



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Overview



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Unit 2: Research Study: Industrial and Agricultural Water Management

In this unit, students continue to conduct close readings and engage in independent research into the ways that both industry and agriculture currently use fresh water resources and how sustainable water management could be improved. Students keep a researcher's notebook in which they document their research findings, generate supporting research questions, and analyze the credibility of their sources as they determine how different authors use evidence to prove their points. In the mid-unit assessment, students engage in a simulated research task focused on water management strategies (RI.7.9, W.7.7, W.7.8, L.7.4c, L.7.4d). The assessment will incorporate selected response and short constructed response questions in order to assess students' ability to research.

After the mid-unit assessment, students engage in a structured decision-making process to address the question: Which category of water management would be a good place to begin to make the way we manage water more sustainable? The process guides students to consider the information they gathered while researching, as well as the consequences and impact on stakeholders of each possible position. This leads students to the two-part end of unit assessment. In Part 1, students engage in a Fishbowl discussion about the possible positions they can take (SL.7.1). In Part 2, students will formally present their position (SL.7.4, SL.7.5, SL.7.6).

Guiding Questions and Big Ideas

- **How can I use the research process to answer questions and generate more?**
- **How do I best determine what sources to use while researching?**
- **How do I make an informed decision?**
- **What are the consequences of how industry and agriculture use water?**
- **What are the first steps of managing water more sustainably?**
- *More sustainable agricultural and industrial water management can have a big impact on the planet's fresh water.*
- *Research requires finding high-quality sources and relevant information.*
- *Making informed decisions includes weighing evidence and considering personal values.*



Mid-Unit 2 Assessment	<p>Simulated Research Task: Water Management Strategies</p> <p>This assessment centers on NYSP12 ELA CCLS RI.7.9, W.7.7, W.7.8, L.7.4c, and L.7.4d. For this assessment, students will read an excerpt of <i>The Big Thirst</i> before the assessment and the article “Get the Salt Out” during the assessment itself as part of a simulated research task. Then students will answer selected response and short constructed response questions about the two texts and the research process.</p>
End of Unit 2 Assessment	<p>Making a Claim about Water Management</p> <p>This assessment has two parts. In the first part, students engage in a Fishbowl discussion of the two possible answers to the question: Which category of water management would be a good place to begin to make the way we manage water more sustainable? Part 1 of the assessment centers on NYSP12 ELA CCLS SL.7.1, SL.7.1a, and SL.7.1e. In Part 2, students orally present their position in answer to the same question. The second part of the assessment centers on NYSP12 ELA CCLS SL.7.3a, SL.7.4, SL.7.5, SL.7.6, and RI.7.9.</p>



Content Connections

This module is designed to address English Language Arts standards as students read informational texts about water management and sustainability. However, the module intentionally incorporates Science concepts and themes to support potential interdisciplinary connections to this compelling content. These intentional connections are described below.

Big ideas and guiding questions are informed by the Next Generation Science Standards:

Influence of Engineering, Technology, and Science on Society and the Natural World

All human activity draws on natural resources and has both short- and long-term consequences, positive as well as negative, for the health of people and the natural environment.

The Roles of Water in Earth's Surface Processes

- Water continually cycles among land, ocean, and atmosphere via transpiration, evaporation, condensation and crystallization, and precipitation, as well as downhill flows on land (MS-ESS2-4).

Earth and Human Activity

- Construct an argument supported by evidence for how increases in human population and per-capital consumption of natural resources impact earth's systems.

Central Texts

1. Barbara Kingsolver, "Water Is Life," in *National Geographic* (April 2010), <http://ngm.nationalgeographic.com/2010/04/water-is-life/kingsolver-text>.
2. Charles Fishman, *The Big Thirst: The Secret Life and Turbulent Future of Water* (New York: Free Press, 2012), ISBN: 978-1-4391-0208-4.
3. Daniel C. Edelson, Adam Tarnoff, Kathleen Schwille, Meridith Bruozas, and Anna Switzer, "Learning to Make Systematic Decisions," in *The Science Teacher* (Vol. 73, Issue 4), 2006.
4. Various research sources (beginning in Lesson 7).



This unit is approximately 3.5 weeks or 17 sessions of instruction.

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 1	Contrasting Evidence: “Water Is Life” and <i>The Big Thirst</i>	<ul style="list-style-type: none"> I can contrast how multiple authors emphasize evidence or interpret facts differently when presenting information on the same topic. (RI.7.9) 	<ul style="list-style-type: none"> I can contrast how Barbara Kingsolver and Charles Fishman use different evidence to prove similar claims. 	<ul style="list-style-type: none"> Tracing the Argument note-catcher (Kingsolver) (from Unit 1, Lesson 10) Tracing the Argument note-catcher (Fishman) (from Unit 1, Lesson 8) Venn diagram and Venn diagram reflection questions 	<ul style="list-style-type: none"> Domain-Specific Vocabulary
Lesson 2	Analyzing Interaction: Categories of Water Management in <i>The Big Thirst</i>	<ul style="list-style-type: none"> I can analyze the interactions between individuals, events, and ideas in a text. (RI.7.3) I can evaluate the credibility and accuracy of each source. (W.7.8) 	<ul style="list-style-type: none"> I can use close reading strategies to determine the multiple uses of water in society. I can apply the meanings of “personal,” “agricultural,” and “industrial” to examples of water use in my text. I can evaluate the credibility and accuracy of <i>The Big Thirst</i>. 	<ul style="list-style-type: none"> Reader’s Notes for pages 20, 21, and 24 of <i>The Big Thirst</i> (from homework) Excerpts from <i>The Big Thirst</i> Pages 20, 21, and 24 Text-Dependent Questions Thinking Log 	<ul style="list-style-type: none"> Parking Lot-type (optional) Domain-Specific Vocabulary
Lesson 3	Finding Relevant Information and Asking Research Questions: <i>The Big Thirst</i>	<ul style="list-style-type: none"> I can conduct short research projects to answer a question. (W.7.7) I can generate additional questions for further research. (W.7.7) 	<ul style="list-style-type: none"> I can generate strong supporting research questions. I can gather relevant evidence from <i>The Big Thirst</i>. 	<ul style="list-style-type: none"> Reader’s Notes for pages 123–125 of <i>The Big Thirst</i> (from homework) Researcher’s notebook 	<ul style="list-style-type: none"> Domain-Specific Vocabulary



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 4	Paraphrasing and Evaluating Sources: Pages 112–116 of <i>The Big Thirst</i>	<ul style="list-style-type: none"> I can use a variety of strategies to determine the meaning of unknown words or phrases. (L.7.4) I can gather relevant information from a variety of sources. (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) 	<ul style="list-style-type: none"> I can consult a dictionary to determine or clarify the meaning of a word. I can correctly paraphrase information I gather from <i>The Big Thirst</i>. I can evaluate the credibility and accuracy of a source. 	<ul style="list-style-type: none"> Pages 112–116 of The Big Thirst Text-Dependent Questions Exit Ticket: Practicing Paraphrasing 	<ul style="list-style-type: none"> Domain-Specific Vocabulary
Lesson 5	Contrasting Authors' Use of Evidence: Bottled Water	<ul style="list-style-type: none"> I can contrast how multiple authors emphasize evidence or interpret facts differently when presenting information on the same topic. (RI.7.9) I can gather relevant information from a variety of sources. (W.7.8) I can quote or paraphrase others' work while avoiding plagiarism. (W.7.8) 	<ul style="list-style-type: none"> I can contrast how two authors interpret facts about bottled water differently. I can gather relevant information from <i>The Big Thirst</i>. 	<ul style="list-style-type: none"> Thinking Log Pages 183–186 of The Big Thirst Text-Dependent Questions Researcher's notebook 	<ul style="list-style-type: none"> Evaluating an Argument Domain-Specific Vocabulary
Lesson 6	Using Effective Search Terms: Researching Water Management	<ul style="list-style-type: none"> I can gather relevant information from a variety of sources. (W.7.8) I can quote or paraphrase others' work while avoiding plagiarism. (W.7.8) I can use search terms effectively. (W.7.8) 	<ul style="list-style-type: none"> I can use search terms effectively to gather relevant information about water management. I can gather relevant information from <i>The Big Thirst</i>. 	<ul style="list-style-type: none"> Thinking Log Pages 186–187 of The Big Thirst Text-Dependent Questions Researcher's Notebook Exit ticket: Search Terms 	
Lesson 7	Gathering Information about Water Management: Assessing and Reading Internet Sources, Day 1	<ul style="list-style-type: none"> I can gather relevant information from a variety of sources. (W.7.8) I can use search terms effectively. (W.7.8) 	<ul style="list-style-type: none"> I can use search terms effectively to gather relevant information about water management. I can evaluate a source's accuracy and credibility. 	<ul style="list-style-type: none"> Researcher's notebook 	



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 8	Gathering Information about Water Management: Assessing and Reading Internet Sources, Day 2	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> I can use search terms effectively to gather information about water management. I can evaluate a source's accuracy and credibility. 	<ul style="list-style-type: none"> Researcher's notebook Assessing Sources document Exit Ticket: Next Steps 	<ul style="list-style-type: none"> Domain-Specific Vocabulary
Lesson 9	Gathering Information about Water Management: Assessing and Reading Internet Sources, Day 3	<ul style="list-style-type: none"> I can contrast how multiple authors emphasize evidence or interpret facts differently when presenting information on the same topic. (RI.7.9) I can gather relevant information from a variety of sources. (W.7.8) I can use search terms effectively. (W.7.8) 	<ul style="list-style-type: none"> I can contrast how two authors emphasize different evidence on the topic of water management in agriculture. I can use search terms effectively to gather relevant information about water management. I can evaluate a source's accuracy and credibility. 	<ul style="list-style-type: none"> Researcher's notebook 	<ul style="list-style-type: none"> Domain-Specific Vocabulary Evaluating an Argument



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 10	Mid-Unit 2 Assessment: Research Task: Comparing and Contrasting Texts	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Mid-Unit 2 Assessment 	
Lesson 11	Forming a Research-Based Claim: Cascading Consequences Charts	<ul style="list-style-type: none"> I can write arguments to support claims with clear reasons and relevant evidence. (W.7.1) I can select evidence from literary or informational texts to support analysis, reflection, and research. (W.7.9) 	<ul style="list-style-type: none"> I can create a Cascading Consequences chart based on industrial management of water, using my researcher's notebook. 	<ul style="list-style-type: none"> Researcher's notebook Cascading Consequences chart for industrial management of water 	<ul style="list-style-type: none"> Academic Vocabulary



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 12	Forming a Research-Based Claim: Stakeholder Chart on Better Industrial Water Management	<ul style="list-style-type: none"> I can write arguments to support claims with clear reasons and relevant evidence. (W.7.1) I can select evidence from literary or informational texts to support analysis, reflection, and research. (W.7.9) 	<ul style="list-style-type: none"> I can create a Stakeholder chart based on industrial management of water, using my industrial management of water Cascading Consequences chart and researcher's notebook. 	<ul style="list-style-type: none"> Cascading Consequences chart: agricultural management of water (from homework) Cascading Consequences chart: industrial management of water Stakeholder chart: industrial management of water Researcher's notebooks 	
Lesson 13	Forming a Research-Based Claim: Stakeholder Chart on Better Agricultural Water Management	<ul style="list-style-type: none"> I can write arguments to support claims with clear reasons and relevant evidence. (W.7.1) I can select evidence from literary or informational texts to support analysis, reflection, and research. (W.7.9) I can use my experience and knowledge of language and logic to address problems and advocate persuasively. (RI.7.9a, SL.7.2a) 	<ul style="list-style-type: none"> I can create a Stakeholder chart based on agricultural management of water, using my Cascading Consequences chart for agricultural management of water and researcher's notebook. I can use my knowledge of industrial and agricultural management of water to advocate persuasively for one side or another. I can practice the skills and expectations of a Fishbowl discussion. 	<ul style="list-style-type: none"> Stakeholder chart for industrial management of water (from homework) Stakeholder chart for agricultural management of water Industrial/Agricultural Fishbowl graphic organizer 	<ul style="list-style-type: none"> World Café protocol



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 14	End of Unit 2 Assessment, Part 1A: Fishbowl on Better Use of Water in Agriculture	<ul style="list-style-type: none"> I can present claims and findings with descriptions, facts, details, and examples, using effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation). (SL.7.4) I can come to discussions prepared to refer to evidence on the topic, text, or issue that probes and reflects on ideas under discussion. (SL.7.1 and SL.7.1a) I can use my experience and knowledge of language and logic, as well as culture, to think analytically, address problems creatively, and advocate persuasively. (RI.7.9a and SL.7.9a) I can self-select a text based on personal preferences and read it independently. (RI.7.11a) 	<ul style="list-style-type: none"> I can prepare for a class discussion and participate in it effectively by collecting and explaining appropriate evidence to support my claims. I can engage with my peers to discuss the controversy over water management and persuade them to agree with my point of view using logic, evidence, and appropriate speaking techniques to advocate for my position. I can self-select a text based on personal preferences and read it independently. 	<ul style="list-style-type: none"> Ticket to Enter End of Unit 2 Assessment; Part 1A: Fishbowl 	<ul style="list-style-type: none"> Fishbowl protocol



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 15	End of Unit 2 Assessment, Part 1B: Fishbowl on Better Use of Water in Industry	<ul style="list-style-type: none"> I can present claims and findings with descriptions, facts, details, and examples. (SL.7.4) I can use effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation). (SL.7.4) I can come to discussions prepared to refer to evidence on the topic, text, or issue that probes and reflects on ideas under discussion. (SL.7.1 and SL.7.1a) I can use my experience and knowledge of language and logic, as well as culture, to think analytically, address problems creatively, and advocate persuasively. (RI.7.9a and SL.7.9a) 	<ul style="list-style-type: none"> I can prepare for a class discussion and participate in it effectively by collecting and explaining appropriate evidence to support my claims. I can engage with my peers to discuss the controversy over water management and persuade them to agree with my point of view using logic, evidence, and appropriate speaking techniques to advocate for my position. 	<ul style="list-style-type: none"> End of Unit 2 Assessment, Part 1B: Fishbowl Thinking Log 	<ul style="list-style-type: none"> Fishbowl protocol
Lesson 16	Using Multimedia in Presentations: Presenting Claims	<ul style="list-style-type: none"> I can include multimedia components and visual displays in a presentation to clarify claims and to add emphasis. (SL.7.5) I can present claims and findings with descriptions, facts, details, and examples. (SL.7.4) I can use effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation). (SL.7.4) 	<ul style="list-style-type: none"> I can create a visual display to clarify the claim in my presentation. I can speak clearly, with appropriate eye contact and adequate volume. 	<ul style="list-style-type: none"> Visual display 	



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
Lesson 17	End of Unit 2 Assessment, Part 2: Presenting a Claim	<ul style="list-style-type: none"> I can present claims and findings with descriptions, facts, details, and examples. (SL.7.4) I can use effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation). (SL.7.4) I can include multimedia components and visual displays in a presentation to clarify claims and to add emphasis. (SL.7.5) I can adapt my speech for a variety of contexts and tasks, using formal English when indicated or appropriate. (SL.7.6) I can use my experience and knowledge of language and logic, as well as culture, to think analytically, address problems creatively, and advocate persuasively. (RI.7.9a and SL.7.9a) 	<ul style="list-style-type: none"> I can present my claim about water management using facts, reasons, details, and examples. I can use effective speaking techniques in my presentation. I can include a multimedia visual display in my presentation to clarify my claim and add emphasis. I can use formal English in my presentation. I can use my experience and knowledge of language and logic to advocate persuasively. 	<ul style="list-style-type: none"> Visual display End of Unit 2 Assessment, Part 2 Exit ticket 	



Optional: Experts, Fieldwork, And Service

Experts:

- Invite someone with water management expertise from a local business, farm, or government office to contribute to the students' understanding of agricultural and industrial water management.

Fieldwork:

- Visit a farm or business that has implemented sustainable water management.

Service:

- Prepare students to share their findings with community stakeholders such as local farmers, business people, or government officials with a goal of educating their community about more sustainable water management.

Optional: Extensions

- Students can make formal speeches based on their position. Consider providing an outside audience as well: parents, community members, or students from other schools.



Preparation and Materials

This unit includes a couple of routines that involve stand-alone documents.

