



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 10

Mid-Unit 2 Assessment: Research Task: **Comparing and Contrasting Texts**



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can contrast how multiple authors emphasize evidence or interpret facts differently when presenting information on the same topic. (RI.7.9)
I can conduct short research projects to answer a question. (W.7.7)
I can generate additional questions for further research. (W.7.7)
I can gather relevant information from a variety of sources. (W.7.8)
I can use search terms effectively. (W.7.8)
I can evaluate the credibility and accuracy of each source. (W.7.8)
I can quote or paraphrase others' work while avoiding plagiarism. (W.7.8)
I can use a variety of strategies to determine the meaning of unknown words or phrases. (L.7.4)

Supporting Learning Targets

- I can contrast how two authors emphasize different evidence on the topic of desalination.
- I can gather relevant information from sources.
- I can correctly paraphrase information I gather from "Get the Salt Out."
- I can generate strong supporting research questions.
- I can use search terms effectively to gather relevant information about water management.
- I can evaluate a source's accuracy and credibility.
- I can consult a dictionary to determine or clarify the meaning of a word.
- I can use a dictionary to verify the preliminary determination of the meaning of a word or phrase.

Ongoing Assessment

- Mid-Unit 2 Assessment



Agenda	Teaching Notes
1. Opening A. Entry Task (15 minutes) 2. Work Time A. Mid-Unit 2 Assessment (28 minutes) 3. Closing and Assessment A. Collect Assessments (2 minutes) 4. Homework A. Continue reading your independent reading for this module.	• This lesson includes the Mid-Unit 2 Assessment, which assesses RI.7.9, W.7.7, W.7.8, and L.7.4. In this assessment, students will use two texts: pages 203–205 of <i>The Big Thirst</i> and an article, “Get the Salt Out,” both about desalination. • Since <i>The Big Thirst</i> is such a complex text, students have the opportunity to work with a partner in the Opening to complete a Tracing the Argument note-catcher. This is to ground them well in one of the texts. The other text is part of the assessment and should be read and analyzed by students individually so they can be accurately assessed. • Consider giving struggling students more time to complete the assessment. • Post: Learning targets.

Lesson Vocabulary	Materials
desalination	• Tracing an Argument note-catcher (from Unit 1, Lesson 7; one new copy per student) • Mid-Unit 2 Assessment: Simulated Research Task: Water Management Strategies (one per student) • Mid-Unit 2 Assessment: Simulated Research Task: Water Management Strategies (answers, for teacher reference)



Opening	Meeting Students' Needs
A. Entry Task (15 minutes) • As students enter, distribute a new Tracing an Argument note-catcher. Invite them to work with an elbow partner to fill out their note-catchers based on the reading they did for homework. Remind them that this will help them on the Mid-Unit 2 Assessment, so they should be as thorough as possible. • As students work, circulate to check that their homework is complete. • When they are finished, invite them to read the learning targets: * “I can contrast how two authors emphasize different evidence on the topic of desalination.” * “I can gather relevant information from sources.” * “I can correctly paraphrase information I gather from ‘Get the Salt Out.’” * “I can generate strong supporting research questions.” * “I can use search terms effectively to gather relevant information about water management.” * “I can evaluate a source’s accuracy and credibility.” * “I can consult a dictionary to determine or clarify the meaning of a word.” * “I can use a dictionary to verify the preliminary determination of the meaning of a word or phrase.” • Point out that students have been practicing all these skills in the previous lessons. Ask them to locate a learning target that they also practiced while using their researcher’s notebook and raise their hand when they have found one. When most hands are up, cold call several students. Listen for them to name any of the learning targets, except the first one. • Ask students to reread the first learning target. Point out the word <i>desalination</i>. They read about desalination for homework. Encourage them to raise their hand if they can define desalination. Call on someone and listen for: “Desalination is a process that takes the salt out of water so that it’s freshwater.”	• The purpose of the Opening is to provide students with a solid understanding of the excerpt of <i>The Big Thirst</i> before they compare it to the text in the assessment. Consider pairing students strategically during this time. • To be successful on the assessment, students need to understand the term <i>desalination</i>. Consider checking in with SPED students and ELLs before the assessment begins to make sure they understand it.



