are bad for people and wildlife.
- 3 Ferreira had an idea. He noticed that plastic and oil stick together, so he wondered if oil could be used to pull microplastics out of water. He tested his idea using vegetable oil. It worked, but then he had another problem—he needed a way to get the oil out of the water! Ferreira mixed rust powder, which is magnetic, into the oil. Then he used a magnet to draw the mixture out of the water, bringing the microplastics with it.



breakdown = separation into smaller parts



extracted = removed

- 4 Ferreira's next challenge was to test how much microplastic he was removing. He didn't have a microscope or other tools he needed, so he built his own equipment! After running many tests, he found that the mixture **extracted** about 87% of the microplastics in the water he tested.
- **5** Ferreira's model won the grand prize of \$50,000 at the 2019 Google Science Fair, a worldwide contest for teens. Now he's working on a way to apply his idea at wastewater treatment plants.

Fionn Ferreira (right) with his high-school principal





Water Heroes

by Helen Walz

1 Dirty water is one of the world's biggest problems. Two young inventors each found an **innovative** way to address that problem, but their inventions work very differently.

innovative = using new ideas or methods

2 While in high school, Fionn Ferreira invented a way to remove microplastics, tiny plastics that end up in our water system and oceans. His solution was to add a mixture of oil and magnetic powder to wastewater. Microplastics stick to the mixture, and then a magnet can pull the mixture out of the water. Ferreira won a major science competition for his big idea. Soon his method may be used in wastewater treatment plants and even on ships.

Fionn Ferreira is dedicated to removing plastics from Earth's water sources.



The paper filters are tested in a

laboratory.

3 Like Ferreira, Theresa Dankovich came up with a way to make water cleaner. But she tackled a different problem: germs in drinking water. While in college, Dankovich used ideas she learned about to create special filters—pieces of paper that anyone can pour water through to make it drinkable. The secret is that each filter contains tiny flecks of silver, one of several metals that are deadly to germs. At first, Dankovich even made the filters into books so that people could easily tear out one "page" (filter) at a time. Each page was printed with information about water sanitation and hygiene. Today, the filters are no longer packaged in book form.

4 While Ferreira's idea is still being developed, Dankovich's invention is already being used in homes in several countries. But both Ferreira and Dankovich have come up with innovative solutions to one of the biggest problems facing many people in the world today.





Respond to Text

Reread/Think

Reread "A Winning Idea" and "Water Heroes." Choose the best response to each question.

1. Determine whether each statement describes "A Winning Idea," "Water Heroes," or both.

explains how Ferreira used magnets to remove microplastics	
explains how Dankovich removed germs from water	
tells where Ferreira got his inspiration	
describes a solution that is used in homes today	

- 2. Which statement would both Ferreira and Dankovich most likely agree with?
 - **A.** There are major problems with water that need to be solved.
 - **B.** The main reason to clean water is to win science competitions.
 - **C.** Microplastics are the largest threat to the drinking water supply.
 - **D.** Cleaning water requires expensive technology that is hard to find.
- **3.** Which detail is found **only** in "Water Heroes"?
 - **A.** Oil helped remove 87% of microplastics from water.
 - **B.** Microplastics commonly end up in oceans.
 - **C.** Plastics contain chemicals that are harmful to wildlife.
 - **D.** Silver is a metal that is deadly to germs.



Reread/Think

- **4.** What is the meaning of the prefix *micro* in *microplastics*?
 - A. small
 - B. beyond
 - C. hard
 - **D.** without
- **5.** How is the information in "Water Heroes" organized?
 - **A.** It describes the causes and effects of water pollution.
 - **B.** It explains the changes in the water supply over many years.
 - **C.** It compares and contrasts the work of Ferreira and Dankovich.
 - **D.** It presents Ferreira and Dankovich's complete research.

Write

WIICC	666666666666666666666666666666666666666
Compare and contrast the text structures of "A Winning Idea" and "Water Heroes." How does the structure of each text help	WRITING CHECKLIST
you understand more about clean water solutions? Use at least three examples in your response.	☐ I compared the structures of two texts.
	I explained how each text structure helped me better understand the topic.
	_ I used complete sentences.
	I used correct spelling, punctuation, and capitalization.



Respond to the Focus Question

How can we make sure living things get the clean water they need?

Reread/Think

Reread your charts and written responses from this lesson. Think about what you've learned about access to clean water. Then complete the chart.