1. Reader's Notes

Students will occasionally continue to read or reread a section of *The Big Thirst* for homework. Along with the reading, students will complete the Reader's Notes for that section.

The Reader's Notes are formatted differently depending on the section of text and the purpose for reading. Often, they will use the Main Ideas and Details note-catcher to support students as they read for the gist. Then there will often be room for vocabulary work and/or text-dependent questions to support students' understanding of these complex texts.

Set up a place for students to keep their completed Reader's Notes (such as a folder) so that they can return to them as needed for comprehension purposes.

2. Research

This unit serves as students' opportunity to engage in an extended research process. The skills that students will practice in this unit include generating supporting research questions, gathering information from multiple credible sources, and paraphrasing to avoid plagiarism (W.7.7 and W.7.8).

Notice that students begin their research by gathering information from *The Big Thirst*. The purpose of this is to scaffold the research skills for students using a common text. After that, students use their skills to locate sources independently to gather more information.



3. Researcher's Notebook

The researcher's notebook will be used consistently throughout this unit. It is designed with two purposes in mind: 1) to scaffold research skills for students; and 2) to provide students an organized system to record their research notes, questions, and vocabulary. In many instances, students will add to their researcher's notebooks for homework. Consider how to support students in terms of organization, so that they will have access to their researcher's notebook throughout Units 2 and 3. The entire notebook is included in the supporting materials of Lesson 3 and is intended to be a packet that students use for the rest of the module. In the same lesson, a teacher's guide of the researcher's notebook is included. It is meant to provide a model of the information, questions, and vocabulary students might incorporate based on *The Big Thirst*, although students' research will vary. The teacher's guide does not provide modeling for the research that students do independently; therefore, be prepared to informally assess students' researcher's notebooks as they collect information to be sure they are taking accurate notes.

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4. Stakeholders Consequences Decision-Making Process

This module focuses on a "science and society" topic, engaging students in reading compelling informational text about a current issue. To help students grapple with this issue, the module introduces students to a decision-making process that will help them understand the implications of various choices. It will scaffold their ability to discern what they themselves believe can and should happen. In advance, read the article about the SCDM (Stakeholder Consequences Decision-Making) process to build your own background knowledge about it. You can download the article, "Learning to Make Systematic Decisions," at the following URL: http://education.nationalgeographic.com/education/media/learning-make-systematicdecisions/?ar_a=1.

This article is not used with students during the module, but it provides some examples of how students have used this process in a science curriculum. Also, note that in this module students are not using the entire SCDM process; they will be learning only the Cascading Consequences and Stakeholders charts.



5. Independent Reading

This unit assumes that you have launched an independent reading program with your students. Often the homework assignment in this unit is reading independent reading books, and the plans include time in class to check in on independent reading. See two separate stand-alone documents on EngageNY.org: **The Importance of Increasing the Volume of Reading** and **Launching Independent Reading in Grades 6–8: Sample Plan**, which together provide the rationale and practical guidance for a robust independent reading program. Once students have all learned how to select books and complete the reading log, it takes less class time. After the launch period, the independent reading routine takes about $\frac{1}{2}$ class period per week, with an additional day near the end of a unit or module for students to review and share their books. Unit 2 includes time to maintain the independent reading routine (calendared into the lessons) but does not set a particular routine. As you support students in setting and meeting independent reading goals, encourage them to be done with their books by Unit 3, Lesson 5. Students who have chosen longer books should set a goal part-way through their books, and do the culminating project (in Unit 3) based on part of the book.



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Grade 7: Module 4B: Unit 2: Lesson 1

Contrasting Evidence: “Water Is Life” and The Big Thirst



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Long-Term Target 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)	
Supporting Learning Target	Ongoing Assessment
<ul style="list-style-type: none">I can contrast how Barbara Kingsolver and Charles Fishman use different evidence to prove similar claims.	<ul style="list-style-type: none">Tracing the Argument note-catcher (Kingsolver) (from Unit 1, Lesson 10)Tracing the Argument note-catcher (Fishman) (from Unit 1, Lesson 8)Venn diagram and Venn diagram reflection questions



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Entry Task: Defining Contrast and Reviewing Learning Targets (4 minutes)2. Work Time<ol style="list-style-type: none">A. Introducing/Reviewing Venn Diagram and Common Claim (1 minute)B. Contrasting Tracing the Argument Note-catcher (Kingsolver) with Tracing the Argument Note-catcher (Fishman) Using Venn Diagram (8 minutes)C. Analyzing Evidence on the Venn Diagram and Reflection Questions (20 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Thinking Log, Read-aloud, and Reviewing Learning Targets (12 minutes)4. Homework<ol style="list-style-type: none">A. Read pages 20, 21, and 24 of <i>The Big Thirst</i> and answer the Reader’s Notes.	<ul style="list-style-type: none">• The purpose of this lesson is to give students a sense of how differing arguments can support the same claim. In categorizing the types of evidence the authors use, the students will begin to see how authors choose both the quality and the quantity of their evidence carefully, with attention to the differing effects that certain types of evidence have upon the audience.• Engaging students in a discussion about what types of evidence are the most powerful, under which circumstances, can be a compelling corollary to the academic work of this lesson. Consider discussing, for example, that Barbara Kingsolver is primarily known for her fiction, and Charles Fishman’s background is in journalism. How might this affect their use of evidence in these texts?• This lesson requires using several organizers and note sheets simultaneously. As the lesson proceeds, consider modeling how to set up these papers physically in the student workspace for the most efficient use.• Encourage students to return to the original Fishman text at any point for any clarification they require. Returning to the text consistently is a “habit of mind” that should be emphasized.• Venn diagrams are used in this lesson and in previous modules. However, students may not have used one or may not have participated in prior Expeditionary Learning modules. The lesson is written specifically to address those who may not have used this type of graphic organizer before; as always, use your professional judgment to determine whether any part of the lesson needs to be modified for students who may not be familiar with certain classroom materials, protocols, or routines.• The Venn diagram asks for “evidence” from both Fishman and Kingsolver. This evidence may involve the water crisis or its potential solution; both types are acceptable.• Evidence from both texts may also overlap categorization. An anecdote from Fishman, for example, will necessarily include facts. Expert testimony may also include facts or anecdotes. As long as students are categorizing their evidence accurately, their interpretations are acceptable, even if they differ from one another. It might be useful to point this out to students.• It is assumed that students will have noted evidence on the Venn diagram in order of appearance in both texts; it may be beneficial to remind them to order their notes in this fashion before they begin. The Thinking Log used in the Closing is the same as the one used throughout Unit 1. Its use will continue through Unit 2.



Agenda	Teaching Notes (continued)
	<ul style="list-style-type: none">• Note that the Venn diagram is for the purposes of comparing and contrasting types of evidence only. If it is useful, it is possible to expand the conversation around the diagram to include claims, reasons, and reasoning, but it is not required at this juncture.• In advance: The evidence Kingsolver and Fishman use is very detailed in both texts. A sample is included (see supporting materials), but it may be beneficial to read and annotate both texts ahead of time to familiarize yourself with the types of evidence used and the reasons that ground the use of these examples.• Post: Learning target.

Lesson Vocabulary	Materials
	<ul style="list-style-type: none">• Entry Task (one per student)• Domain-Specific Vocabulary anchor chart (begun in Unit 1)• Venn diagram (one per student and one to display)• Document camera• Tracing the Argument note-catcher (Kingsolver) (completed for homework)• Tracing the Argument note-catcher (Fishman) (from Lesson 8)• Venn diagram (for teacher reference)• Four Types of Evidence/Identify the Evidence note-catcher (one per student)• Identify the Evidence Mini-Game (answers, for teacher reference).• Highlighters (one per student)• Venn diagram reflection questions (one per student)• Venn diagram reflection questions (answers, for teacher reference)• Thinking Logs (distributed in Unit 1)• <i>The Big Thirst: The Secret Life and Turbulent Future of Water</i> (book; one per student)• Reader’s Notes for pages 20, 21, and 24 of <i>The Big Thirst</i> (one per student)



Opening	Meeting Students’ Needs
<p>A. Entry Task: Defining Contrast and Reviewing Learning Targets (4 minutes)</p> <ul style="list-style-type: none">As students enter the room, have them fill in the entry task:<ul style="list-style-type: none">“Complete the following statement in your own words: When you <i>contrast</i> two things, it means that you are ...”Cold call three or four students for their answers. Based on their wording, create a class definition for the word <i>contrast</i> and place this word and the definition on the Domain-Specific Vocabulary anchor chart. The class definition of <i>contrast</i> will necessarily change depending on how students respond on their entry task slip. As a baseline, however, the definition should include the idea that “to contrast” means “to compare two people or things so as to show the differences between them.”Direct students to the learning target and have them read it aloud with you:<ul style="list-style-type: none">“I can contrast how Barbara Kingsolver and Charles Fishman use different evidence to prove similar claims.”Then ask students how they would rewrite the learning target, based on the definition of <i>contrast</i> they have just created.Give them 30 seconds to discuss their answer with an elbow partner. Cold call two or three students for their answers.	<ul style="list-style-type: none">Wherever possible, have students who need physical activity take on the active roles of managing and writing on the anchor chart or handing out the materials.Consider selecting students ahead of time to respond to cold calls. Students who need practice in oral response or extended processing time can be told the prompt before class begins to prepare for their participation. This also allows for a public experience of academic success for those who may struggle with on-demand questioning, or for struggling students in general.



Work Time	Meeting Students’ Needs
<p>A. Introducing/Reviewing Venn Diagram and Common Claim (1 minute)</p> <ul style="list-style-type: none"> Hand out the Venn diagram and ask students to raise their hand if they have seen or worked with a Venn diagram before. Make note of those who are not familiar with a Venn diagram so you can check to see whether they need additional support as they work. Using the document camera, quickly review how a Venn diagram works (items common to both texts go in the overlapping middle space; differences go in the appropriately labeled circles on the left and right). Explain that today students will use their homework and past classwork to compare the arguments of Fishman and Kingsolver. Note that both authors are making a similar claim, which is written above the Venn diagram. Have a volunteer read the common claim aloud: <ul style="list-style-type: none"> “It is critical that our global water supply be sustainable. For that to happen, we need to better manage the world’s water.” Briefly review the meaning of <i>sustainable</i>: <ul style="list-style-type: none"> “Sustainability is important to making sure that we have and will continue to have the water, materials, and resources to protect human health and our environment.” 	<ul style="list-style-type: none"> Keep in mind that this lesson requires visual comparison and written transferral of information. If students are visually or physically challenged, this process might be modified for them ahead of time so they are not unnecessarily impeded in categorizing and analyzing the evidence. Possible modifications include partially completed Venn diagrams, creating a Venn diagram on chart paper and/or lined paper instead of 8-by-11 paper, or giving them items from the readings on sticky notes to physically sort on the Venn diagram.
<p>B. Contrasting Tracing the Argument Note-catcher (Kingsolver) with Tracing the Argument Note-catcher (Fishman) Using Venn Diagram (8 minutes)</p> <ul style="list-style-type: none"> Have students set aside (but not put away) the Venn diagram and take out their homework: Tracing the Argument note-catcher (Kingsolver). With a different elbow partner than in the Opening, have the students discuss the supporting evidence they recorded on the note-catcher. Ask: <ul style="list-style-type: none"> “What evidence did you find? Was it relevant to the claim? Why or why not?” Point out how these questions correlate to the elements of the note-catcher (that each question is exactly the same as those listed in the second row of boxes in the note-catcher). 	<ul style="list-style-type: none"> The lesson hinges on the accurate and full completion of two note-catchers. Think ahead to whether any previous modifications to these materials for students with special needs will require related modifications in this lesson. Also, if students have had challenges in gathering information on note-catchers, consider pairing them with a proficient partner or offering examples from the text on sticky notes.



Work Time (continued)	Meeting Students’ Needs
<ul style="list-style-type: none">• Have students take out their previous note-catchers from Lesson 8: Tracing the Argument note-catcher (Fishman) and place it next to the Tracing the Argument note-catcher (Kingsolver) in their workspaces. Remind them that the authors are making a similar claim, noted at the top of the Venn diagram. Explain that now students will <i>contrast</i> the evidence the authors use to support the common claim.• Ask them to predict how a Venn diagram would look if someone is focusing on contrasting evidence. Listen for: “The circles to the right and left should be filled out.”• Reassure students that if they find evidence that is the same in both texts, they can record it in the middle overlapping section; however, they should be most mindful today of the contrasting, different evidence the authors use. Students should feel free to talk through any points of confusion with an elbow partner.• Clarify that “evidence” can be either evidence that proves the existence of a problem (the water crisis) or that involves potential solutions; both types of evidence are acceptable.• Circulate as students complete the Venn diagram, giving individual assistance where needed and referring to the Venn diagram (for teacher reference) as needed. Check in with those who are unfamiliar with the Venn diagram first to make sure they understand how to use one.• When finished, have the students put away both note-catchers. From this point on in the lesson, they will work primarily with the Venn diagram and their texts.	<ul style="list-style-type: none">• About halfway through Work Time C, if needed, you are strongly encouraged to conduct a brief “mop-up model” using the document camera for the benefit of students who need more support. Ask volunteers to provide you with an example of contrasting evidence from both texts. Discuss how each piece supports the claim and model recording it on the Venn diagram. Also consider doing this for a piece of evidence that is shared between the texts.



Work Time (continued)	Meeting Students’ Needs
<p>C. Analyzing Evidence on the Venn Diagram and Reflection Questions (20 minutes)</p> <ul style="list-style-type: none"> • Distribute the Four Types of Evidence/Identify the Evidence note-catcher. Focus students on Side A. Ask for volunteers to read each type aloud. Follow along, using the document camera. As each of the types is defined, include each word (<i>anecdote, testimony, analogy/metaphor, statistic/fact</i>) on the Domain-Specific Vocabulary anchor chart. Point out that the most powerful arguments ground themselves in multiple types of evidence. • Have students individually complete the fill-in-the-blank Identify the Evidence mini-game on side B of the note-catcher. • Go over the answers as a class and have students correct their papers as you reveal the correct answers via the document camera using the Identify the Evidence Mini-Game (answers, for teacher reference). • Distribute highlighters to the class. • As a class, decide which of the four colors of highlighter will correspond to each of the four types of evidence. Note the colors on your teacher reference version and have students do the same on their note sheets. • Using the blank version of the Venn diagram under the document camera, briefly model using the highlighters to code one or two pieces of evidence. • Next, ask students to use the colored highlighters and their note sheets to code the types of evidence they have recorded on the Venn diagram. They may consult with an elbow partner if they have a question. • Circulate as they complete the color coding, giving individual assistance where needed. • When students are finished, direct their attention to the Venn diagram reflection questions. Give them 3 minutes to complete these silently and individually. • Ask for volunteers to share their answers to each question. After each shared answer, ask students to raise their hand if they wrote a similar answer. Discuss any patterns that emerge. • Follow up each shared answer with the questions on the Venn diagram: <ul style="list-style-type: none"> * “Why do you think the author chose to arrange the evidence this way? Does it strengthen or weaken the author’s argument? Why?” • Note all correct answers on the blank version under the document camera, referring to the Venn diagram reflection questions (answers, for teacher reference) as needed. 	<ul style="list-style-type: none"> • About halfway through Work Time C, if needed, you are strongly encouraged to conduct a brief “mop-up model” using the document camera for the benefit of students who need more support. Ask volunteers to provide you with an example of contrasting evidence from both texts. Discuss how each piece supports the claim and model recording it on the Venn diagram. Also consider doing this for a piece of evidence that is shared between the texts. • The Venn diagrams will not be assessed. However, they may be collected at your discretion for review to determine if students have achieved the learning targets. • Should a student work more efficiently without color coding for some reason, or should highlighters not be available, an alternative is labeling each piece of evidence with a letter or brief code indicating its type.