Work Time	Meeting Students' Needs
A. Mid-Unit 2 Assessment (28 minutes) - Assure students that there are no tricks to this assessment; it follows what they have been doing in Lessons 1–9. Point out that there is another text, “Get the Salt Out,” on the assessment. They will read it and respond to it, and then they will need the Tracing the Argument note-catcher that they completed during the Opening to compare the two authors’ use of evidence. - Remind students that everyone needs to remain silent until the entire class is finished, and that this commitment is how they show respect for each other—it is non-negotiable. Write on the board: “If you finish early, you can ...” and include suggestions they made in Module 1, Unit 1, Lesson 14. - Distribute the Mid-Unit 2 Assessment: Simulated Research Task: Water Management Strategies to each student. Remind them that they can and should refer to their texts as they complete the assessment. Tell them you will be concerned if you do not see them rereading as they complete the assessment.	Consider allowing SPED students and ELLs more time to complete their assessment.

Closing and Assessment	Meeting Students' Needs
A. Collect Assessments (2 minutes) Collect students’ assessments. Congratulate them on having completed it. Point out students who showed positive test-taking strategies such as rereading the text, reading the questions several times, or crossing out answers they know are incorrect.	
Homework	Meeting Students' Needs
Continue reading your independent reading book for this module.	



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Grade 7: Module 4B: Unit 2: Lesson 10

Supporting Materials



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Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies

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Name:

.....
Date:

Long-Term Learning Targets:

- I can contrast how multiple authors emphasize evidence or interpret facts differently when presenting information on the same topic. (RI.7.9)
- I can conduct short research projects to answer a question. (W.7.7)
- I can generate additional questions for further research. (W.7.7)
- I can gather relevant information from a variety of sources. (W.7.8)
- I can use search terms effectively. (W.7.8)
- I can evaluate the credibility and accuracy of each source. (W.7.8)
- I can quote or paraphrase others' work while avoiding plagiarism. (W.7.8)
- I can use a variety of strategies to determine the meaning of unknown words or phrases. (L.7.4)

Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies

Directions: Read “Get the Salt Out” by Karen E. Lange and fill in the graphic organizer that follows.

Get the Salt Out

There’s no shortage of water on the blue planet—just a shortage of fresh water. New technologies may offer better ways to get the salt out.

Three hundred million people now get their water from the sea or from brackish groundwater that is too salty to drink. That’s double the number a decade ago. Desalination took off in the 1970s in the Middle East and has since spread to 150 countries. Within the next six years new desalination plants may add as much as 13 billion gallons a day to the global water supply, the equivalent of another Colorado River. The reason for the boom is simple: As populations grow and agriculture and industry expand, fresh water—especially clean fresh water—is getting scarcer. “The thing about water is, you gotta have it,” says Tom Pankratz, editor of the *Water Desalination Report*, a trade publication. “Desalination is not a cheap way to get water, but sometimes it’s the only way there is.”

And it’s much cheaper than it was two decades ago. The first desalination method—and still the most common, especially in oil-rich countries along the Persian Gulf—was brute-force distillation: Heat seawater until it turns to steam, leaving its salt behind, then condense it. The current state of the art, used, for example, at plants that opened recently in Tampa Bay, Florida, and Perth, Australia, is reverse osmosis, in which water is forced through a membrane that catches the salt. Pumping seawater to pressures of more than a thousand pounds per square inch takes less energy than boiling it—but it is still expensive.

Researchers are now working on at least three new technologies that could cut the energy required even further. The closest to commercialization, called forward osmosis, draws water through the **porous** membrane into a solution that contains even more salt than seawater, but a kind of salt that is easily evaporated. The other two approaches redesign the membrane itself—one by using carbon nanotubes as the pores, the other by using the same proteins that usher water molecules through the membranes of living cells.



Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies

None of the three will be a solution for all the world's water woes. Desalination inevitably leaves behind a concentrated brine, which can harm the environment and even the water supply itself. Brine discharges are especially tricky to dispose of at inland desalination plants, and they're also raising the salinity in parts of the shallow Persian Gulf. The saltier the water gets, the more expensive it becomes to desalinate.