3 Important Details About Clean Water	2 Most Useful Clean Water Inventions	1 Question I Have About Clean Water
-		

Talk

Discuss the following question with your group:

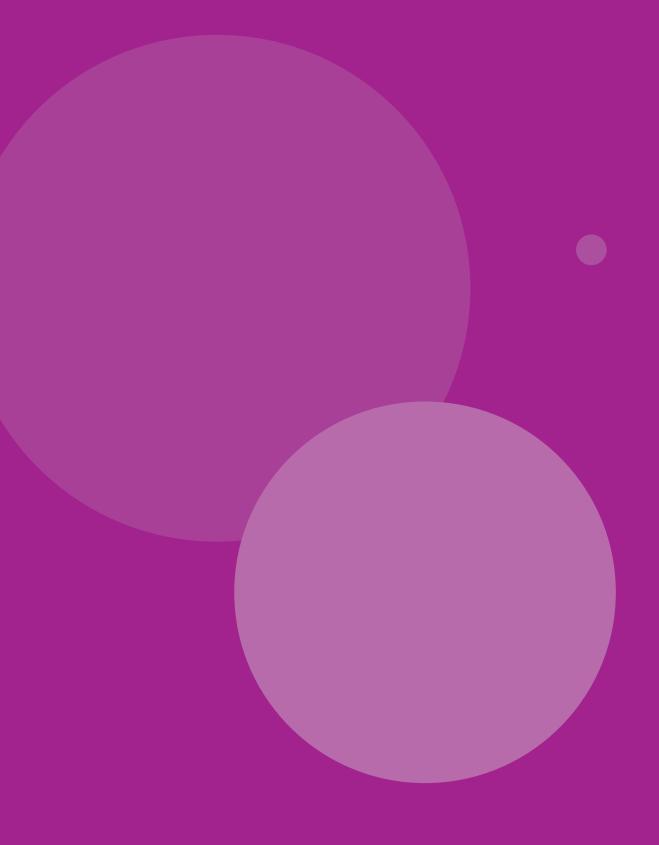
What is the most useful solution to the clean water problem and why?

I think the most useful solution is ___ because ___.

I agree/disagree with that choice because ___.

Write

Choose one invention or process you learned about in this lesson. Explain why it is a more creative solution than the others. Write a persuasive paragraph or create a visual presentation to convince others that your choice shows the most creative problem-solving.



Unit Assessments

Jnit 1 Assessment
Jnit 2 Assessment
Jnit 3 Assessment
Jnit 4 Assessment440
Jnit 5 Assessment
Jnit 6 Assessment464



Read this poem. Then answer the questions that follow.

The Spider and the Fly by Mary Howitt

- 1 "Will you walk into my parlor?" said the spider to the fly;
 "Tis the prettiest little parlor that ever you did spy.
 The way into my parlor is up a winding stair.
 And I have many pretty things to show when you are there."
- **5** "O no, no," said the little fly, "To ask me is **in vain**,

 For who goes up your winding stair can ne'er come down again."

"I'm sure you must be weary, dear, with soaring up so high; Will you rest upon my little bed?" said the spider to the fly. "There are pretty curtains drawn around, the sheets are fine and thin,

10 And if you like to rest awhile, I'll snugly tuck you in."
"O no, no," said the little fly, "for I've often heard it said,
They never, never wake again, who sleep upon your bed."

Said the cunning spider to the fly, "Dear friend, what shall I do, To prove the warm affection I've always felt for you?

I'm sure you're very welcome; will you please to take a slice?"
"O no, no," said the little fly, "kind sir, that cannot be;
I've heard what's in your pantry, and I do not wish to see."

"Sweet creature!" said the spider, "you're witty and you're wise,

I have a little looking-glass upon my parlor shelf,
If you'll step in one moment dear, you shall behold yourself."