Closing and Assessment	Meeting Students’ Needs
<p>A. Thinking Log, Read-aloud, and Reviewing Learning Targets (12 minutes)</p> <ul style="list-style-type: none">• Have students take out their Thinking Logs and refer them to the Unit 2, Lesson 1 prompt: “Using the analysis you have just completed, decide which set of evidence (Fishman or Kingsolver) you think is stronger and give one reason why. If you feel the arguments are equally strong, that’s fine, but also be prepared to give one reason why.”• If time, ask students to raise their hands in a vote to see which argument the majority thought was stronger. Discuss the results as a class (5 minutes).• Ask students to open <i>The Big Thirst</i> to page 20. Starting with the line “Our own water problems ...” in the second full paragraph, read aloud until the bottom of page 21. Then, read from the top of page 24 until the end of the chapter (6 minutes).• Direct students’ attention to the learning target one last time:<ul style="list-style-type: none">* “I can contrast how Barbara Kingsolver and Charles Fishman use different evidence to prove similar claims.”• Have students give a thumbs-up or thumbs-down, depending on how well they think they achieved the learning targets today.• Distribute the homework for this lesson: Reader’s Notes for pages 20, 21, and 24 of <i>The Big Thirst</i>.	
Homework	Meeting Students’ Needs
<ul style="list-style-type: none">• Read pages 20, 21, and 24 of <i>The Big Thirst</i> and answer the Reader’s Notes. <p><i>Note: The researcher’s roadmap and researcher’s notebook are introduced in Lesson 3. These are multipage documents, so think about making copies in advance.</i></p>	<ul style="list-style-type: none">• Academically talented students may benefit from an extended exploration of how different types of evidence affect the audience differently (see Teaching Notes). Consider giving them the noted articles and asking them to reflect on how they might connect to the academic work in class today.• Consider giving ELLs or struggling students pictures illustrating the four uses of water mentioned in the homework.



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 1

Supporting Materials



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Entry Task

Complete the following statement in your own words:

When you contrast two things, it means that you are ...



Venn Diagram

Name: _____

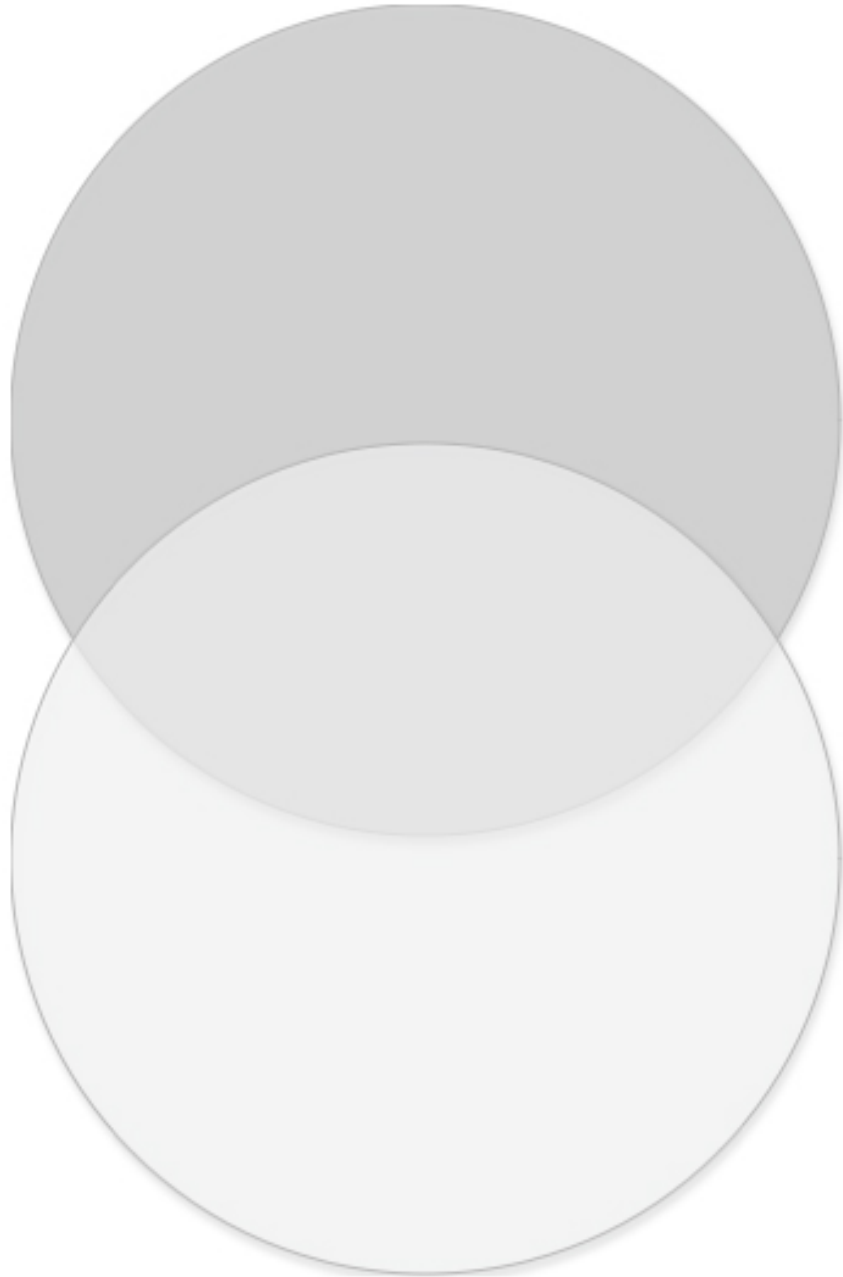
Date: _____

Common claim: It is critical that our global water supply be sustainable. For that to happen, we need to better manage the world's water.

Evidence ONLY from Fishman's
The Big Thirst

Evidence in BOTH
The Big Thirst and
"Water Is Life"

Evidence ONLY from
Kingsolver's "Water Is Life"



Venn Diagram
For Teacher Reference

Common claim: It is critical that our global water supply be sustainable. For that to happen, we need to better manage the world's water.

Evidence ONLY from Fishman's *The Big Thirst*

**Evidence in BOTH
The Big Thirst and
"Water Is Life"**

**Evidence ONLY from
Kingsolver's "Water Is Life"**



Note: The evidence and answers listed here are a sample only; Fishman and Kingsolver use multiple types of evidence in their texts, and students may respond in a number of ways that are accurate and thoughtful.



Four Types of Evidence/Identify the Evidence

Name: _____

Date: _____

Type of Evidence	Definition	Example
anecdote	a brief story about something interesting or funny in life that may give an example of the author's claim or serve as evidence for a claim.	<i>"We keep an eye out for wonders, my daughter and I ... and wherever we find them, they reflect the magic of water." (Kingsolver)</i>
analogy/metaphor	a comparison between two things that allows the reader to understand the author's evidence or claim in a clear way.	<i>"Cities there function like space stations, importing every ounce of fresh water from distant rivers or fossil aquifers." (Kingsolver)</i>
fact/statistic	a piece of information about something, presented as true and accurate, that supports the author's claim. A <i>statistic</i> specifically counts something by number.	<i>"Chinese soldiers were dispatched in early 2010 to help deliver water in Southwest China." (Fishman, 15)</i>
expert testimony	a statement that supports the author's claim, made by a person with special skill or knowledge.	<i>"Miguel Angel Fraile, secretary general of the Catalan Federation of Commerce, said, 'You can understand a boat bringing water to an island, but not to a continent.'" (Fishman, 10)</i>



Four Types of Evidence/Identify the Evidence

Side B: Identify the Evidence Mini-Game

.....
Name:

.....
Date:

Below are four examples of evidence. Label each with the correct type.

1. “Even while we take Mother Water for granted, humans understand in our bones that she is the boss.” (Kingsolver)

.....
.....

2. “Their husbands were digging a well nearby. They worked with hand trowels, a plywood form for lining the shaft with concrete, inch by inch, and a sturdy hand-built crank. ... I looked down that black hole and then turned and climbed the sand mound to hide my unprofessional tears.” (Kingsolver)

.....
.....

3. “So at least 40 percent of the world either doesn’t have good access to water, or has to walk to get it.” (Fishman, 13)

.....
.....

4. “I think our relationship to water is going to be one of the deciding things of the next century. I don’t think water’s in any trouble. But we might be.” (Fishman, 28)

.....
.....



Identify the Evidence Mini-Game
Answers For Teacher Reference

Below are four examples of evidence. Label each with the correct type.

1. “Even while we take Mother Water for granted, humans understand in our bones that she is the boss.” (Kingsolver)

analogy/metaphor

2. “Their husbands were digging a well nearby. They worked with hand trowels, a plywood form for lining the shaft with concrete, inch by inch, and a sturdy hand-built crank. ... I looked down that black hole and then turned and climbed the sand mound to hide my unprofessional tears.” (Kingsolver)

anecdote

3. “So at least 40 percent of the world either doesn’t have good access to water, or has to walk to get it.” (Fishman, 13)

fact/statistic

4. “I think our relationship to water is going to be one of the deciding things of the next century. I don’t think water’s in any trouble. But we might be.” (Fishman, 28)

expert testimony



Venn Diagram
Reflection Questions

.....
Name:

.....
Date:

Question	Fishman Text	Kingsolver Text
What types of evidence are used the most?		
What types of evidence are used the least?		
Do you see any other patterns in the types of evidence used?		
Why do you think the author chose the evidence he/she did? What reasons does it support?		



Venn Diagram Reflection Questions
Answers for Teacher Reference

Question	Fishman Text	Kingsolver Text
What types of evidence are used the most?	facts, statistics	anecdote, analogy/metaphor
What types of evidence are used the least?	analogy/metaphor	expert testimony
Do you see any other patterns in the types of evidence used?	Fishman likes to use numbers and to rapidly present facts one after the other.	Kingsolver likes to use facts only after she has established her metaphor or her anecdote.
Why do you think the author chose the evidence he/she did? What reasons does the evidence support?	Fishman is trying to support his argument very strongly through a variety of facts and statistics, but also to entertain the reader. He's trying to demonstrate that we and water are in trouble because of a number of factors.	Kingsolver is trying to get the reader to relate personally to the issues of water use by relying heavily on story and analogy; she's trying to communicate how important water is personally to our lives.



Reader's Notes for *The Big Thirst*

Pages 20, 21, and 24

Name: _____

Date: _____

There are four main categories in which water is used in a society, listed below. Keep these in mind as you read and answer the questions.

Category	Definition	Examples
personal	water used by individuals	taking a shower; washing dishes
agricultural	water used to grow crops or raise animals	washing down milking machines in dairies; watering wheat fields
industrial	water used in the production of goods	creating and bottling soft drinks; manufacturing computer chips
municipal	water used by the government to maintain communities	providing clean water to homes; maintaining public green spaces such as parks

1. Fishman writes on page 20 that “[Water] problems are local, but the consequences, the damage, and the costs are anything but local.” Read the paragraph that follows this statement and use it to fill in the chart below.



Reader's Notes for *The Big Thirst*

Pages 20, 21, and 24

Claim: “The idea that all water problems are local isn’t quite so simple.”	Reason: “The problems are local, but the consequences, the damage, and the costs are anything but local.”
Evidence:	How the evidence connects to the claim (reasoning):
Evidence:	How the evidence connects to the claim (reasoning):
Evidence:	How the evidence connects to the claim (reasoning):



Reader's Notes for *The Big Thirst*

Pages 20, 21, and 24

2. Take a look again at the two examples you used to answer Question 1. In what **water category** would you place your first example (personal, agricultural, industrial, or municipal)? Explain your answer.

3. The author concludes the chapter by stating, “It is one of the ironies of our relationship to water that the moment it becomes unavailable, the moment it really disappears—that’s when water becomes the most urgently visible.”

Irony means “a reversal of expectations in a situation.” How does Fishman’s statement show us a reversal of expectations? In other words, why is it *ironic*?



EXPEDITIONARY
LEARNING

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

Analyzing Interaction: Categories of Water Management in *The Big Thirst*



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
<p>I can analyze the interactions between individuals, events, and ideas in a text. (RI.7.3)</p> <p>I can evaluate the credibility and accuracy of each source. (W.7.8)</p>	
Supporting Learning Targets	Ongoing Assessment
<ul style="list-style-type: none">• I can use close reading strategies to determine the multiple uses of water in society.• I can apply the meanings of “personal,” “agricultural,” and “industrial” to examples of water use in my text.• I can evaluate the credibility and accuracy of <i>The Big Thirst</i>.	<ul style="list-style-type: none">• Reader’s Notes for pages 20, 21, and 24 of <i>The Big Thirst</i> (from homework)• Excerpts from <i>The Big Thirst</i> Pages 20, 21, and 24 Text-Dependent Questions• Thinking Log



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Recording Vocabulary and Collecting Homework (6 minutes) 2. Work Time <ol style="list-style-type: none"> A. Example Sort and Jigsaw Part I: Managements of Water (6 minutes) B. Mini Lesson: Credible Sources (5 minutes) C. Close Read: Excerpts of <i>The Big Thirst</i>, Pages 20, 21, and 24 (15 minutes) D. Jigsaw Part II: Sharing Knowledge (8 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Read-aloud; Reviewing Learning Targets (5 minutes) 4. Homework <ol style="list-style-type: none"> A. Read pages 123–125 of <i>The Big Thirst</i> and complete the Reader's Notes. 	<ul style="list-style-type: none"> • This is the first lesson in a full unit arc that scaffolds background knowledge, research skills, and note-taking toward a final product in which students will write about and present a position on the best strategies for agricultural and industrial water management (Lessons 11–17). The students begin by using their homework from Lesson 1, paired with this lesson's close reading of excerpts from <i>The Big Thirst</i>, to solidify and apply definitions of the four main uses of water. • <i>The Big Thirst</i> is a dense informational text. This lesson, along with the ones that follow, builds in at least three supported reads of each piece of text to ensure that students understand the gist of the text, important supporting details, necessary inferences, essential vocabulary, and the writer's craft and purpose. For example, students will read pages 123–125 out loud in class, a second time for homework, and a third time in Lesson 3. Informational texts of this nature should be reread multiple times by students as a matter of course. • The homework and the Opening have students understanding and applying four main uses of water, but the Work Time reduces these to three (personal, industrial, and agricultural). The absence of the fourth use (municipal) is intentional, as it overlaps with the other three categories in a way that may be confusing for the purposes of this project. However, <i>The Big Thirst</i> often addresses the issues of municipal/governmental management of water, and there is room within extension activities to further address this aspect. When students have conversations or make comments that verge on the municipal management of water, consider acknowledging them as such and set them aside—perhaps in a Parking Lot-type anchor chart—for further exploration and discussion later. • Encourage students to return to the original Fishman text at any point for any clarification they require. Returning to the text consistently is a “habit of mind” that should be emphasized. • In this lesson, students are introduced to the Assessing Sources document. This serves as a guide as they locate and gather information from Internet sources. Consider keeping extra copies on hand for those who would benefit from using it as a concrete checklist. <p>In advance: Prepare the Jigsaw materials. Each note-catcher for each type of water management (three total) should be printed on a different color paper. Group them by threes, including one of each type of water management. Post: Learning targets; poster-size Assessing Sources document.</p>



Lesson Vocabulary	Materials
personal, agricultural, industrial, municipal, irony, credible source, squander, startling, vulnerability	<ul style="list-style-type: none">• Thinking Log (distributed in Unit 1)• Domain-Specific Vocabulary anchor chart (begun in Unit 1)• Water Management Example Cards (one set per triad and one for display, if needed)• Tape dispenser (one per triad)• Water Management note-catchers (industrial, agricultural, personal) (one set per triad)• Water Management Example Cards (answers, for teacher reference)• Assessing Sources document (one per student and one poster-size to display)• <i>The Big Thirst: The Secret Life and Turbulent Future of Water</i> (book; one per student)• Excerpts from <i>The Big Thirst</i> Pages 20, 21, and 24 Text-Dependent Questions (one per student and one to display)• Excerpts from <i>The Big Thirst</i> Pages 20, 21, and 24 Close Reading Guide (for teacher reference)• Document camera• Reader's Notes for pages 123–125 of <i>The Big Thirst</i> (one per student)• Reader's Notes for pages 123–125 of <i>The Big Thirst</i> (answers, for teacher reference)



Opening	Meeting Students' Needs
<p>A. Recording Vocabulary and Collecting Homework (6 minutes)</p> <ul style="list-style-type: none"> • Have students get out their homework (Reader's Notes for pages 20, 21, and 24 of <i>The Big Thirst</i>). Draw their attention to the four vocabulary words provided on the Reader's Notes: <i>personal</i>, <i>agricultural</i>, <i>industrial</i>, <i>municipal</i>. • Have them read each word along with you. Repeat with corrected pronunciation if needed. Ask: <ul style="list-style-type: none"> * "What part of speech are all of these words?" • Listen for: "adjective" and/or "describing word." • Point out the repetition of these words in the learning targets for today. Have the students turn to an elbow partner and discuss briefly: <ul style="list-style-type: none"> * "How will these four words help me achieve the targets today?" • Cold call two or three students for their ideas. Listen for answers that connect the vocabulary specifically with the learning targets; for example, "These are all examples of how we use water," or "People and water interact in each of these vocabulary words." • Refer students to the last question of the Reader's Notes: <ul style="list-style-type: none"> * "The author concludes the chapter by stating, 'It is one of the <i>ironies</i> of our relationship to water that the moment it becomes unavailable, the moment it really disappears—that's when water becomes the most urgently visible.' Explain this statement and why it is ironic." • Ask students to share their thoughts on the answer. Reiterate the definition of <i>irony</i> if needed ("a reversal of what is expected in a situation"). Listen for: "When we really need water and there isn't any, it becomes the most important thing to our survival," "It's all we can think about when we really need it," or "If it goes away, you might think that we wouldn't care about it anymore, but it is so important that the opposite happens." • Emphasize to students that this statement is an important summary of author Charles Fishman's claim in <i>The Big Thirst</i>. • Have students record parts of speech and definitions for <i>personal</i>, <i>agricultural</i>, <i>industrial</i>, and <i>municipal</i> in their Thinking Log. Record the same on the class Domain-Specific Vocabulary anchor chart. Note that students will use these words consistently throughout the rest of the unit. • Collect the Reader's Notes for pages 20, 21 and 24 of <i>The Big Thirst</i>. 	<ul style="list-style-type: none"> • Whenever possible, have students who need physical activity take on the active roles of managing and writing on the anchor chart, handing out materials, etc. • Consider selecting students ahead of time for cold calls. Those who need practice in oral response or extended processing time can be told the prompt before class begins to prepare for their participation. This also allows for a public experience of academic success for students who may struggle with on-demand questioning, or for struggling students in general.