What's more, none of the new technologies seem simple and cheap enough to offer much hope to the world's poor, says geologist Farouk El-Baz of Boston University. He recently attended a desalination-industry conference looking for ways to bring fresh water to the war-torn Sudanese region of Darfur. "I asked the engineers, 'What if you are in a tiny village of 3,000, and the water is a hundred feet underground and laden with salt, and there is no electricity?'" El-Baz says. "Their mouths just dropped." —*Karen E. Lange*

Lange, Karen E. "Get the Salt Out." National Geographic.com. 15 March 2010. <http://ngm.nationalgeographic.com/big-idea/09/desalination>



Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies

.....
Name:

.....
Date:

Directions: Fill out the graphic organizer based on “Get the Salt Out.”

Name of Text: Get the Salt Out		
Author/Speaker’s Name: Karen E. Lange		
Claim: Desalination is not a solution for our water problems.		
Supporting Evidence 1	Supporting Evidence 2	Supporting Evidence 3
<i>What type of evidence is this? (Circle one)</i> anecdote analogy/metaphor fact/statistic testimony	<i>What type of evidence is this? (Circle one)</i> anecdote analogy/metaphor fact/statistic testimony	<i>What type of evidence is this? (Circle one)</i> anecdote analogy/metaphor fact/statistic testimony



Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies

Supporting Evidence 4	Supporting Evidence 5	Supporting Evidence 6
<i>What type of evidence is this?</i> (Circle one) anecdote analogy/metaphor fact/statistic testimony	<i>What type of evidence is this?</i> (Circle one) anecdote analogy/metaphor fact/statistic testimony	<i>What type of evidence is this?</i> (Circle one) anecdote analogy/metaphor fact/statistic testimony

1. In “Get the Salt Out,” Lange uses which evidence to support her claim? (Circle all that apply.) (RI.7.9)
- A. Desalination will increase the freshwater available by 40 percent.
 - B. None of the new technologies will help the world’s poor.
 - C. Desalination is expensive.
 - D. Sometimes, desalination is the only way to get freshwater.



Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies

2. Briefly paraphrase this excerpt from “Get the Salt Out.” (W.7.8)

“Three hundred million people now get their water from the sea or from brackish groundwater that is too salty to drink. That’s double the number a decade ago.”

3. Reread the following sentence from “Get the Salt Out,” then answer the questions that follow. (L.7.4) *“The closest to commercialization, called forward osmosis, draws water through the **porous** membrane into a solution that contains even more salt than seawater, but a kind of salt that is easily evaporated.”*

i. What is your initial idea of the meaning of the word <i>porous</i> ?	
ii. What strategy did you use to determine an initial meaning for this word?	
iii. Look this word up in a reference. What is the definition of this word?	



Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies

4. List two pieces of information from each source that would help you answer the question: “Should people rely on desalination to manage water better?” (W.7.8)

The Big Thirst	1.
	2.
“Get the Salt Out”	1.
	2.