"I thank you, gentle sir," she said, "for what you're pleased to say,
And bidding you good-morning now, I'll call another day."

parlor = living room; room for hosting guests
 in vain = pointless; not producing the result that is hoped for
 pantry = a closet or small room where food and other kitchen items are kept



- 25 The spider turned him round about, and went into his den, For well he knew the silly fly would soon be back again: So he wove a subtle web, in a little corner sly, And set his table ready to dine upon the fly. Then he came out to his door again, and merrily did sing,
- 30 "Come hither, hither, pretty fly, with the pearl and silver wing: Your robes are green and purple; there's a crest upon your head; Your eyes are like the diamond bright, but mine are dull as lead."
 - Alas, alas! how very soon this silly little fly, Hearing his wily flattering words, came slowly flitting by.
- 35 With buzzing wings she hung aloft, then near and nearer drew, Thinking only of her brilliant eyes, and green and purple hue—Thinking only of her crested head—poor foolish thing! At last, Up jumped the cunning spider, and fiercely held her fast. He dragged her up his winding stair, into his dismal den,
- 40 Within his little parlor; but she ne'er came out again!

 And now, dear little children, who may this story read,

 To idle, silly, flattering words, I pray you ne'er give heed;

 Unto an evil counselor close heart, and ear, and eye,

 And take a lesson from this tale of the Spider and the Fly.

give heed = pay attention



Respond to Text

Reread/Think

1. Read line 3 of the poem.

The way into my parlor is up a winding stair.

Which sentence below **best** describes the meaning of the metaphor in this line?

- **A.** The poet is comparing the spider's legs to steps on a winding stair.
- **B.** The spider is comparing the way the fly moves to a winding staircase.
- **C.** The poet is describing the spider as a friendly next-door neighbor to the fly.
- **D.** The spider is describing his web to the fly as if it were a human's house.

2. PART A

Read lines 30–32 of the poem. Underline the two similes. Then circle the word in each one that tells you it is a simile.

"Come hither, hither, pretty fly, with the pearl and silver wing: Your robes are green and purple; there's a crest upon your head; Your eyes are like the diamond bright, but mine are dull as lead."

PART B

What is the spider describing when he says "Your robes are green and purple"?		

- **3.** In line 36, why does the speaker call the fly a "poor foolish thing"?
 - **A.** because the fly flies by the web slowly
 - **B.** because the fly buzzes her wings loudly
 - **C.** because the fly races up the spider's winding stairs
 - **D.** because the fly believes the spider's flattering words
- 4. Throughout "The Spider and the Fly," the poet compares the spider's web to a human house. Reread each stanza listed in the chart. Fill in an example of how the poet builds the metaphor.

Stanza	Example
Stanza 2 (lines 7–12)	The spider describes his bed/curtains.
Stanza 3 (lines 13–18)	
Stanza 5 (lines 25–32)	



Read these science articles. Then answer the questions that follow.

Rescuing the Reefs by Meredith Maxwell



Scientists used a piece of an old ship to form this artificial coral reef.

- 1 Their strange shapes and bright colors look like something out of a dream. But coral reefs are very real. And they're full of life. These underwater structures can be found in many parts of the world. They are formed by coral polyps, tiny animals living close together. They grow along the ocean floor, connected by a single skeleton that gets bigger as they reproduce. Holes and tunnels within these structures provide food and hiding places for many fish and other sea creatures. In fact, a quarter of the world's fish depend on coral reefs for survival.
- 2 Human activities and a changing climate have damaged many coral reefs. But scientists are developing ways to build them back up. One method involves using artificial, or human-made, materials to create a new reef. A second method involves regrowing corals on damaged natural reefs. Both methods achieve similar results, but upon comparison, they each have good points and bad points.
- 3 Artificial reefs are created by placing a human-made structure, such as an old ship, on the ocean floor. Coral polyps then attach themselves to the sunken object. One benefit of this method is that an artificial reef can be placed wherever it is needed. An artificial reef can also be larger than many natural reefs. However, an artificial reef may tip over or break apart in ocean waves and currents. It can also pollute. Over time, some of its materials can break down and release chemicals into the water.

- 4 The second method **restores** the coral on a damaged reef. Scientists grow pieces of healthy coral in an underwater "nursery" and attach them to the reef. This process is called coral gardening. Unlike the artificial reef method, coral gardening involves few human-made materials. As a result, there's less chance of pollution. Also, compared with many artificial reefs, natural reefs are very sturdy. They can withstand powerful ocean **turbulence**. On the other hand, coral gardening is often more difficult and expensive than creating an artificial reef.
- **5** Restoring natural coral reefs and building artificial ones take time and money. But experts believe the effort is worth it if we want to keep the ocean's underwater dreamworlds alive.

restores = repair or heals something

turbulence = sudden rough or shaky movements in water or air

A scuba diver works in a coral garden.