Work Time	Meeting Students' Needs
<p>A. Example Sort and Jigsaw Part I: Managements of Water (6 minutes)</p> <ul style="list-style-type: none"> • Arrange the students into groups of three. • Give each triad one set of Water Management Example Cards, one tape dispenser, and one set of color-coded Water Management note-catchers. Have students spread the cards out and give one note-catcher to each student. • Explain that each student in the group is now going to be the “Master” of a particular use of water: the Industrial Master, the Agricultural Master, and so on. As the Master, that student is responsible for collecting and maintaining on the note-catcher an active list of the examples he or she hears and sees in class today of that particular use of water. Explain that groups will not have a Municipal Master to keep things simple during their upcoming research. Each Master will begin work by looking at the Water Management Example Cards and determining which ones belong to their area of water use. Give them 4 minutes for this work. • Cold call various Masters to explain the reasoning behind their choices. Be sure to discuss both correct and incorrect answers, referring to the Water Management Example Cards (answers, for teacher reference) as needed. Solicit incorrect answers respectfully and celebrate those students who respond, along these lines: <ul style="list-style-type: none"> * “We need one or two brave students to volunteer to discuss an answer they sorted incorrectly, so we can learn from their thinking. Remember that mistakes are necessary; they mean you’re persevering and growing. Thank you so much.” • Should students feel shy about volunteering incorrect answers, use this incorrect example: “A batch of T-shirts being dyed is a personal use of water, because I know lots of my friends tie-dye their shirts for fun.” • Once correct answers have been verified, students should tape the correct cards to the top of their note-catcher. 	<ul style="list-style-type: none"> • When time allows, take a glance through the homework from Lesson 1, the Reader’s Notes for pages 20, 21, and 24 of <i>The Big Thirst</i>. Sort students into three general groups: struggling students, proficient students, and students at mastery level. Keep the three lists at hand as you proceed through the unit. Use it to support differentiation of oral/individual support during class, heterogeneous grouping, extended or modified homework, or extra assistance outside of class hours. Also, as evidence accumulates throughout the unit, consider making these groupings fluid. • The “incorrect answer discussion” does not need to be prolonged (one or two answers will do). It is written specifically to address any misconceptions that might arise and also to honor and celebrate the <i>effort</i> of students, as well as their achievement. If you have a struggling student who may need this kind of positive reinforcement, call on him or her here.



Work Time (continued)	Meeting Students' Needs
<p>B. Mini Lesson: Credible Sources (5 minutes)</p> <ul style="list-style-type: none">• Speak to students about the importance of using credible sources to build up their background knowledge and conduct research. On the Domain-Specific Vocabulary anchor chart, briefly create a class definition of a <i>credible source</i>, including but not limited to: “, uses a significant amount of verifiable evidence, and is as unbiased as possible.”• Hand out the Assessing Sources document. Briefly review its contents with the class.• Refer back to the definition of a credible source on the Domain-Specific Vocabulary anchor chart. Ask students to have a 30-second discussion with a partner about one thing they would change, keep, or modify about the definition, now that they have reviewed the Assessing Sources document.• Cold call two or three students for their answers. Make the changes suggested on the anchor chart. If students do not cover a key point of determining a credible source or incorrectly identify a change, model adding it or modifying it on the anchor chart for the class.• Direct students' attention to the poster-size Assessing Sources document and remind them that this will be posted for the remainder of the unit for their reference.	
<p>C. Close Read: Excerpts of <i>The Big Thirst</i>, Pages 20, 21, and 24 (15 minutes)</p> <ul style="list-style-type: none">• Be sure students have their text, <i>The Big Thirst</i>. Distribute the Excerpts from <i>The Big Thirst</i> Pages 20, 21, and 24 Text-Dependent Questions.• Tell students that now they will individually engage in close reading strategies with you, using excerpts from pages 20, 21, and 24.• Refer to the learning targets. Explain that the purpose of the close reading today is to continue to build their background knowledge on the three main types of water management, as the learning targets indicate.• Let them know that in the next lesson, they will begin to see how this all fits into a larger research project they will conduct during this unit.• Remind students that they will discuss the reliability of <i>The Big Thirst</i> during the close reading lesson.• Use the Excerpts from <i>The Big Thirst</i> Pages 20, 21, and 24 Close Reading Guide (for teacher reference) to guide students through their text-dependent questions document. Display these questions using a document camera as you work.	



Work Time (continued)	Meeting Students' Needs
<p>D. Jigsaw Part II: Sharing Knowledge (8 minutes)</p> <ul style="list-style-type: none">• After completing the close reading lesson, have students (refer to them as “Masters”) get up and take a quick stretch. Congratulate them on their hard work.• Ask them to gather in groups of three with other Masters of their type, using their color-coded note-catchers to assist them. Groups should be of homogeneous colors.• Homogeneous Masters Groups should now spend 4 minutes comparing, contrasting, adding to, and revising their notes on water use.• Have students return to their original groups. Masters should now share their list with their group for 4 minutes.• Remind the Masters to keep these lists in a safe place because they will be used in the next class.	



Closing and Assessment	Meeting Students' Needs
<p>A. Read-aloud; Reviewing Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Ask students to open <i>The Big Thirst</i> to page 123. Starting with the line “In the last decade ...” read aloud and have them follow along until the section break on page 125.• Direct students’ attention to the learning targets one last time:<ul style="list-style-type: none">* “I can use close reading strategies to determine the multiple uses of water in society.”* “I can apply the meanings of “personal,” “agricultural,” and “industrial” to examples of water use in my text.”* “I can evaluate the credibility and accuracy of <i>The Big Thirst</i>.”• Ask them to turn and talk with an elbow partner:<ul style="list-style-type: none">* “Did I hit my learning targets today? If I didn’t, what action can I take to help me hit them by the next lesson?”• Distribute the homework for this lesson: Reader’s Notes for pages 123–125 of <i>The Big Thirst</i>.	
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Read pages 123–125 of <i>The Big Thirst</i> and complete the Reader’s Notes. <p><i>Note: In the next lesson, students will need to look up definitions in a dictionary or on the internet. You may need to make arrangements to have a class set of dictionaries or computers available.</i></p>	



EXPEDITIONARY
LEARNING

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

Supporting Materials



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Water Management
Example Cards

Name: _____

Date: _____

A field of soybeans is irrigated by a network of ditches connected to the nearest river.

A man fills the bathroom sink with water to help him shave.

The floor of a slaughterhouse is washed down every evening.

A batch of white T-shirts is dipped into several vats of commercial dye in a factory.

Parts of an airplane are cast out of metal, then placed in baths of water to cool.

A family car is washed in the driveway on a hot summer day.

A refrigerator uses a special mechanism to make ice.

Apple trees on a farm are sprayed with liquid pesticide.

A soft drink is mixed using carbonated water as a base, then bottled in a bottling plant.



Industrial Management of Water
Note-catcher

.....
Name:
.....

.....
Date:
.....

Tape the appropriate Water Management Example Cards here.

What other examples of industrial water management have you seen or heard in the text of *The Big Thirst*, pages 20, 21, and 24?



Agricultural Management of Water
Note-catcher

.....
Name:

.....
Date:

Tape the appropriate Water Management Example Cards here.

What other examples of agricultural water management have you seen or heard in the text of *The Big Thirst*, pages 20, 21, and 24?



Personal Management of Water
Note-catcher

.....
Name:
.....

.....
Date:
.....

Tape the appropriate Water Management Example Cards here.

What other examples of personal water management have you seen or heard in the text of *The Big Thirst*, pages 20, 21, and 24?



Water Management Example Cards
Answers for Teacher Reference

A field of soybeans is irrigated by a network of ditches connected to the nearest river.	agricultural
A man fills the bathroom sink with water to help him shave.	personal
The floor of a slaughterhouse is washed down every evening.	agricultural
A batch of white T-shirts is dipped into several vats of commercial dye in a factory.	industrial
Parts of an airplane are cast out of metal, then placed in baths of water to cool.	industrial
A family car is washed in the driveway on a hot summer day.	personal
A refrigerator uses a special mechanism to make ice.	personal (arguments can be made for both industrial and agricultural, however—this card is deliberately vague)
Apple trees on a farm are sprayed with liquid pesticide.	agricultural
A soft drink is mixed using carbonated water as a base, then bottled in a bottling plant.	industrial

Assessing Sources

Name: _____

Date: _____

When you find a text you think you might use for research, you first need to assess it by asking these questions.

1. Assess the Text's Accessibility

- Am I able to read and comprehend the text easily?
- Do I have adequate background knowledge to understand the terminology, information, and ideas in the text?

2. Assess the Text's Credibility and Accuracy

- Is the author an expert on the topic?
- Is the purpose to inform or to persuade/sell?
- When was the text first published?
- How current is the information on the topic?
- Does the text have specific facts and details to support the ideas?
- Does the information in this text expand on or contradict what I already know about the topic?

3. Assess the Text's Relevance

- Does the text have information that helps me answer my research questions? Is it information that I don't have already?
- How does the information in the text relate to other texts I have found?

Informed by "Assessing Sources," designed by Odell Education



Excerpts from *The Big Thirst* Pages 20, 21, and 24
Text-Dependent Questions

Name: _____

Date: _____

Questions	
<p>1. At the bottom of page 20, a sentence says, “Poor farming practices around the world <i>squander</i> huge quantities of water.” What do you think the word <i>squander</i> might mean?</p> <p>What word in that sentence gives you the best clue to the meaning of <i>squander</i>?</p>	
<p>2. Talk about a fact about water that jumped out at you while reading this excerpt. Which of the three uses of water we have studied today relates the most closely to that fact?</p>	
<p>3. In this passage, there are three footnotes. How does this relate to the idea that <i>The Big Thirst</i> is a credible source?</p>	



Excerpts from *The Big Thirst* Pages 20, 21, and 24
Text-Dependent Questions

Questions	
<p>4. The passage reads, “Meanwhile, we haven’t yet really tried to get Americans to install water-efficient fixtures at home.” What do you think a <i>water-efficient</i> fixture is? What does <i>efficient</i> mean? How do you know? Give an example of a context clue from the text.</p>	
<p>5. In the previous lesson, we discussed how the evidence of facts and statistics helps to make a strong argument. What facts does the author choose to discuss in the excerpt, and what claims and reasons do they support?</p>	



Excerpts from *The Big Thirst* Pages 20, 21, and 24
Text-Dependent Questions

Questions:	
<p>6. Does the author believe that technology assists with water problems or makes them worse? Use at least one example from the text to support your answer.</p> <p>7. Where would “technology” cause a problem in the three categories of water use we have studied, and why? Use examples from the text to support your answer.</p>	



Excerpts from *The Big Thirst* Pages 20, 21, and 24
Close Reading Guide For Teacher Reference

Questions	Teacher Guide
<p>1. At the bottom of page 20, a sentence says, “Poor farming practices around the world <i>squander</i> huge quantities of water.” What do you think the word <i>squander</i> might mean?</p> <p>What word in that sentence gives you the best clue to the meaning of <i>squander</i>?</p> <p>2. Talk about a fact about water that jumped out at you while reading this excerpt. Which of the three uses of water we have studied today relates the most closely to that fact?</p> <p>3. In this passage, there are three footnotes. How does this relate to the idea that <i>The Big Thirst</i> is a credible source?</p>	<p>Say: * “Please read along in your heads while I read aloud.”</p> <p>Begin reading on page 20, from “But the idea ...” and continue to page 21, “... a 70% larger harvest,” without pausing for questions. Let the class hear the whole text without interruption.</p> <p>After you have read these two pages, pause.</p> <p>Ask the questions one at a time. For each question, ask students to think individually and then raise their hands when they know their answer. When most of the class has a hand up, call on several students to share out.</p> <p>After each text-dependent question, ask Masters to check, add to, or revise their lists of examples of water management based on what they read in the preceding excerpt.</p> <p>1) Listen for: <i>Squander</i> means “waste,” “abuse,” or “misuse.” The word “poor” lets students know that the farming being discussed wastes water.</p> <p>2) Listen for students to bring up specific facts and interpret them directly through the lens of personal, agricultural, or industrial use of water. Probe for explicit, text-based explanations.</p> <p>3) Listen for students to draw a connection between the footnotes and naming one’s sources, as well as using many sources, to be credible.</p>



Excerpts from *The Big Thirst* Pages 20, 21, and 24
Close Reading Guide For Teacher Reference

Questions:	Teacher Guide:
<p>4. The passage reads, “Meanwhile, we haven’t yet really tried to get Americans to install water-efficient fixtures at home.” What do you think a <i>water-efficient</i> fixture is? What does <i>efficient</i> mean? How do you know? Give an example of a context clue from the text.</p> <p>5. In the previous lesson, we discussed how the evidence of facts and statistics helps to make a strong argument. What facts does the author choose to discuss in the excerpt, and what claims and reasons do they support?</p>	<p>Say: * “Please read silently in your heads as I read aloud.” Read on page 21 from “And the water revolution ...” to the bottom of the last paragraph.</p> <p>4) Listen for students to talk about turning off the water or using water thoughtfully as clues to the meaning of <i>efficient</i>. Students may also reference parts of the text not included in the excerpt.</p> <p>5) Listen for students to bring up the fact that companies are tracking water use to support the author’s claim that the water revolution is beginning in the economy, for the reason that companies in general are examining and reimagining water use; and also for the reason that that we haven’t tried very hard to get Americans to cut down on their personal use of water (50% of water for Florida lawns).</p>



Excerpts from *The Big Thirst* Pages 20, 21, and 24
Close Reading Guide For Teacher Reference

Questions:	Teacher Guide:
<p>6. Does the author believe that technology assists with water problems or makes them worse? Use at least one example from the text to support your answer.</p> <p>7. Where would “technology” cause a problem in the three categories of water use we have studied, and why? Use examples from the text to support your answer.</p>	<p>Say: * “Please read silently in your heads as I read aloud.” Read from the top of page 24 to the end of the second paragraph.</p> <p>The last two questions relate to the excerpt as a whole.</p> <p>6) Listen for students to say that the author believes both statements. They should say that the author believes technology can solve most water problems, but that other technologies, such as fracking, are causing new problems with water.</p> <p>7) Listen for students to connect personal, industrial, and agricultural uses of water to technology. Examples could include but are not limited to: the use of water in making personal computers; fertilizer runoff; modern plumbing making it easier to overuse water personally.</p>



Reader's Notes

Pages 123–125 of *The Big Thirst*

Name: _____

Date: _____

Use this Main Idea and Supporting Details graphic organizer to get the gist of the reading.