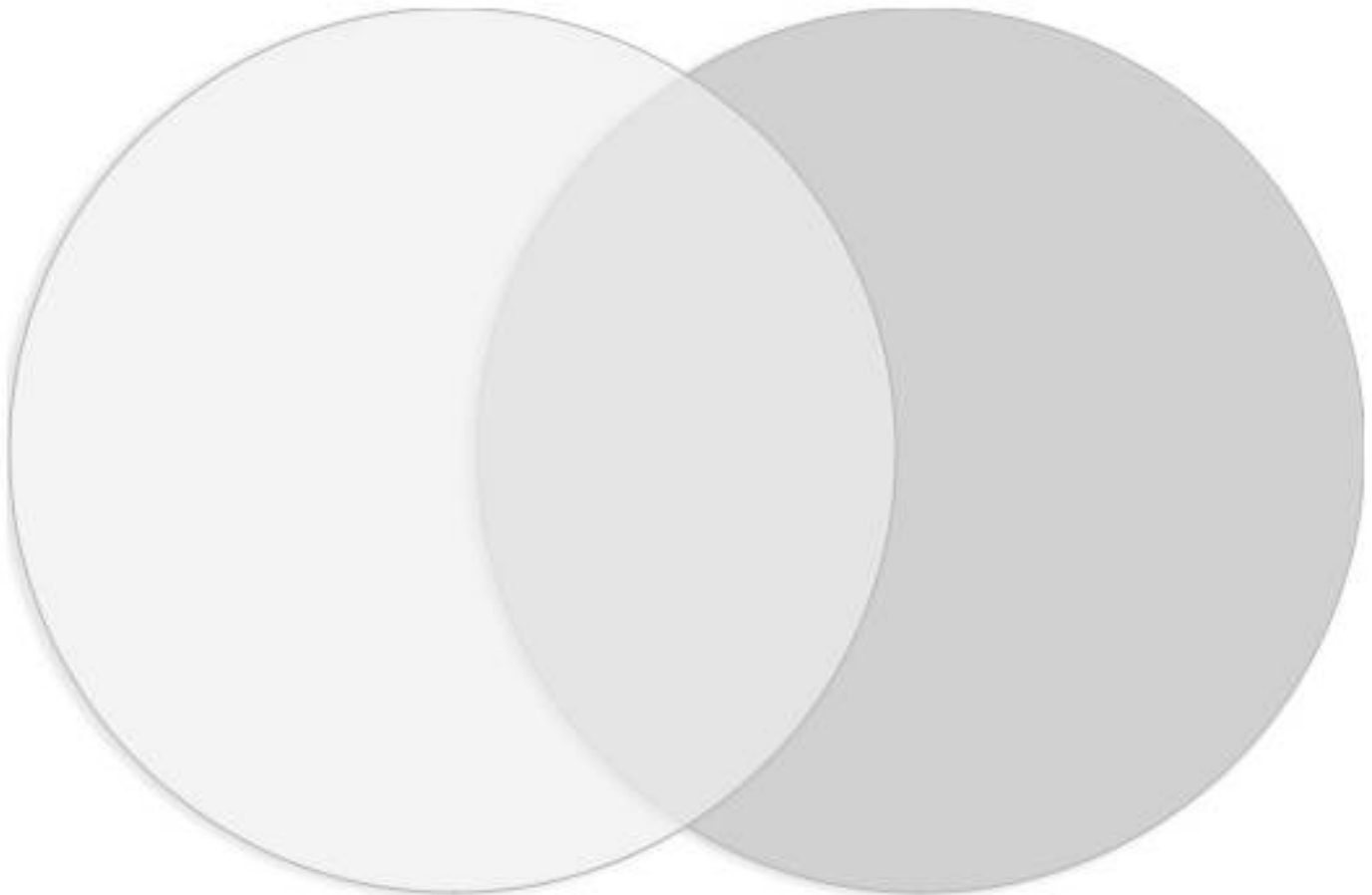


Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies

5. Use the Venn diagram below to compare and contrast how Fishman (from the homework) and Lange use evidence to support their claims about desalination. (RI.7.9)

The Big Thirst

“Get the Salt Out”





Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies

6. To find more information about desalination, which of these sources would most likely be accessible, credible, and relevant? (W.7.8)
- A. A blog about water written by a college student
 - B. b. A brochure published by a desalination company
 - C. An article from an educational magazine focused on environmental issues
 - D. A book published by a history professor

Please explain your choice, keeping in mind the likely accessibility, credibility, and relevancy of the source.

7. To find more information to answer the question “Should people rely on desalination to manage water better?” which of these would be good search terms? (Circle all that apply.) (W.7.8)
- A. Desalination history
 - B. Water management brine
 - C. Problems of desalination
 - i. Saltwater
 - ii. Desalination advantages





Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies – Answers for Teacher Reference

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Name:

.....
Date:

Long-Term Learning Targets:

- I can contrast how multiple authors emphasize evidence or interpret facts differently when presenting information on the same topic. (RI.7.9)
- I can conduct short research projects to answer a question. (W.7.7)
- I can generate additional questions for further research. (W.7.7)
- I can gather relevant information from a variety of sources. (W.7.8)
- I can use search terms effectively. (W.7.8)
- I can evaluate the credibility and accuracy of each source. (W.7.8)
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Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies – Answers for Teacher Reference

Directions: Read “Get the Salt Out” by Karen E. Lange and fill in the graphic organizer that follows.