The Race to Save Florida's Coral Reefs

by Alice Cary

- 1 The Great Florida Reef is a national treasure. It is the only living coral reef system in the United States. At about 350 miles (560 kilometers) long, it is the third largest of its kind in the world. It contains more than 6,000 different reefs and over 80 species of coral, which provide shelter for millions of plants and animals. However, Florida's reefs are in serious trouble. Rising temperatures, disease, pollution, and human activity are threatening the corals. In recent decades, Florida has lost about 90 percent of the live corals that form the reefs. Now, the race is on to save the rest.
- 2 Scientists are using several solutions to address the problem of Florida's dying reefs. One solution is to collect broken fragments of coral and grow them into much bigger pieces. This is being done in underwater coral "nurseries" off the coast of the **Florida Keys**. Once the newly grown pieces are large enough, divers use special glue to attach them to reefs. Since 2007, the Coral Restoration Foundation has added more than 120,000 corals.

species = a class of animals or plants that have certain traits in common **Florida Keys** = a long chain of islands that begins off the southern tip of Florida

- 3 Another solution involves antibiotics—medicines used to treat infections in humans. Antibiotics are helping to treat stony coral, a type of coral that is being attacked by disease. Divers apply the medicine to the coral. So far, these treatments have saved more than 2,000 corals in the Florida Reef.
- 4 One of the biggest efforts to save Florida's reefs is a project called "Mission: Iconic Reefs." Scientists are restoring the corals at seven major reef sites. One part of the work involves removing algae and other invasive life forms. The other part involves planting new corals. Scientists are using species that grow quickly or are resistant to disease. Over the next 20 years, the project hopes to restore nearly three million square feet of the reefs. That's about the size of 52 football fields!
- 5 A combination of these solutions can help save the Great Florida Reef. But there are still the ongoing problems of pollution and other harmful human activities. However, experts are hopeful that if we work together, this underwater treasure can be preserved.

invasive = spreading very quickly and doing harm





Respond to Text

Reread/Think

1. PART A

In "Rescuing the Reefs," the author states that scientists are developing ways to build up the world's reefs again. Based on paragraph 1, why are scientists most **likely** doing this work?

- **A.** because the reefs have sunk below the ocean floor
- **B.** because animals need the reefs to survive
- **C.** because tiny creatures have damaged the reefs
- **D.** because the reefs are filled with mysterious holes

PART B

Which sentence from the text **best** supports the answer to Part A?

- **A.** "Their strange shapes and bright colors look like something out of a dream."
- **B.** "These underwater structures can be found in many parts of the world."
- **C.** "They grow along the ocean floor, connected by a single skeleton that gets bigger as they reproduce."
- **D.** "Holes and tunnels within these structures provide food and hiding places for many fish and other sea creatures."

2.	SHORT RESPONSE According to the author of "Rescuing the Reefs," a benefit of artificial reefs is that they can be larger than many natural reefs. Why is being larger considered a benefit? Use details and quotations from the text to support your response.
3.	Read this sentence from paragraph 1 of "The Race to Save Florida's Coral Reefs."
	In recent decades, Florida has lost about 90 percent of the live corals that form the reefs.
	Why have so many live corals disappeared? Use words or phrases from paragraph 1 of the text to complete the sentence.
	The live corals have disappeared because



- 4. What is the meaning of the word resistant as it is used in paragraph 4 of "The Race to Save Florida's Coral Reefs"?
 - **A.** not affected by
 - **B.** likely to become
 - C. likely to damage
 - **D.** not produced by
- 5. Read each description in the chart below. Does the description tell about "Rescuing the Reefs," "The Race to Save Florida's Coral Reefs," or both? Complete the chart by writing the name of the correct text or the word *Both* next to each description.

Description	Text
an article that compares two methods of rebuilding coral reefs	
an article that tells how pieces of healthy corals are grown and attached to damaged reefs	
an article that explains the challenges facing some reefs and three solutions scientists are trying	



Write

EXTENDED RESPONSE Compare and contrast the text structures used in "Rescuing the Reefs" and "The Race to Save Florida's Coral Reefs." How does the way information is organized in each text help you understand important ideas about coral reefs and how they are being saved? Use details from both texts to support your response.	WRITING CHECKLIST ☐ I described the structures of both texts. ☐ I explained how each structure helped me understand the topic. ☐ I used details from both texts to support my response. ☐ I used complete sentences.
	☐ I used correct spelling, punctuation, and capitalization.