Main idea: “In the last decade, business has discovered water as both a startling vulnerability and an opportunity to reduce costs and turn water itself into a business” (123).

startling: surprising; frightening

vulnerability: a weakness open to attack or damage

Supporting detail:

Supporting detail:

Supporting detail:

Supporting detail:

Supporting detail:

Supporting detail:

Why would water be regarded by business as a “startling vulnerability”? Use at least one of the supporting details above to support your answer.



Vocabulary

Name: _____

Date: _____

Some definitions have been provided for you. For words without definitions, create a definition from the context and fill out the Context Clues column. Then, check your definition against a dictionary to see if you were correct.

Word	Definition	Context clues: How did you figure out this word?
painstaking (123)		
inevitable (123)	impossible to avoid	X
potable (123)	suitable for drinking	X
desalination (123/124)		
culinary (124)		
prosaic (124)	being dull, ordinary, or uninteresting	X
trivial (125)		



Reader's Notes Pages 123–125 of *The Big Thirst*
Answers for Teacher Reference

Use this Main Idea and Supporting Details graphic organizer to get the gist of the reading.

Main idea: “In the last decade, business has discovered water as both a <i>startling vulnerability</i> and an opportunity to reduce costs and turn water itself into a business” (123). startling: surprising; frightening vulnerability: a weakness open to attack or damage	
Supporting detail: Berkshire Hathaway’s new investment in water management	Supporting detail: “Royal Caribbean has eliminated a whole category of water use.”
Supporting detail: Using superchilled river rock on cruise ships	Supporting detail: Nalco has \$4 billion in revenue.
Supporting detail: Levi’s water life cycle analysis	Supporting detail: Levi asks outsourced companies to treat its wastewater.
<p>Why would water be regarded by business as a “startling vulnerability”? Use at least one of the supporting details above to support your answer.</p> <p>If anything goes wrong with the water in a business, the whole business could shut down. For example, if there is no water to grow the cotton for Levi’s jeans, making the jeans becomes impossible.</p>	



Vocabulary
Answers for Teacher Reference

Some definitions have been provided for you. For words without definitions, create a definition from the context and fill out the Context Clues column. Then, check your definition against a dictionary to see if you were correct.

Word	Definition	Context clues: How did you figure out this word?
painstaking (123)	taking or showing great care and effort	The description of the analysis is very detailed.
inevitable (123)	impossible to avoid	X
potable (123)	suitable for drinking	X
desalination (123/124)	taking the salt out of something	The sentence shows that the water is being treated somehow.
culinary (124)	of or relating to the kitchen or cooking	The sentence has lots of references to dining.
prosaic (124)	being dull, ordinary, or uninteresting	X
trivial (125)	of little worth or importance	The sentence next to it says, “On the other hand it is a stroke of genius,” so it must originally mean something boring or worthless.



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 3

Finding Relevant Information and Asking Research Questions: *The Big Thirst*



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can conduct short research projects to answer a question. (W.7.7) I can generate additional questions for further research. (W.7.7)	
Supporting Learning Targets	Ongoing Assessment
<ul style="list-style-type: none">• I can generate strong supporting research questions.• I can gather relevant evidence from <i>The Big Thirst</i>.	<ul style="list-style-type: none">• Reader's Notes for pages 123–125 of <i>The Big Thirst</i> (from homework)• Researcher's notebook



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Entry Task: What Is a Consequence? (7 minutes) 2. Work Time <ol style="list-style-type: none"> A. Introducing the Overarching Research Question; Reviewing the Researcher's Roadmap and Notebook (10 minutes) B. Adding and Sharing Information: Pages 123–125 of <i>The Big Thirst</i> (10 minutes) C. Supporting Research Questions (8 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Read-aloud; Turn and Talk; Reviewing Learning Targets (10 minutes) 4. Homework <ol style="list-style-type: none"> A. Read pages 127–130 of <i>The Big Thirst</i> and complete Section III: Research Notes on Text in your researcher's notebook. 	<ul style="list-style-type: none"> • Today's lesson is students' introduction to the overarching research question of the unit: "How do industry and agriculture currently manage water? What strategies exist for industry and agriculture to manage water better?" The overarching research question serves as the "big idea" for students' research; it will serve as the lens through which the research is focused, as the focus questions have done in previous writing assignments. The overarching research question should be referred to regularly throughout instruction as a means of anchoring students' work. • In turn, students are responsible for generating original supporting research questions. These are smaller, specific questions that will direct their inquiry, and later their position paper and presentation. • The researcher's roadmap and researcher's notebook build from those used in a previous module (Module 2A, Unit 3, Lesson 1), and the lesson is written as a review of their use. However, if this is the first time your students have seen these materials, consider how the lesson might be adapted to become a full introduction to the roadmap and notebook. • For the first few lessons in the research arc, students will work specifically with <i>The Big Thirst</i> as their source as they hone their research skills. Later, they will have an opportunity to find and use other sources in their research. • Encourage students to return to the original Fishman text at any point for any clarification they require. Returning to the text consistently is a "habit of mind" that should be emphasized. • Note that at this point, students are using the researcher's notebook to develop a background level of knowledge, learning and capturing information about the issue. They are not yet gathering information to answer specific questions. • The Questions I Now Have section does not necessarily relate specifically to this text; the questions are sparked in some way by this reading, but not necessarily answerable by it. • For text selections 1–5 in the researcher's notebooks, a teacher guide has been provided for you in the supporting materials of this lesson. Once students transition to finding their own research texts, be sure to informally assess students' notebooks to be sure they are taking accurate notes.



Agenda	Teaching Notes (continued)
	<ul style="list-style-type: none"> • In advance: Review the researcher's roadmap and researcher's notebook and familiarize yourself with their contents, especially if your students are being introduced to these materials for the first time; consider how the researcher's notebook should be stored: in a binder, a folder, or other means of keeping multiple pages connected and organized. • Post: Learning targets; also post the overarching research question and the poster-size researcher's roadmap prominently in the classroom. Note that the overarching question will serve as the focusing lens for the research project in which students are about to engage, and that it will stay up in the classroom until the project is completed. • Review the Fist to Five in Checking for Understanding techniques (See Appendix).

Lesson Vocabulary	Materials
consequence; overarching research question; supporting research questions	<ul style="list-style-type: none"> • Entry task (one per student) • Domain-Specific Vocabulary anchor chart (begun in Unit 1) • Overarching research question (one to display) • Researcher's roadmap (from Module 2A, Unit 3, Lesson 2; included in supporting materials for teacher reference; one per student and one poster-size to display) • Researcher's notebook (one per student and one to display) • Teacher's Guide: Researcher's Notebook, Text Selections 1–5 (for teacher reference) • Sticky notes (one pack per student) • Document camera • <i>The Big Thirst: The Secret Life and Turbulent Future of Water</i> (book; one per student) • Dictionaries (one per student) • Research Questions Selected Response (one to display) • Gist Fill-In (one to display)



Opening	Meeting Students' Needs
<p>A. Entry Task: What Is a Consequence? (7 minutes)</p> <ul style="list-style-type: none">Individually, have students answer the entry task question:<ul style="list-style-type: none">* “What is a <i>consequence</i>?”Together, on the Domain-Specific Vocabulary anchor chart, create a class definition of the word <i>consequence</i>. Listen for and include elements such as these: “a result,” “an effect,” and “what results from an action or a series of actions.”Explain that today, students will begin to work on a research project on water management and that the word <i>consequence</i> will become very important within the research. Ask:<ul style="list-style-type: none">* “Can you give some predictions for how the word <i>consequence</i> might fit into the idea of water use?”Cold call several students to get their response.Direct students’ attention to the learning targets and have them read the targets aloud with you:<ul style="list-style-type: none">* “I can generate strong supporting research questions.”* “I can gather relevant evidence from <i>The Big Thirst</i>.”Ask students how the word <i>consequence</i> might fit into one or more of the learning targets. Cold call two or three for their answers. Listen for connections such as: “We will probably read about some consequences of water use” or “Maybe our research will end up talking about what consequences there are for saving or wasting water.”	<ul style="list-style-type: none">Consider selecting students ahead of time for cold calls. Those who need practice in oral response or extended processing time can be told the prompt before class begins to prepare for their participation. This also allows for a public experience of academic success for students who may struggle with on-demand questioning, or for struggling students in general.Whenever possible, have students who need physical activity take on the active roles of managing and writing on the anchor chart, handing out the materials, or perhaps even making the necessary notes on the teacher reference materials under the document camera.



Work Time	Meeting Students' Needs
<p>A. Introducing the Overarching Research Question: Reviewing the Researcher's Roadmap and Notebook (10 minutes)</p> <ul style="list-style-type: none"> • Direct students' attention to the overarching research question posted in the classroom and read it aloud. Distribute the researcher's roadmap, researcher's notebook, and sticky notes. Remind students that these materials should look familiar to them, as they used them during Module 2. Give students 3 or 4 minutes to look over the materials individually to refresh their memories, using sticky note codes to flag places where they have questions or observations they want to share with the class. • Share out questions and observations. • Invite students to look at the researcher's roadmap (use the poster-size roadmap as a visual reference). Say: • "You'll remember that the roadmap gives researchers specific steps to follow. What steps have we already accomplished as a class so far? Where do you think we need to go next?" • Listen for students to identify that the class has set a purpose for the research through the overarching research question and that the class as a whole has been working on Step 2, using <i>The Big Thirst</i>. Clarify if needed that Step 3 is yet to arrive, but that soon students will be branching out into finding and using other resources. 	<ul style="list-style-type: none"> • Think about how you might shape the brief presentation of the overarching research question to generate engagement and excitement. Students could rise and recite the question dramatically; technology may be used to create a visually engaging PowerPoint slide for display during the research; or you may have established classroom chants or response protocols that would work here. • Sticky note codes are a way to mark up the text without obscuring the text itself with handwriting. Places where students have questions can be marked with a "?"; observations can be marked with a "!" or with a drawing of an eye or asterisk. • Questions during Work Time A that the students want to discuss should serve to elucidate or clarify the materials only. Students can place larger questions about the project itself on a Parking Lot chart for future reference, or you may address them individually after class or during independent work time.



Work Time (continued)	Meeting Students' Needs
<p>B. Adding and Sharing Information: Pages 123–125 of <i>The Big Thirst</i> (10 minutes)</p> <ul style="list-style-type: none"> • Be sure students have their text, <i>The Big Thirst</i>. Ask students to get out their homework (Reader's Notes for pages 123–125 of <i>The Big Thirst</i>) and place it next to their researcher's notebook. Then, have students open their researcher's notebook to Section I: Research Notes on Text 1. • Let them know that the homework provided a foundation for filling in this first section of the notebook, and they will be referring to it shortly. • Ask students to put their finger on Text Selection 1 in Section I of the researcher's notebook so you are sure they have found the right section. Use the document camera to guide students visually. • Next, have students transfer the main idea and ONE supporting detail from their homework to the My Notes from This Source section. • Read pages 123–125 aloud one last time, with students following along. Before you read, instruct students to listen for industrial uses of water in the text and to take notes in the My Notes from This Source section. Students should fill in at least four bullets. • Ask students to turn to an elbow partner and share one bullet that the elbow partner may not have, and then get a bullet from the elbow partner. • Have students independently fill in the Vocabulary section. Circulate and offer individual assistance. Be sure that dictionaries (electronic or print) are easily accessible to all students as they complete this work. 	<ul style="list-style-type: none"> • After stretches of intensive reading and writing during which physical movement is not built into the instruction, consider having students stand up for a quick “brain break” or a physical stretch at natural breaks in the work time (between Work Times A and B, for example). Research indicates that these breaks are important for neurological growth, especially for boys. Their cognitive processing requires more “rest times” away from the subject matter before re-engaging in learning.



Work Time (continued)	Meeting Students' Needs
<p>C. Supporting Research Questions (8 minutes)</p> <ul style="list-style-type: none">• Congratulate students on their hard work up to this point.• Inform them that they are now going to draft some supporting research questions. Display the Research Questions Selected Response on the document camera. Ask which criteria they would choose. Listen for: a, c, and e. Lead a brief whole-class discussion on why b and d are not appropriate answers. Listen for: “Long and/or complicated questions actually bog the research process down and make it harder.”• Cold call two or three students:<ul style="list-style-type: none">* “Let us know the most interesting or important fact you came across in this part of the reading.”• Choose one of these answers to model writing a supporting research question under the document camera. For example:<ul style="list-style-type: none">* “Royal Caribbean Cruise Lines saved a ton of water by switching out their buffet ice for chilled rocks—pretty simple move, but very powerful. It makes me wonder what other ‘simple’ solutions industry has put in place to save water. So I write: ‘What other simple solutions have companies come up with to save water?’ Then, I check: Is it specific? Is it relevant? Is it answerable?”• Have students complete drafts of at least one supporting research question individually, based on their notes. Circulate and offer assistance where needed.	



Closing and Assessment	Meeting Students' Needs
<p>A. Read-aloud; Turn and Talk; Reviewing Learning Targets (10 minutes)</p> <ul style="list-style-type: none"> Ask students to open <i>The Big Thirst</i> to page 127. Let them know that they are listening for <i>gist</i>: the general main idea of the excerpt. Starting at the top, read aloud and have students follow along until the middle of page 130, ending at the line "... it becomes critical to manage it better." Have students turn to an elbow partner and try to distill the basic idea of these pages into one sentence. Display the Gist Fill-In under the document camera to give students a skeleton with which to conduct this challenging thinking exercise. Together, create a class answer to the Fill-In and display it under the camera. Have students write it down in their researcher's notebook in Section III: Research Notes on Text. Invite the class to reread the learning targets with you: <ul style="list-style-type: none"> * "I can generate strong supporting research questions." * "I can gather relevant evidence from <i>The Big Thirst</i>." Ask students to do a Fist to Five to show how well they feel they have achieved the targets today. 	
Homework	Meeting Students' Needs
<ul style="list-style-type: none"> Read pages 127–130 of <i>The Big Thirst</i> and complete Section III: Research Notes on Text in your researcher's notebook. <p><i>Note: For the next lesson, students will need to look up definitions in a dictionary or on the internet. You may need to make arrangements to have a class set of dictionaries or computers available for them.</i></p>	



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 3

Supporting Materials



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Entry Task

.....
Name:

.....
Date:

Answer these questions in a few brief sentences:

What is a *consequence*?

.....
.....

When have you experienced a *consequence* in your life? What was it?

.....
.....



Overarching Research Question

Name:

Date:

How do industry and agriculture currently manage water? What strategies exist for industry and agriculture to manage water better?



Researcher's Roadmap

Name: _____

Date: _____

Good researchers stop often to look around and see where they are, check their maps, and set their course toward their final destination. They sometimes take side trips, but they use their route-finding tools to reach their destinations.

INITIATING INQUIRY

Step 1: Set a purpose for research: What is the overarching research question? What information do you need to find? Why does this inquiry matter?

Step 2: Gather background information about your topic from a reliable source and generate supporting research questions.

- Relevant
- Specific
- Answerable

GATHERING SOURCES

Step 3: Gather a variety of reliable and relevant sources.

ANALYZING SOURCES

Step 4: Use your sources. For each source:

- Skim the source to see if it is useful for you.
- If it is useful, read it and mark parts of the text that are relevant to your research.
- On your note-taking sheet, record the source information and take notes in your own words on ideas and information that are relevant.

EVALUATING RESEARCH

Step 5: After you are done reading a source, step back and evaluate:

- Which of my supporting research questions have I answered, either partially or completely?
- What additional supporting research questions did I generate?
- How thorough is my answer to the overarching research question?
- Which source might I use next?

DEVELOPING AN EVIDENCE-BASED PERSPECTIVE

Step 6: When you have enough information, synthesize and share your findings.



Researcher's Notebook

Name:

Date:

This is your place to gather information, generate questions, and keep track of your findings as you complete this research project. This will help you practice for and write your position paper and demonstrate your progress toward these learning targets:

- 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 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)

RESEARCH QUESTION(S): How do industry and agriculture currently manage water? What strategies exist for industry and agriculture to manage water better?