Get the Salt Out

There’s no shortage of water on the blue planet—just a shortage of fresh water. New technologies may offer better ways to get the salt out.

Three hundred million people now get their water from the sea or from brackish groundwater that is too salty to drink. That’s double the number a decade ago. Desalination took off in the 1970s in the Middle East and has since spread to 150 countries. Within the next six years new desalination plants may add as much as 13 billion gallons a day to the global water supply, the equivalent of another Colorado River. The reason for the boom is simple: As populations grow and agriculture and industry expand, fresh water—especially clean fresh water—is getting scarcer. “The thing about water is, you gotta have it,” says Tom Pankratz, editor of the *Water Desalination Report*, a trade publication. “Desalination is not a cheap way to get water, but sometimes it’s the only way there is.”

And it’s much cheaper than it was two decades ago. The first desalination method—and still the most common, especially in oil-rich countries along the Persian Gulf—was brute-force distillation: Heat seawater until it turns to steam, leaving its salt behind, then condense it. The current state of the art, used, for example, at plants that opened recently in Tampa Bay, Florida, and Perth, Australia, is reverse osmosis, in which water is forced through a membrane that catches the salt. Pumping seawater to pressures of more than a thousand pounds per square inch takes less energy than boiling it—but it is still expensive.

Researchers are now working on at least three new technologies that could cut the energy required even further. The closest to commercialization, called forward osmosis, draws water through the **porous** membrane into a solution that contains even more salt than seawater, but a kind of salt that is easily evaporated. The other two approaches redesign the membrane itself—one by using carbon nanotubes as the pores, the other by using the same proteins that usher water molecules through the membranes of living cells.



Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies – Answers for Teacher Reference

None of the three will be a solution for all the world's water woes. Desalination inevitably leaves behind a concentrated brine, which can harm the environment and even the water supply itself. Brine discharges are especially tricky to dispose of at inland desalination plants, and they're also raising the salinity in parts of the shallow Persian Gulf. The saltier the water gets, the more expensive it becomes to desalinate.

What's more, none of the new technologies seem simple and cheap enough to offer much hope to the world's poor, says geologist Farouk El-Baz of Boston University. He recently attended a desalination-industry conference looking for ways to bring fresh water to the war-torn Sudanese region of Darfur. "I asked the engineers, 'What if you are in a tiny village of 3,000, and the water is a hundred feet underground and laden with salt, and there is no electricity?'" El-Baz says. "Their mouths just dropped." —*Karen E. Lange*

Lange, Karen E. "Get the Salt Out." National Geographic.com. 15 March 2010. <http://ngm.nationalgeographic.com/big-idea/09/desalination>



Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies – Answers for Teacher Reference

Directions: Fill out the graphic organizer based on “Get the Salt Out.” NOTE: Answers may vary.

Name of Text: Get the Salt Out		
Author/Speaker’s Name: Karen E. Lange		
Claim: Desalination is not a solution for our water problems.		
Supporting Evidence 1	Supporting Evidence 2	Supporting Evidence 3
“Desalination is not a cheap way to get water, but sometimes it’s the only way there is.”	Pumping seawater to pressures of more than a thousand pounds per square inch takes less energy than boiling it—but it is still expensive.	Desalination inevitably leaves behind a concentrated brine, which can harm the environment and even the water supply itself.
<i>What type of evidence is this? (Circle one)</i> anecdote analogy/metaphor fact/statistic testimony	<i>What type of evidence is this? (Circle one)</i> anecdote analogy/metaphor fact/statistic testimony	<i>What type of evidence is this? (Circle one)</i> anecdote analogy/metaphor fact/statistic testimony



Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies – Answers for Teacher Reference

Supporting Evidence 4	Supporting Evidence 5	Supporting Evidence 6
They're also raising the salinity in parts of the shallow Persian Gulf.	The saltier the water gets, the more expensive it becomes to desalinate.	None of the new technologies seem simple and cheap enough to offer much hope to the world's poor, says geologist Farouk El-Baz of Boston University.
<i>What type of evidence is this? (Circle one)</i> anecdote analogy/metaphor fact/statistic testimony	<i>What type of evidence is this? (Circle one)</i> anecdote analogy/metaphor fact/statistic testimony	<i>What type of evidence is this? (Circle one)</i> anecdote analogy/metaphor fact/statistic testimony