Glossary of Terms

Academic Talk Words and Phrases

A

account a written or spoken retelling of an event or topic
act a main section, or part, of a play
actions things that a person or character does
alliteration repetition of initial consonant sounds to create a special effect
allusion an indirect mention or reference to something
analyze to closely and carefully examine a text or part of a text

B

bar graph a graph that uses two or more bars to show amounts or numbers that are being compared

base word a complete word that has no prefixes or suffixes added to it

C

caption a phrase or sentence next to a picture in a text that explains something about the picture

cast of characters a list of all the characters in a play, usually in order of appearance or importance

cause a reason, event, or action that makes something else happen

cause and effect a relationship between events in which one event—the cause—brings about, or causes, another event—the effect

cause-effect text structure a text organization that describes events, what made them happen, and how they affect other people and events

central message an important lesson about people or life that the author of a story wants to share

challenge a problem or difficulty that needs to be solved

chapter a section, or part, of a story or book

character a person, animal, or made-up creature in a story or play

character trait a quality or characteristic that a character in a story has, such as courage, pride, or honesty

chart an image that shows or organizes information so that it is easier to understand

chronological text structure a text organization in which events are described in the order in which they happen

chronology the order in which events happen

climax the most exciting or important part of a story, which usually comes near the end

compare to describe how two or more things are similar

compare-contrast text structure a text organization that describes the similarities and differences between two or more things

conflict a challenge that a character faces; a disagreement that people, characters, or organizations have with one another

context clues words, phrases, or sentences near an unknown word or phrase in a text that help you determine the meaning of the unknown word or phrase

contrast to describe how two or more things are different

D

describe to tell what something is like; to explain something

details facts, examples, or other pieces of information in a text

determine to find out or figure out something

diagram a drawing or picture that explains what something looks like or how it works

dialogue the words the characters say in a story or play

direct quotation the exact words that an author wrote or a speaker said; these words go inside quotation marks

drama a story that is performed on a stage by actors

E

effect something that happens as a result of something elseevent something that happens in a story or in the natural world

Glossary of Terms (continued)

evidence facts, details, quotes, or other pieces of information used to support a point, idea, or reason

example something that shows what other things in a particular group are like **explain** to describe or give details about something so it can be understood

F

figurative language a word or phrase that means something different from its regular or literal meaning and is used to make a comparison or create a certain feeling or mental image

first-person point of view when the narrator of a story is a character in the story who describes events using the pronouns *I*, *me*, or *we*; a first-person narrator can describe their own thoughts and feelings but not what other characters think or feel

firsthand account an informational text about an event written by a person who witnessed the event or took part in it

G

glossary a list at the back of a book of important words from the text and their meaning

Н

heading a word or phrase at the beginning of a section of a text that tells what the section is about

historical fiction a story that takes place in the past

historical text an informational piece of writing that describes people, events, and ideas from the past

idea a thought, opinion, or belief that someone has about something
 identify to be able to say who or what a person or thing is
 illustration a picture in a text that gives more information about the text
 image a drawing, photograph, map, or chart that shows information about something in a text

infer to reach a conclusion about a text based on text clues and background knowledge

inference a conclusion, or an idea you have about a text, based on details in the text and your own background knowledge

information facts and details about someone or something

integrate to put together or combine information on a topic from more than one text

interaction the way people or things act with or affect one another

K

key detail an important fact, example, or other piece of information in a text that helps explain the main idea

key word a word in bold print that calls attention to an important idea or piece of information in a text

L

label a word or phrase that gives more information about an imagelesson something learned in a text or story or through experienceliteral having the usual or most basic meaning of a word's dictionary definition

M

main idea something important that an author wants readers to know about a topic

map a picture or drawing of an area that shows its cities, roads, rivers, mountains, and other features

metaphor a type of figurative language that compares two things without using the word *like* or *as*

mood the feeling a story creates in the reader; setting, word choice, and tone all contribute to mood

motivations the reasons why characters act, think, or feel the way they domyth an ancient story told by a people or culture that explains their origin and history

Glossary of Terms (continued)

N

narrator the person or character who tells a storynonliteral describing an unusual or unexpected meaning of a word or phrase