The following pages will help you organize your notes on your sources and your ideas about them.

Researcher's Notebook
I. Research Notes on Text

Name: _____

Date: _____

<p>Text Selection 1</p> <p>This text will help you learn information about the management of water in industry. This will help you begin to generate relevant questions about your topic.</p> <p>Track the bibliographic information for this source. The first entry has been mostly filled out for you, but you must add the date and page numbers:</p>		
Title: The Big Thirst		Author: Charles Fishman
Print or Digital: Print	Source Type: Book	Credible: Yes
		Page # (s):
<p>My notes from this source:</p> <ul style="list-style-type: none"> • • • • • 		
<p>Vocabulary:</p> <p>Identify a word from the text that is new to you, and whose meaning seems important to understanding this text: _____</p> <p>What is your initial idea of its meaning?</p> <p>_____</p> <p>What strategy did you use to determine an initial meaning for this word?</p> <p>_____</p> <p>Look this word up in a reference (dictionary, thesaurus, glossary). What is the definition of this word?</p> <p>_____</p>		



Researcher's Notebook
I. Research Notes on Text

Paragraph to sum up new information from this text about the use of water in industry:

Questions I now have (keep these relevant, specific, and answerable):

-
-
-
-
-



Researcher's Notebook
II. Paraphrasing Instructions

Name: _____

Date: _____

1. **Read for gist.** Is this a source that is relevant to your topic and questions?
2. **Reread the text** to find **key vocabulary about how water is currently managed**. While you read, text-code important passages.
3. After you've read, **paraphrase the excerpt** by using one of these sentence stems:

According To	Source	Paraphrased Fact
	writes illustrates notes observes states reports claims	

Example:

According to The New York Times, the ways we currently use water are unsustainable.

According to Fred Peace's interview, desalination is an expensive solution.

Researcher's Notebook
III. Research Notes on Text

Name:

Date:

<p>Text Selection 2</p> <p>This text will help you learn information about the management of water in industry. This will help you begin to generate relevant questions about your topic.</p> <p>Track the bibliographic information for this source. The first entry has been mostly filled out for you, but you must add the date and page numbers:</p>			
Title: The Big Thirst		Author: Charles Fishman	
Print or Digital: Print	Source Type: Book	Credible: Yes	Page #(s):
<p>Use the paraphrasing steps in Section II to help you paraphrase this source.</p>			
<p>Paraphrased information from this text about the current state of water management in industry:</p> <ul style="list-style-type: none"> • • • • • 			



Researcher's Notebook
III. Research Notes on Text

<p>Vocabulary: Identify a word from the text that is new to you, and whose meaning seems important to understanding this text: _____</p> <p>What is your initial idea of its meaning? _____</p> <p>What strategy did you use to determine an initial meaning for this word? _____</p> <p>Look this word up in a reference (dictionary, thesaurus, glossary). What is the definition of this word? _____ _____</p>	<p>Questions that will now guide my further research (remember to keep these relevant, specific, and answerable):</p> <ul style="list-style-type: none">•••••
--	--

Researcher's Notebook
IV. Research Notes on Text

Name: _____

Date: _____

<p>Text Selection 3</p> <p>This text will help you learn information about the management of water in industry. This will help you begin to generate relevant questions about your topic.</p> <p>Track the bibliographic information for this source. The first entry has been mostly filled out for you, but you must add the date and page numbers:</p>			
Title: The Big Thirst		Author: Charles Fishman	
Print or Digital: Print	Source Type: Book	Credible: Yes	Page #(s):
<p>Use the paraphrasing steps in Section II to help you paraphrase this source.</p>			
<p>Paraphrased information from this text about the current state of water management in industry:</p> <ul style="list-style-type: none"> • • • • • 			



Researcher's Notebook
IV. Research Notes on Text

<p>Vocabulary: Identify a word from the text that is new to you, and whose meaning seems important to understanding this text: _____</p> <p>What is your initial idea of its meaning? _____</p> <p>What strategy did you use to determine an initial meaning for this word? _____</p> <p>Look this word up in a reference (dictionary, thesaurus, glossary). What is the definition of this word? _____ _____</p>	<p>Questions that will now guide my further research (remember to keep these relevant, specific, and answerable):</p> <ul style="list-style-type: none">•••••
--	--

Researcher's Notebook
V. Research Notes on Text

Name: _____

Date: _____

Text Selection 4 This text will help you learn information about the management of water in agriculture. This will help you begin to generate relevant questions about your topic. Track the bibliographic information for this source. The first entry has been mostly filled out for you, but you must add the date and page numbers:			
Title: The Big Thirst	Author: Charles Fishman	Date:	
Print or Digital: Print	Source Type: Book	Credible: Yes	Page #(s):
Use the paraphrasing steps in Section II to help you paraphrase this source.			
Paraphrased information from this text about the current state of water management in agriculture:			
• • • • •			



Researcher's Notebook
V. Research Notes on Text

Vocabulary:

Identify a word from the text that is new to you, and whose meaning seems important to understanding this text: _____

What is your initial idea of its meaning?

What strategy did you use to determine an initial meaning for this word?

Look this word up in a reference (dictionary, thesaurus, glossary). What is the definition of this word?

Questions that will now guide my further research (remember to keep these relevant, specific, and answerable):

-
-
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Researcher's Notebook
VI. Research Notes on Text

Name:

Date:

Text Selection 5 This text will help you learn information about the management of water in agriculture. This will help you begin to generate relevant questions about your topic. Track the bibliographic information for this source. The first entry has been mostly filled out for you, but you must add the date and page numbers:			
Title: The Big Thirst	Author: Charles Fishman	Date:	
Print or Digital: Print	Source Type: Book	Credible: Yes	Page #(s):
Use the paraphrasing steps in Section II to help you paraphrase this source.			
Paraphrased information from this text about the current state of water management in agriculture: <ul style="list-style-type: none"> • • • • • 			



Researcher's Notebook
VI. Research Notes on Text

Vocabulary:

Identify a word from the text that is new to you, and whose meaning seems important to understanding this text: _____

What is your initial idea of its meaning?

What strategy did you use to determine an initial meaning for this word?

Look this word up in a reference (dictionary, thesaurus, glossary). What is the definition of this word?

Questions that will now guide my further research (remember to keep these relevant, specific, and answerable):

-
-
-
-
-

Researcher's Notebook
VII. Internet Research

Name: _____

Date: _____

Website 1 You will now use the internet to search for sources that answer the questions you have identified above in your notes. Track bibliographic information here:			
Title of Web Page:		Title of Website:	
Author of Article:		Credible Source?:	
Date of Website Creation:	Date I Accessed:	URL:	
Use the paraphrasing steps in Section II to help you paraphrase this source.			
Paraphrased information from this text about the current state of water management in industry or agriculture: <ul style="list-style-type: none"> • • • • • 			



Researcher's Notebook

VII. Internet Research

Vocabulary:

Identify a word from the text that is new to you, and whose meaning seems important to understanding this text: _____

What is your initial idea of its meaning?

What strategy did you use to determine an initial meaning for this word?

Look this word up in a reference (dictionary, thesaurus, glossary). What is the definition of this word?

Questions that will now guide my further research (remember to keep these relevant, specific, and answerable):

-
-
-
-
-

Researcher's Notebook
VIII. Internet Research

Name: _____

Date: _____

Website 2 You will now use the internet to search for sources. Track bibliographic information here:			
Title of Web Page:		Title of Website:	
Author of Article:		Credible Source?:	
Date of Website Creation:	Date I Accessed:	URL:	
Use the paraphrasing steps in Section II to help you paraphrase this source.			
Paraphrased information from this text about the current state of water management in industry or agriculture: <ul style="list-style-type: none"> • • • • • 			



Researcher's Notebook

VIII. Internet Research

Vocabulary:

Identify a word from the text that is new to you, and whose meaning seems important to understanding this text: _____

What is your initial idea of its meaning?

What strategy did you use to determine an initial meaning for this word?

Look this word up in a reference (dictionary, thesaurus, glossary). What is the definition of this word?

Questions that will now guide my further research (remember to keep these relevant, specific, and answerable):

-
-
-
-
-

Researcher's Notebook
IX. Internet Research

Name: _____

Date: _____

Website 3 You will now use the internet to search for sources. Track bibliographic information here:			
Title of Web Page:		Title of Website:	
Author of Article:		Credible Source?:	
Date of Website Creation:		Date I Accessed:	URL:
Use the paraphrasing steps in Section II to help you paraphrase this source.			
Paraphrased information from this text about the current state of water management in industry or agriculture: <ul style="list-style-type: none"> • • • • • 			



Researcher's Notebook

IX. Internet Research

Vocabulary:

Identify a word from the text that is new to you, and whose meaning seems important to understanding this text: _____

What is your initial idea of its meaning?

What strategy did you use to determine an initial meaning for this word?

Look this word up in a reference (dictionary, thesaurus, glossary). What is the definition of this word?

Questions that will now guide my further research (remember to keep these relevant, specific, and answerable):

-
-
-
-
-

Researcher's Notebook
X. Source from Assessment

Name: _____

Date: _____

Text Selection 6 Track the bibliographic information for this source.			
Title:	Author:	Date:	
	Source Type:	Credible:	Page #(s):
Print or Digital:			
Use the paraphrasing steps in Section II to help you paraphrase this source.			
Paraphrased information from this text about the current state of water management in agriculture: <ul style="list-style-type: none"> • • • • • 			



Researcher's Notebook

X. Source from Assessment

Vocabulary:

Identify a word from the text that is new to you, and whose meaning seems important to understanding this text: _____

What is your initial idea of its meaning?

What strategy did you use to determine an initial meaning for this word?

Look this word up in a reference (dictionary, thesaurus, glossary). What is the definition of this word?

Researcher's Notebook
XI. Source from Assessment

Name:

Date:

Text Selection 7 Track the bibliographic information for this source.			
Title:	Author:	Date:	
	Source Type:	Credible:	Page #(s):
Print or Digital:			
Use the paraphrasing steps in Section II to help you paraphrase this source.			
Paraphrased information from this text about the current state of water management in agriculture: <ul style="list-style-type: none"> • • • • • 			



Researcher's Notebook
XI. Source from Assessment

Vocabulary:

Identify a word from the text that is new to you, and whose meaning seems important to understanding this text: _____

What is your initial idea of its meaning?

What strategy did you use to determine an initial meaning for this word?

Look this word up in a reference (dictionary, thesaurus, glossary). What is the definition of this word?

Teacher's Guide: Researcher's Notebook
Text Selections 1–5 For Teacher Reference

<p>Text Selection 1</p> <p>This text will help you learn information about the management of water in industry. This will help you begin to generate relevant questions about your topic.</p> <p>Track the bibliographic information for this source. The first entry has been mostly filled out for you, but you must add the date and page numbers:</p>			
Title: The Big Thirst		Author: Charles Fishman	
Print or Digital: Print	Source Type: Book	Credible: Yes	Page #(s): 123-125
<p>My notes from this source:</p> <ul style="list-style-type: none"> • Main idea: For the first time, business is figuring out its true relationship to water, both the positives and the negatives. • One supporting detail: Levi Strauss determined that 909 gallons of water are used per pair of jeans. • Industrial use of water: Royal Caribbean Cruise Lines has saved water by subbing river stones for ice on its buffets. • Industrial use of water: The question is not just “How can we save water?” but “What are we using water for?” 			
<p>Vocabulary:</p> <p>Identify a word from the text that is new to you, and whose meaning seems important to understanding this text: prodigious</p> <p>What is your initial idea of its meaning? huge</p> <p>What strategy did you use to determine an initial meaning for this word? The sentence goes on to talk about how many items of food are on the buffet (lots)</p> <p>Look this word up in a reference (dictionary, thesaurus, glossary). What is the definition of this word? From Word Central: very big : HUGE</p>			

Teacher's Guide: Researcher's Notebook
Text Selections 1–5 For Teacher Reference

Paragraph to sum up new information from this text about the use of water in industry:

Industry is going to need to think about water in new ways in the coming years. Some companies, such as Levi Strauss and Royal Caribbean, are already beginning to do this. They are investigating how much water they use, and in what ways. By doing this, they are not only saving water, but also rethinking how they use water in the first place.

Questions I now have (keep these relevant, specific, and answerable):

- What are other companies doing to “think new” about their water use?
- Is industry where the most water is spent or used in our society?
- Are there companies that are resisting looking at their water use?

Teacher's Guide: Researcher's Notebook
Text Selections 1–5 For Teacher Reference

<p>Text Selection 2</p> <p>This text will help you learn information about the management of water in industry. This will help you begin to generate relevant questions about your topic.</p> <p>Track the bibliographic information for this source. The first entry has been mostly filled out for you, but you must add the date and page numbers:</p>			
Title: The Big Thirst		Author: Charles Fishman	
Print or Digital: Print	Source Type: Book	Credible: Yes	Page #(s): 127-130
Use the paraphrasing steps in Section II to help you paraphrase this source.			
<p>Paraphrased information from this text about the current state of water management in industry:</p> <ul style="list-style-type: none"> • According to Eric Berliner, it is important to think about how much water use costs the company. • Janette Bombardier states that reforming water use gives her company a competitive edge. • According to Bombardier, IBM Burlington put several dozen actions in place to save the water it's saving now. • According to Fishman, it is a smart move for companies to help other companies manage water. • According to Fishman's The Big Thirst, IBM Burlington is saving millions of dollars by rethinking its water use. 			

Teacher's Guide: Researcher's Notebook
Text Selections 1–5 For Teacher Reference

Vocabulary:

Identify a word from the text that is new to you, and whose meaning seems important to understanding this text: daunting

What is your initial idea of its meaning? difficult

What strategy did you use to determine an initial meaning for this word? The sentence goes on to talk about how a computer is necessary to complete the task being discussed

Look this word up in a reference (dictionary, thesaurus, glossary). What is the definition of this word?
From Word Central: to lessen the courage of : make afraid

Questions that will now guide my further research (remember to keep these relevant, specific, and answerable):

- How difficult or easy is it for companies to reform their water use?
- Did the rest of IBM follow Burlington's example?
- Do other computer companies, like Apple, use similar amounts of water?
- Are other computer companies, like Apple, reforming their water use too?

Teacher's Guide: Researcher's Notebook
Text Selections 1–5 For Teacher Reference

Name: _____

Date: _____

<p>Text Selection 3</p> <p>This text will help you learn information about the management of water in industry. This will help you begin to generate relevant questions about your topic.</p> <p>Track the bibliographic information for this source. The first entry has been mostly filled out for you, but you must add the date and page numbers:</p>			
Title: The Big Thirst		Author: Charles Fishman	
Print or Digital: Print	Source Type: Book	Credible: Yes	Page #(s): 112-116
<p>Use the paraphrasing steps in Section II to help you paraphrase this source.</p>			
<p>Paraphrased information from this text about the current state of water management in industry:</p> <ul style="list-style-type: none"> • According to Fishman, Michell Wool is now recycling “purple water” to help wash the wool. • According to Fishman, Michell Wool uses 15% of “purple water” that would have polluted the ocean otherwise. • According to Fishman, the town of Salisbury and Michell Wool have forged a partnership that addresses both their water needs. 			

Teacher's Guide: Researcher's Notebook
Text Selections 1–5 For Teacher Reference

Vocabulary:

Identify a word from the text that is new to you, and whose meaning seems important to understanding this text: haute couture

What is your initial idea of its meaning? Something that uses wool.

What strategy did you use to determine an initial meaning for this word? This is in a list of things that use wool, but other than that., I don't have any other clues.

Look this word up in a reference (dictionary, thesaurus, glossary). What is the definition of this word? Wikipedia: the creation of high-end, fashionable clothing

Questions that will now guide my further research (remember to keep these relevant, specific, and answerable):

- Are there other company/town water partnerships?
- What about partnerships in the US?
- Are there any partnerships like this close to me (locally)?
- Do other materials, like cotton, have the same water needs?