- In "Get the Salt Out," Lange uses which evidence to support her claim? (Circle all that apply.) (RI.7.9)
 - Desalination will increase the freshwater available by 40 percent.**
 - None of the new technologies will help the world's poor.**
 - Desalination is expensive.**
 - Sometimes, desalination is the only way to get freshwater.**

Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies – Answers for Teacher Reference

2. Briefly paraphrase this excerpt from “Get the Salt Out.” (W.7.8)

“Three hundred million people now get their water from the sea or from brackish groundwater that is too salty to drink. That’s double the number a decade ago.” NOTE: Answers may vary.

The number of people who get freshwater from salty water has doubled in the last ten years to three hundred million people.

3. Reread the following sentence from “Get the Salt Out,” then answer the questions that follow. (L.7.4) “The closest to commercialization, called forward osmosis, draws water through the **porous** membrane into a solution that contains even more salt than seawater, but a kind of salt that is easily evaporated.” NOTE: Answers will vary.

i. What is your initial idea of the meaning of the word <i>porous</i> ?	Porous means “full of holes.”
ii. What strategy did you use to determine an initial meaning for this word?	I used context. If water can get through, there must be a way for that to happen.
iii. Look this word up in a reference. What is the definition of this word?	having minute holes through which liquid or air may pass



Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies – Answers for Teacher Reference

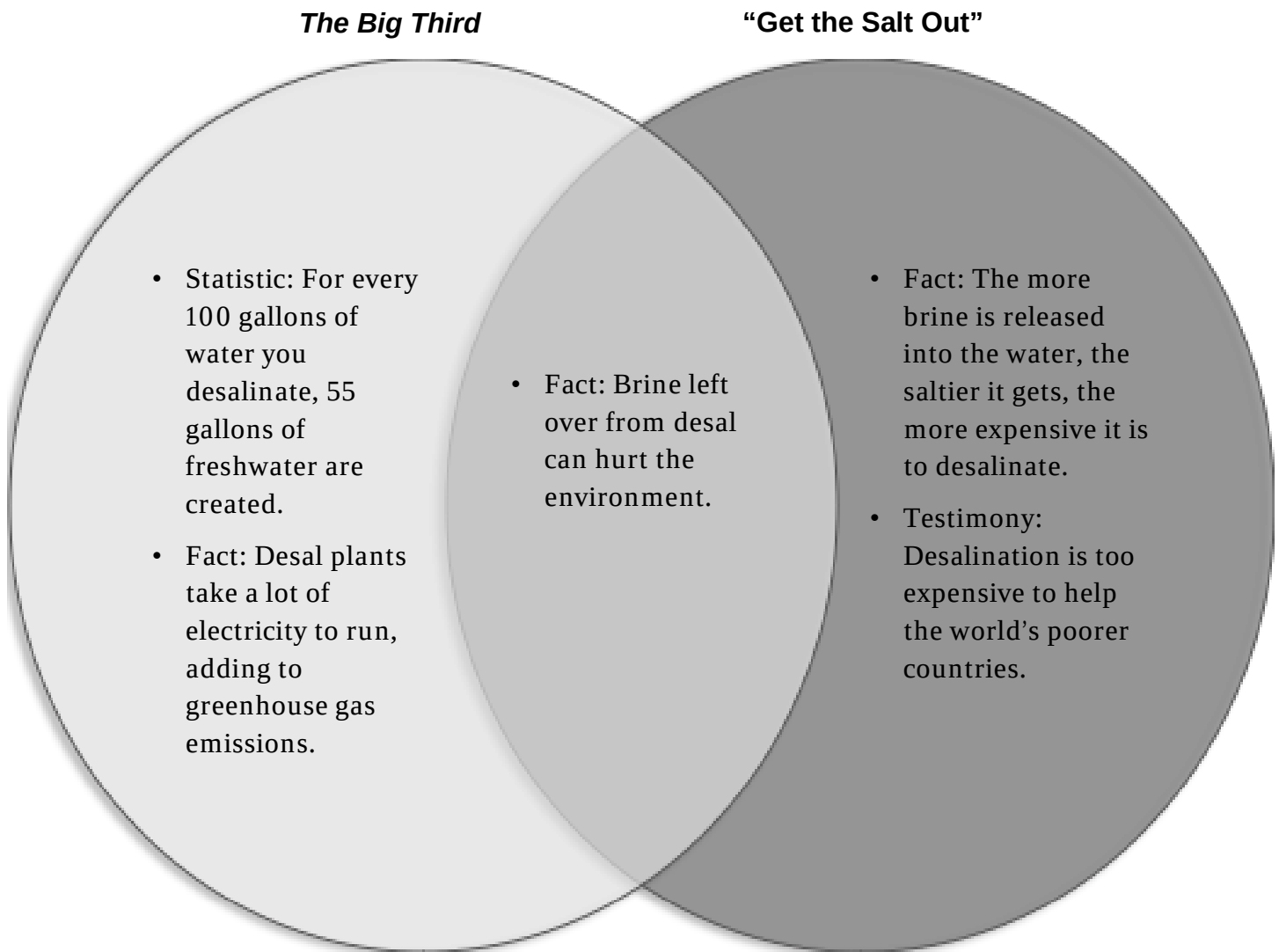
4. List two pieces of information from each source that would help you answer the question: “Should people rely on desalination to manage water better?” (W.7.8)