P

paragraph a group of sentences about a particular idea or topicpersonification a type of figurative language that gives human qualities or characteristics to animals or objects

perspective (informational texts) what an author thinks or feels about a topic **perspective (literary texts)** what a narrator or character thinks or feels about the events in a story

persuade to cause someone to do something or think a certain way about something by giving them good reasons for it

photo or photograph a picture made using a camera

phrase a short group of words that has meaning

play a story that is performed on stage by actors

plot the sequence of events in a story

poem a piece of writing in which the words are chosen for their beauty and sound; the words are often arranged in short lines

point an idea that an author wants readers to remember or believe is true **point of view (informational texts)** what an author thinks or feels about a topic

point of view (literary texts) what a narrator or character thinks or feels about the events in a story

predict to say what you think will happen in the future

prefix a word part that comes at the beginning of a word and changes the word's meaning

problem a challenge that the main character or characters face **problem-solution text structure** a text organization that describes one or

more problems and solutions

Q

quote the exact words that an author wrote or a speaker said; these words go inside quotation marks

R

reason an explanation why an idea or point is correct or true

recount to retell events and details of a story or text in the order in which they happen using your own words

relationship the way in which two or more people, events, or things are connected

repetition the use of repeated words or sounds to show that something is important or to create a certain effect

research serious study of a topic, or the facts learned during that studyresolution the part of a story when the main conflict or problem is solved or when the main goal is reached; the resolution happens at the end of a storyrespond to make a reply; to answer

result something that happens or exists because of something else that happened before

rhyme the repeated use of words that end in the same or similar sounds
rhythm the regular pattern of sounds in a poem or beats in a piece of music
rising action the part of a story when the main conflict or problem builds,
creating excitement or suspense

S

scan to look quickly through a text to find a particular word or piece of information

scene a part of a play in which all the action takes place in the same setting; one or more scenes make up each act of a play

scientific text a piece of writing that gives information about a science topic or about how or why something happens in the natural world

secondhand account an informational text about a topic or event written by someone who did not experience it but instead found information and facts about it

Glossary of Terms (continued)

- **section** a particular part of something, such as a paragraph or a chapter of a book
- **sensory details** details that describe the way something looks, sounds, feels, smells, or tastes
- **sequence** the order in which events or steps in a process happen
- **setting** where and when a story or play takes place
- **sidebar** a short text, often boxed, placed near the main text that gives more information about the topic
- signal words words or phrases that show the connection between ideas or events
- **simile** a type of figurative language that compares two things using the word like or as
- **skim** to read through something quickly to find the main facts or ideas
- **solution** the answer to a problem; the way the main characters resolve the conflict at the center of a story
- **source** a text or image that gives information about a specific subject area or topic; a source may be printed or digital
- **stage directions** instructions in a play that tell what actors should do, how actors should speak, and what should appear or happen on stage
- **stanza** several lines of a poem that are grouped together to form one part of the poem
- **steps in a process** a set of actions or directions to take in order to make or do something
- **story elements** the major parts of a story, including the setting, characters, problem, solution, and theme
- **structure** the particular way an author organizes a text, such as acts for a drama or stanzas for a poem
- summarize to briefly retell in your own words the most important ideas, events, and details of a text
- **summary** a short retelling of a text that includes the main idea and key details of a text, or the important events and details of a story
- **support** to help explain or provide evidence for a main idea in a text

T

table of contents a list at the front of a book of the sections or chapters of the book in the order in which they appear

technical text a piece of writing that explains how to make or do something **text evidence** a detail, fact, or example in a piece of writing that can be used to support an idea

text features special parts of a text that help you find certain information or learn more about a topic; titles, headings, sidebars, pictures, timelines, and glossaries are examples of text features

text structure the way an author organizes the ideas and information in a piece of writing; text structures include comparison, cause-effect, chronology, and problem-solution

theme an important message or lesson that an author wants to share about people or life

third-person point of view when the narrator of a story is not a character in the story and describes events using pronouns such as *he*, *she*, and *they*; a third-person narrator can describe what different characters think and feel

timeline a chart or image that shows the dates of important events in the order they happened, sometimes with additional details about the events

title the name of a text

tone the general feeling or attitude of a text or story

topic the general subject of a text

trait a quality or characteristic that a person or character in a story has, such as courage, pride, or honesty

V

visual an image or picture that appears with a text; visuals can include illustrations, photos, charts, diagrams, and timelines

visual elements features of an image that an artist can use to show meaning or feeling; shape and color are examples of visual elements