Teacher's Guide: Researcher's Notebook
Text Selections 1–5 For Teacher Reference

Name: _____

Date: _____

<p>Text Selection 4</p> <p>This text will help you learn information about the management of water in agriculture. This will help you begin to generate relevant questions about your topic.</p> <p>Track the bibliographic information for this source. The first entry has been mostly filled out for you, but you must add the date and page numbers:</p>			
Title: The Big Thirst	Author: Charles Fishman	Date:	
Print or Digital: Print	Source Type: Book	Credible: Yes	Page #(s): 183-186
<p>Use the paraphrasing steps in Section II to help you paraphrase this source.</p>			
<p>Paraphrased information from this text about the current state of water management in agriculture:</p> <ul style="list-style-type: none"> • Fishman asserts that the water shortage for rice farmers in Australia is a make-or-break situation. • Laurie Arthur claims that water is 90% of the assets of his rice business. • Australia's Murray River Basin is similar to Las Vegas in terms of its water needs. • Rice yields in the river basin, Arthur asserts, are the best on the planet. • Six gigaliters of water is comparable to giving every person on earth a bottle of expensive water, Fishman claims. 			

Teacher's Guide: Researcher's Notebook
Text Selections 1–5 For Teacher Reference

<p>Vocabulary: Identify a word from the text that is new to you, and whose meaning seems important to understanding this text: idle</p> <p>What is your initial idea of its mean? something negative</p> <p>What strategy did you use to determine an initial meaning for this word? “Bad news” indicates that the word has a negative connotation.</p> <p>Look this word up in a reference (dictionary, thesaurus, glossary). What is the definition of this word? Word Central: not being used or employed</p>	<p>Questions that will now guide my further research (remember to keep these relevant, specific, and answerable):</p> <ul style="list-style-type: none"> • Who gets to make the decisions about water use in a desert community? • What other ways of providing water to deserts occur in the United States? • How much more water do desert communities use than water-rich communities?
---	---

Teacher's Guide: Researcher's Notebook
Text Selections 1–5 For Teacher Reference

Name: _____

Date: _____

<p>Text Selection 5</p> <p>This text will help you learn information about the management of water in agriculture. This will help you begin to generate relevant questions about your topic.</p> <p>Track the bibliographic information for this source. The first entry has been mostly filled out for you, but you must add the date and page numbers:</p>			
Title: The Big Thirst	Author: Charles Fishman	Date:	
Print or Digital: Print	Source Type: Book	Credible: Yes	Page #(s): 186-187
<p>Use the paraphrasing steps in Section II to help you paraphrase this source.</p>			
<p>Paraphrased information from this text about the current state of water management in agriculture:</p> <ul style="list-style-type: none"> • Questions about how much crop yield farmers have in deserts are important to answer. • Fishman claims that the conversation about water use in Arthur's town was personal, but also theoretical. • Arthur has been dealing with the consequences of drought for eight years. • Arthur wonders whether the days of plentiful rain are never returning. • Fishman notices that Arthur's town has shrunk because of the lack of water. 			

Teacher's Guide: Researcher's Notebook
Text Selections 1–5 For Teacher Reference

<p>Vocabulary: Identify a word from the text that is new to you, and whose meaning seems important to understanding this text: halcyon</p> <p>What is your initial idea of its meaning? Good? Lots of water?</p> <p>What strategy did you use to determine an initial meaning for this word? The next quote says that the “big water” days are gone, so I know they’re connected somehow.</p> <p>Look this word up in a reference (dictionary, thesaurus, glossary). What is the definition of this word? Word Central: CALM, peaceful</p>	<p>Questions that will now guide my further research (remember to keep these relevant, specific, and answerable):</p> <ul style="list-style-type: none"> • What other farmers farm in deserts? • How do farmers in deserts get their water other than from rivers? • What has happened to Toowoomba as of now (2013)?
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Research Questions

Selected Response

.....
Name:
.....

.....
Date:
.....

Which of the following criteria do all good research questions have?

- a. Relevant
- b. Long
- c. Specific
- d. Answerable
- e. Complicated
- f. Broad



Gist Fill-In

Pages 127–130 of *The Big Thirst*

.....
Name:
.....

Date:
.....

1. The main idea of this excerpt of reading is that the IBM Co.

.....

2. This shows that water in industry

.....

and that

.....



EXPEDITIONARY
LEARNING

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

Paraphrasing and Evaluating Sources: Pages 112–116 of *The Big Thirst*



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
<p>I can use a variety of strategies to determine the meaning of unknown words or phrases. (L.7.4)</p> <p>I can gather relevant information from a variety of sources. (W.7.8)</p> <p>I can evaluate the credibility and accuracy of each source. (W.7.8)</p> <p>I can quote or paraphrase others' work while avoiding plagiarism. (W.7.8)</p>	
Supporting Learning Targets	Ongoing Assessment
<ul style="list-style-type: none">• I can consult a dictionary to determine or clarify the meaning of a word.• I can correctly paraphrase information I gather from <i>The Big Thirst</i>.• I can evaluate the credibility and accuracy of a source.	<ul style="list-style-type: none">• Pages 112–116 of <i>The Big Thirst</i> Text-Dependent Questions• Exit Ticket: Practicing Paraphrasing



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Entry Task: Dictionary Definitions (10 minutes)B. Reviewing Learning Targets (1 minute)2. Work Time<ol style="list-style-type: none">A. Review: How to Paraphrase (5 minutes)B. Read-Aloud of Pages 112–116 of <i>The Big Thirst</i> with Text-Dependent Questions (25 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Exit Ticket: Practicing Paraphrasing (4 minutes)4. Homework<ol style="list-style-type: none">A. Reread pages 112–116 and fill out your Researcher's Notebook.	<ul style="list-style-type: none">• This lesson offers a quick review of the skill of paraphrasing, which is taught in Module 2; in the event that students did not learn about it in Module 2, there is enough review here to give them a good foundation. During Work Time A, if you notice several students struggling with the meaning of “paraphrase,” then you may want to take some additional time to review this concept.• This lesson also serves as a continuation of the launch of the researcher's notebook. Students will likely still be getting accustomed to using the researcher's notebook, so pay special attention to whether any students are facing any obstacles as they follow the steps of paraphrasing in this lesson. You may want to ask students to take out their researcher's notebook entries from the previous lesson so you can take a quick peek at them as you circulate during the entry task and exit tickets to see if there are any general patterns of confusion that you can address.• In this lesson, you remind students to collect information about their sources in their researcher's notebooks. There will be a formal lesson on MLA citation in Unit 3; for now, continue to remind students to fill in the appropriate section of their researcher's notebooks.• The Pages 112–116 of <i>The Big Thirst</i> Close Reading Guide asks you to introduce the concept of positive consequences of water management. In this unit, you will continue to discuss the idea of consequences of different types of water management as you scaffold students' understanding for Unit 3, when they will make a claim about the best ways to manage water, taking into account the consequences of different methods in both industry and agriculture.• In advance: Have dictionaries or computers accessible for the entry task.• Post: Learning targets.



Lesson Vocabulary	Materials
agitated; paraphrase, credibility; sheared, grubby, scouring, prescient, virtuous, urban runoff, potable; positive consequence	<ul style="list-style-type: none"> • Entry task (one per student) • Class set of dictionaries or computers with internet access • Domain-Specific Vocabulary anchor chart (begun in Unit 1) • Researchers' Notebooks (distributed in Lesson 3) • Document camera • <i>The Big Thirst: The Secret Life and Turbulent Future of Water</i> (book; one per student) • Pages 112–116 of <i>The Big Thirst</i> Text-Dependent Questions (one per student and one to display) • Pages 112–116 of <i>The Big Thirst</i> Close Reading Guide (for teacher reference) • Exit ticket (one per student)

Opening	Meeting Students' Needs
<p>A. Entry Task: Dictionary Definitions (10 minutes)</p> <ul style="list-style-type: none"> • As students enter the room, distribute the entry task and direct them to use the class set of dictionaries or computers with Internet access to follow the directions on the slip. Depending on numbers, students may need to share these resources. • Allow them 5 minutes to fill out their entry tasks. As they are writing, circulate and check which definition of <i>agitated</i> the students are writing down. Look for them to write down something like: “to shake or move briskly.” • When students are finished with the entry task, cold call someone who wrote down the correct definition to share it and why he or she chose it. Add the definition to the Domain-Specific Vocabulary anchor chart. • Listen for the student to say: “I chose this because I used the context clues of ‘washed,’ ‘wrung out,’ and ‘moved’ to help me realize they were talking about the cleaning process. The other definitions did not make sense in this context.” • If any students chose a different definition, discuss the other possibilities and why they do not fit in this context. 	<ul style="list-style-type: none"> • When possible, have students who need physical activity take on the active role of managing the distribution and collection of materials.



Opening (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Explain to students that, as they read complex text and complete their research, they will likely encounter several words they don't know. They should use the process they just experienced—thoughtfully guessing what the word means, looking it up, and using context clues to select the right definition—as they fill out their Researcher's Notebooks.• Note to students that this process need not be enacted for every word that is unfamiliar. Instead, they should ask themselves whether the word seems important to overall meaning or the meaning of specific evidence.	
<p>B. Reviewing Learning Targets (1 minute)</p> <ul style="list-style-type: none">• Read the learning targets aloud:<ul style="list-style-type: none">* “I can consult a dictionary to determine or clarify the meaning of a word.”* “I can correctly paraphrase information I gather from <i>The Big Thirst</i>.”* “I can evaluate the credibility and accuracy of a source.”• Explain that students will be integrating the skill they've just practiced in their entry task—determining the correct definition of a word—as they read different sources, <i>paraphrase</i> the information within them, and assess the <i>credibility</i>, or value, of each source during this research project in their researcher's notebook. Tell them you will guide them through these learning targets step-by-step today.	



Work Time	Meeting Students' Needs
<p>A. Review: How to Paraphrase (5 minutes)</p> <ul style="list-style-type: none">• Write the word <i>paraphrase</i> on the board.• Ask students to turn and talk to their seat partners about what <i>paraphrase</i> means for 1 minute.• Cold call a pair of students to share out.• Listen for: “Paraphrasing means to put an author’s ideas into your own words while still giving credit to the author in some way.” If students do not remember all these details, remind them why it’s important to paraphrase while doing research. Explain that we want to avoid putting our entire research paper in quotes, but we also cannot take the ideas of another writer word-for-word. Paraphrasing allows us to give credit to a writer’s ideas while writing things in our own words.• In addition, explain that students often quote directly because they don’t understand the text well enough to paraphrase it. A benefit to paraphrasing is that it pushes them to understand what they’re talking about.• Explain to students that they will continue to read excerpts from <i>The Big Thirst</i> and take notes in their researcher’s notebooks for the next few lessons as they think about the overarching research questions: “How do industry and agriculture currently manage water? What strategies exist for industry and agriculture to manage water better?” From now on, beginning with tonight’s homework, there will be a place in the researcher’s notebook asking them to paraphrase key ideas from Fishman’s text. They will continue to paraphrase other texts they read as well after they are finished with <i>The Big Thirst</i>.• Remind students that, as they conduct their research, they must keep all their information about their sources so they can properly cite them later using the MLA format. They learned how to collect information about sources in Module 2. Explain that in this module, during Unit 3, you will teach them the MLA format. For now, they should just fill out all the blanks in their researcher’s notebook so they are ready for that step when the time comes.	<ul style="list-style-type: none">• Hearing a complex text read slowly, fluently, and without interruption or explanation promotes fluency for students: They are hearing a strong reader read the text aloud with accuracy and expression and are simultaneously looking at and thinking about the words on the printed page. Be sure to set clear expectations that students read along silently in their heads as you read the text aloud.



Work Time (continued)	Meeting Students' Needs
<p>B. Read-Aloud of Pages 112–116 of <i>The Big Thirst</i> with Text-Dependent Questions (25 minutes)</p> <ul style="list-style-type: none">• Be sure students have their text, <i>The Big Thirst</i>. Remind students that before they can paraphrase an author's key ideas, they need to understand what an excerpt of a text is saying overall. Then they can pull out key details and rewrite them in their own words. Tell them that you will help them through this process by spending time in today's lesson understanding an excerpt from pages 112–116 of <i>The Big Thirst</i>. Then, they will practice paraphrasing at the end of class and for homework.• Display (using a document camera) and distribute Pages 112–116 of <i>The Big Thirst</i> Text-Dependent Questions. Guide students through this handout by using the Pages 112–116 of <i>The Big Thirst</i> Close Reading Guide (for teacher reference).	
Closing and Assessment	Meeting Students' Needs
<p>A. Exit Ticket: Practice Paraphrasing (4 minutes)</p> <ul style="list-style-type: none">• Distribute an Exit Ticket to each student.• Circulate as students fill them out, providing guidance for any students who may be struggling.• Collect and review Exit Tickets before the next class so you can clarify any confusion and identify students who may need additional support with paraphrasing.	
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Reread pages 112–116 of <i>The Big Thirst</i> and fill out your researcher's notebook for this excerpt under Text Selection 3. <p><i>Note: Consider bringing in a liter-size bottle of water or finding an image of one for students to visualize the reference in the reading in the next lesson of a liter bottle of Evian water.</i></p>	



EXPEDITIONARY
LEARNING

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

Supporting Materials



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Entry Task

Name:

Class/Section:

On page 113 of *The Big Thirst*, author Charles Fishman explains the process of cleaning wool used in Salisbury, Australia. He explains that the wool is “washed in cold water, lightly agitated, wrung out, and moved.”

1. What do you think the word *agitated* means in this context? Write your ideas below:

2. Now look up the word *agitate* in a dictionary. There will be several different definitions. Read all of them, then select what you think is the best definition for this context.

3. Write the definition you chose here:

4. Explain how you determined that this is the correct definition:



Pages 112–116 of *The Big Thirst*
Text-Dependent Questions

Name: _____

Date: _____

1. Reread the second paragraph on page 112, starting with “So when Australian sheep get sheared—and Australia is still the largest producer of wool in the world ...” Then, discuss with your partner what you think these words mean:
 - A. sheared
 - B. grubby
 - C. scouring

2. In the third paragraph on page 112, Fishman writes, “Salisbury uses a megaliter of water a day to wash wool,” and in the last paragraph of page 113, he states, “Salisbury gets just eighteen inches of rain a year.” What do you infer is the problem here?

3. Reread the last full sentence in the first paragraph on the top of page 114. Why is it absurd to be washing greasy wool in tap water?

4. The word *prescient* comes from the prefix *pre*, meaning “before,” and the root word for *science*, which means “to know.” Given that, in the third paragraph on page 114, what does the line “The tickle of water insecurity turned out to be almost scarily prescient” mean? How was this “tickle” a way of “pre-knowing”?