The Big Thirst	1. The salty water left over after desalination can hurt the environment when it’s put back in the ocean.
	2. Desalination plants cause more climate change because they take a lot of electricity to run.
“Get the Salt Out”	1. Desalination isn’t the least expensive way to get freshwater, but sometimes it is the only way.
	2. Desalination isn’t cheap enough to help the world’s poorest populations.



Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies – Answers for Teacher Reference

5. Use the Venn diagram below to compare and contrast how Fishman (from the homework) and Lange use evidence to support their claims about desalination. (RI.7.9)





Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies

6. To find more information about desalination, which of these sources would most likely be accessible, credible, and relevant? (W.7.8)
- A. A blog about water written by a college student
 - B. A brochure published by a desalination company
 - C. **An article from an educational magazine focused on environmental issues**
 - D. **A book published by a history professor** (*Note: students could reasonably choose this if they can justify it well.*)

Please explain your choice, keeping in mind the likely accessibility, credibility, and relevancy of the source. *NOTE: Answers will vary.*

An article from an educational magazine focused on environmental issues is accessible because it is aimed at students. It will be credible because the purpose of an educational magazine is to inform people, and they usually rely on experts, facts and statistics. It would also be relevant to my research because it is focused on environmental issues, and the mismanagement of freshwater is an environmental issue

7. To find more information to answer the question “Should people rely on desalination to manage water better?” which of these would be good search terms? (Circle all that apply.) (W.7.8)
- A. Desalination history
 - B. Water management brine
 - C. **Problems of desalination**
 - D. Saltwater
 - E. **Desalination advantages**



Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies

8. Based on the excerpts from *The Big Thirst* and “Get the Salt Out,” write two additional supporting research questions. (W.7.7)
- **What alternatives to desalination exist for places like Perth, Australia?**
 - **What is being done to make desalination more environmentally friendly?**
9. Based on these two texts, how would you answer the question: “Should people rely on desalination to manage water more sustainably?” Use evidence from the texts to support your answer. (W.7.7). (Score students’ responses using the NYS 2-Point Holistic Rubric).

Based on *The Big Thirst* and “Get the Salt Out,” people should not rely on desalination to manage water more sustainably. According to Fishman, the process of desalination creates brine, very salty water, and that water is released back into the oceans. When that happens, the extra salt can hurt the ecosystem. As the author points out in “Get the Salt Out,” when you add brine back into the ocean, it becomes saltier, so it is harder to desalinate. The same author also points out how expensive desalination is, and that it won’t help in many of the places that may need it the most. Lastly, as it says in *The Big Thirst*, desalination plants use a lot of electricity, which only make climate change (the major reason for shifting weather patterns and lack of rain in some places) worse. That means that desalination could lead to more problems in the future. So, people should not rely on desalination to manage water more sustainably.