Pages 112–116 of *The Big Thirst*
Text-Dependent Questions

5. Pause and discuss the gist of these paragraphs with your seat partner:
- A. Page 114, “As it happened ...”
 - B. Page 114, “And so the town ...”
 - C. Page 115, “The basic idea ...”
6. Considering the last four paragraphs, what was the problem and what was the solution that Salisbury found?
-
-
7. What are the purple pipes? Why do you think they are purple?
-
-
8. What are some of the benefits of Michell Wool using SA water (Salisbury, Australia’s purple pipe water)?
-
-
9. At the top of page 116, Fishman refers to a “virtuous water cycle.” Virtuous means “imparting virtue, or giving benefit.” This use of the word virtuous is often heard in the world of problems and solutions. How does the word virtuous fit into the water cycle as discussed here?
-
-



Pages 112–116 of *The Big Thirst*
Close Reading Guide For Teacher Reference

Time: 25 minutes

Questions	Teacher Guide
<p>1. Reread the second paragraph on page 112, starting with “So when Australian sheep get sheared—and Australia is still the largest producer of wool in the world ...” Then, discuss with your partner what you think these words mean:</p> <p>A. sheared</p> <p>B. grubby</p> <p>C. scouring</p>	<p>(3 minutes)</p> <p>Say:</p> <p>* “Read along in your heads while I read aloud.”</p> <p>Read the first two paragraphs of page 112. Then pause and reveal Question 1 using a document camera or projector. Try to project only the question students are working on, if possible, instead of projecting all of the questions at once. This will help them to focus on the question at hand.</p> <p>Ask students to discuss their answers with their seat partners and then cold call students after a minute or two. Listen for them to define <i>sheared</i> as “shaved,” <i>grubby</i> as “dirty,” and <i>scouring</i> as “scraping.”</p> <p>These words will be essential for them to understand what the text means.</p>
<p>2. In the third paragraph on page 112, Fishman writes, “Salisbury uses a megaliter of water a day to wash wool,” and in the last paragraph of page 113, he states, “Salisbury gets just eighteen inches of rain a year.” What do you infer is the problem here?</p>	<p>(6 minutes)</p> <p>Say:</p> <p>* “Read silently in your heads as I continue to read aloud.”</p> <p>Read from the third paragraph of page 112 to the end of the first paragraph that carries onto page 114, stopping at “... absurd to be washing greasy wool in tap water.”</p>



Pages 112–116 of *The Big Thirst*
Close Reading Guide For Teacher Reference

Questions:	Teacher Guide:
3. Reread the last full sentence in the first paragraph on the top of page 114. Why is it absurd to be washing greasy wool in tap water?	<p>Project and read aloud Question 2, pausing before moving on to Question 3. Direct students to think in their heads first about the answer to the question and to raise their hands when they have an answer. Call on different students to share their answers.</p> <p>For Question 2, listen for: “They are going to run out of water, since they have so little rainfall and they use so much just to wash wool.”</p> <p>For Question 3, listen for: “It’s absurd, or crazy, since that’s freshwater they could use for drinking and they are wasting it and making it really dirty.”</p>
4. The word prescient comes from the prefix pre, meaning “before,” and the root word for science, which means “to know.” Given that, in the third paragraph on page 114, what does the line “The tickle of water insecurity turned out to be almost scarily prescient” mean? How was this “tickle” a way of “pre-knowing”?	<p>(2 minutes)</p> <p>Say:</p> <p>* “Follow along in your books as I read the next two paragraphs aloud.”</p> <p>Read the next two paragraphs on page 114, stopping at “... almost scarily prescient.”</p> <p>Project and read aloud Question 4.</p> <p>Listen for: “The fear of water scarcity turned out to be correct; they knew it was going to happen, and then it did.”</p>



Pages 112–116 of *The Big Thirst*
Close Reading Guide For Teacher Reference

Questions:	Teacher Guide:
<p>5. Pause and discuss the gist of these paragraphs with your seat partner:</p> <p>A. Page 114, “As it happened ...”</p> <p>B. Page 114, “And so the town ...”</p> <p>C. Page 115, “The basic idea ...”</p>	<p>(4 minutes)</p> <p>Say:</p> <p>* “Read silently in your heads as I continue to read aloud.”</p> <p>Read from the second full paragraph on page 114 to the end of the second paragraph on page 115, stopping at “... potable water supply pipes.”</p> <p>Explain that <i>urban runoff</i> refers to rainwater that falls and collects in the city, on top of surfaces like roads and sidewalks, and it can be a hassle.</p> <p>Explain that <i>potable</i> means “drinkable.”</p> <p>Add <i>runoff</i> and <i>potable</i> to the Domain-Specific Vocabulary anchor chart.</p> <p>Project and read aloud Question 5. Direct students to discuss their thoughts with their partners and raise their hands when they are done. When the class is ready, call on different pairs to share their answers.</p> <p>Listen for:</p> <p>Salisbury had lots of runoff, or extra rainwater, to get rid of. The town directed its rainwater toward places that needed water, but not necessarily drinking water.</p> <p>The town came up with a solution that solved two problems at once.</p>



Pages 112–116 of *The Big Thirst*
Close Reading Guide For Teacher Reference

Questions:	Teacher Guide:
6. Considering the last four paragraphs, what was the problem and what was the solution that Salisbury found?	<p>(3 minutes)</p> <p>Project and read aloud Question 6.</p> <p>Direct students to discuss their thoughts with their partners and raise their hands when they are done. When the class is ready, call on different pairs to share their answers.</p> <p>Listen for: “They had too much runoff water in the wrong places and not enough water for things like irrigation and washing wool, so they reused their runoff water to meet their needs.”</p>
7. What are the purple pipes? Why do you think they are purple?	<p>(3 minutes)</p> <p>Project and read aloud Question 7. Direct students to think in their heads first about the answer to the question and to raise their hands when are ready. Call on different students to share their answers.</p> <p>Listen for: “Purple pipes are pipes that carry the reusable water, not the water that is drinkable. They are probably purple so people can tell them apart.”</p>



Pages 112–116 of *The Big Thirst*
Close Reading Guide For Teacher Reference

Questions:	Teacher Guide:
8. What are some of the benefits of Michell Wool using SA water (Salisbury, Australia’s purple pipe water)?	<p>(4 minutes)</p> <p>Read the rest of page 115 to the second full paragraph on page 116, stopping at “... cutting the cost of making hot water almost in half.”</p> <p>Project and read aloud Question 8. Direct students to discuss their thoughts with their partners and to raise their hands when they have an answer. Call on different students to share their answers.</p> <p>Listen for: “Michell Wool saved money, which allowed their business to improve, and they are saving hot water.”</p> <p>Explain that these benefits are a form of <i>positive consequences</i>, or good results or side-effects, of the choices that Michell Wool made to manage its water use better.</p> <p>Tell students that you will be returning to this idea of the consequences of different types of water management—both positive and negative—as they read more about water management and sustainability and begin their own research.</p>
9. At the top of page 116, Fishman refers to a “virtuous water cycle.” Virtuous means “imparting virtue, or giving benefit.” This use of the word virtuous is often heard in the world of problems and solutions. How does the word virtuous fit into the water cycle as discussed here?	<p>Listen for students to say that the Michell company has created benefits for itself in the water cycle by finding a cheaper way of using and recycling water.</p> <p>Point out that students will hear the phrase “virtuous water cycle” again as the unit continues.</p>



Exit Ticket:
Practicing Paraphrasing

.....
Name:

.....
Date:

Read the excerpt from *The Big Thirst* below. Then, on the lines below, paraphrase the excerpt in your own words.

“Just-sheared wool arrives strapped into heavy, bulging bales, chest-high, bristling with grass, sticks, dirt, burrs. Raw wool is called greasy wool, because in addition to dirt, the wool is coated with the sheep’s natural protection, lanolin.”

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EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 5

Contrasting Authors' Use of Evidence: Bottled Water



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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 gather relevant information from a variety of sources. (W.7.8)

I can quote or paraphrase others' work while avoiding plagiarism. (W.7.8)

Supporting Learning Targets

- I can contrast how two authors interpret facts about bottled water differently.
- I can gather relevant information from *The Big Thirst*.

Ongoing Assessment

- Thinking Log
- Pages 183–186 of *The Big Thirst* Text-Dependent Questions Researcher's notebook



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Thinking Log (3 minutes) B. Researcher's Notebook: Questions and Answers (5 minutes) C. Reviewing Learning Targets (1 minute) 2. Work Time <ol style="list-style-type: none"> A. Contrasting Authors' Use of Evidence (10 minutes) B. Read-aloud of Pages 183–186 of <i>The Big Thirst</i> with Text-Dependent Questions (25 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Reviewing Domain-Specific Vocabulary Anchor Chart (1 minute) 4. Homework <ol style="list-style-type: none"> A. Reread pages 183–186 and fill out your researcher's notebook under Text Selection 4. 	<ul style="list-style-type: none"> • This lesson is a continuation and refinement of skills learned in previous lessons within this unit, particularly Lesson 1, when students contrasted different authors' use of evidence, and Lesson 4, when they interacted with the central ideas in <i>The Big Thirst</i> by answering text-dependent questions. • Work Time A incorporates a Venn diagram similar to that of Lesson 1. In this lesson, students read two excerpts about the issue of bottled water, a topic that is familiar to them (from the End of Unit 1 Assessment) but is not related to their current research question. The purpose behind this is to reinforce the discrete skill of contrasting authors' use of evidence. If time allows, consider asking students to assess the credibility of these sources. • In Work Time A, if you wish to add an extra emphasis on incorporating multimedia evidence, consider substituting one of the excerpts for one of the Charles Fishman video clips used in Unit 1, Lesson 5. • Later, students may use the information learned in this lesson to augment the Internet research they will conduct beginning in Lesson 7. • The reading from <i>The Big Thirst</i> and the corresponding text-dependent questions in this lesson introduce the idea of the consequences of decisions about agricultural water management and the nuanced complexity of growing crops in dry, yet fertile soil, far away from a water source, which will be further developed in Lesson 6. • In many ways, this lesson signals a shift from simply collecting information about the management of water to forming opinions about the potential mismanagement of water. You may notice students beginning to form opinions or conclusions about irrigation in Australia. Try not to encourage or discourage a particular opinion as students naturally begin to ask questions and become more critical in their thinking about this particular issue. Refer back consistently to the idea that complex problems have complex solutions, with many consequences; students will need to think and rethink about their judgments. • In advance: Review the Fist to Five in Checking for Understanding techniques (See Appendix). • Post: Learning targets and the Evaluating an Argument anchor chart.



Lesson Vocabulary	Materials
basin, rangeland, irrigator, baron	<ul style="list-style-type: none">• Researcher's notebook (begun in Lesson 3; one per student)• Note Sheet: Four Types of Evidence (from Lesson 1; one per student)• Evaluating an Argument anchor chart (begun in Unit 1, Lesson 7)• Contrasting Evidence: Bottled Water (one per student)• Venn diagram (one per student)• Document camera• Pages 183–186 of <i>The Big Thirst</i> Text-Dependent Questions (one per student and one to display)• Pages 183–186 of <i>The Big Thirst</i> Close Reading Guide (for teacher reference)• <i>The Big Thirst: The Secret Life and Turbulent Future of Water</i> (book; one per student)• Domain-Specific Vocabulary anchor chart (begun in Unit 1)



Opening	Meeting Students' Needs
<p>A. Thinking Log (3 minutes)</p> <ul style="list-style-type: none">• Invite students to take out their Thinking Logs and respond to this prompt under Lesson 5: “Based on what you read for homework, how have you expanded your understanding of water sustainability?”	<ul style="list-style-type: none">• When possible, have students who need physical activity take on the active role of handing out materials.
<p>B. Researcher's Notebook: Questions and Answers (5 minutes)</p> <ul style="list-style-type: none">• Have students take out their researcher's notebooks. Ask them to hold up a Fist to Five about how comfortable and confident they feel with filling out its various sections—a fist meaning “I’m stuck!” and a five meaning “I understand it completely.” If you see a lot of fists to 3s, allow the next 5 minutes to answer any questions students may have.• If you see mostly 4s and 5s, ask students to compare their researcher's notebooks to their seat partner's and notice any discrepancies between the two. Circulate as they do this to look at different students' notebooks, keeping an eye out for any students who may be struggling. Stop the class and point out any common misunderstandings or sections of the researcher's notebooks where their entries need refinement.	
<p>C. Reviewing Learning Targets (1 minute)</p> <ul style="list-style-type: none">• Direct students to the learning targets and read them aloud:<ul style="list-style-type: none">* “I can contrast how two authors interpret facts about bottled water differently.”* “I can gather relevant information from <i>The Big Thirst</i>.”• Explain that the first target is a new one, and the second is a continuation of the research process they have started. Specify that the students are taking “time out” from their research to compare and contrast evidence, giving them practice in understanding and identifying the different ways that sources develop and choose information.	



Work Time	Meeting Students' Needs
<p>A. Contrasting Authors' Use of Evidence (10 minutes)</p> <ul style="list-style-type: none">• Tell students that today they will contrast two authors' use of evidence on the topic of bottled water, much like they did in Lesson 1 when they compared Fishman and Kingsolver. Students will use the Note Sheet: Four Types of Evidence from Lesson 1 and the Evaluating an Argument anchor chart from Unit 1 to help them analyze the evidence provided.• Distribute Contrasting Evidence: Bottled Water and the Venn diagram.• Ask students to read along with you as you read the excerpts aloud. Pause after each sentence to allow them time to fill in their Venn diagrams.• Point out the sources for both the excerpts and ask students to discuss with a partner whether the source seems credible, and why.• Allow students an additional 4 minutes to reread the excerpts to themselves and finish filling out their Venn diagrams and the accompanying reflection question.• Invite students to turn to their elbow partners and share what they wrote.• After about 2 minutes of discussion, cold call a couple of students to share out with the class.• Listen for students to apply their knowledge of the four types of evidence. For example: "Excerpt 1 uses more facts and statistics" or "Excerpt 2 uses first person as a way of sounding like an expert."• Ask students to put away their note sheets.	<ul style="list-style-type: none">• Keep in mind that this lesson requires visual comparison and written transferal of information. If students are visually or physically challenged, this process might be modified for them ahead of time so they are not unnecessarily impeded in categorizing and analyzing the evidence. Possible modifications include partially filled-in Venn diagrams, creating a Venn diagram on chart paper and/or lined paper instead of 8-by-11 paper, or giving the students items from the readings on sticky notes to physically sort on the Venn diagram.• This lesson hinges on the accurate and full completion of two documents. Think ahead to whether any previous modifications to these materials for students with special needs will require similar modifications in this lesson. If a student struggles with taking notes, consider pairing him or her with a proficient student or giving examples from the text on sticky notes.• Consider giving ELLs or struggling students pictures illustrating dry, arid landscapes and irrigation channels.



Work Time (continued)	Meeting Students' Needs
<p>B. Read-aloud of Pages 183–186 of <i>The Big Thirst</i> with Text-Dependent Questions (25 minutes)</p> <ul style="list-style-type: none">• Display (using the document camera) and distribute Pages 183–186 of <i>The Big Thirst</i> Text-Dependent Questions. Guide students through this handout by using the Pages 183–186 of <i>The Big Thirst</i> Close Reading Guide (for teacher reference).	

Closing and Assessment	Meeting Students' Needs
<p>A. Reviewing Domain-Specific Vocabulary Anchor Chart (1 minute)</p> <ul style="list-style-type: none">• Ask students:<ul style="list-style-type: none">* “What new words were in today’s reading that we should add to the Domain-Specific Vocabulary anchor chart?”• Cold call students and listen for them to provide today’s vocabulary words, such as <i>basin</i> and <i>irrigator</i>. Write those words on the chart.	
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Reread pages 183–186 and fill out your researcher’s notebook under Text Selection 4.	



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 5

Supporting Materials



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Contrasting Evidence: Bottled Water

Name: _____

Date: _____

Excerpt 1:

In theory, bottled water in the United States falls under the regulatory authority of the Food and Drug Administration. In practice, about 70 percent of bottled water never crosses state lines for sale, making it exempt from FDA oversight.

On the other hand, water systems in the developed world are well-regulated. In the U.S., for instance, municipal water falls under the purview of the Environmental Protection Agency, and is regularly inspected for bacteria and toxic chemicals. Want to know how your community scores? Check out the Environmental Working Group's National Tap Water Database.

While public safety groups correctly point out that many municipal* water systems are aging and there remain hundreds of chemical contaminants for which no standards have been established, there's very little empirical** evidence that suggests bottled water is any cleaner or better for you than its tap equivalent.

* municipal—city-wide

** empirical—observable, provable

Source: <http://www.mnn.com/food/healthy-eating/stories/5-reasons-not-to-drink-bottled-water>

(Mother Nature Network)

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Contrasting Evidence: Bottled Water

Excerpt 2

We think it's safer or more pure than tap water. Ironically, bottled water, in some cases, is the same water that comes from a tap, according to the film (Tapped), it just costs about 1,000 times more. In other cases, companies buy a parcel of land, pump the ground water and sell it in bottles. What if there's a drought or an enforced water restriction? Oh well. You and I can't water our lawns, but the water keeps a-pourin' into the plastic bottles at the factory.

So who regulates the safety of bottled water? The short answer is no one, according to the film. The FDA has jurisdiction only over bottled water that is sold in a different state in which it was pumped, but most water is sold in-state. Besides, the FDA is under-staffed. Quality tests are done by the companies that bottle and sell the water. Where I come from, we call this a conflict of interest.

On the other hand, municipal water distribution is highly regulated. The City of Columbia tests its water supply more than 4,000 times per year, or an average of 11 times per day. The water reports are public information, so any red flag is pounced upon by alert and thorough news reporters.

Source: http://www.columbiatribune.com/arts_life/family_life/blogs/word_from_a_mother/bottled-water-the-biggest-waste-of-all-time/article_7c7c49ac-f92d-5fa2-8712-4b042d0ce0ac.html (Columbia Tribune)

Waters, Suzette. "Bottled Water: The Biggest Waste of all Time" Columbia Daily Tribune, Septmeber 1, 2011.
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Venn Diagram

.....
Name:

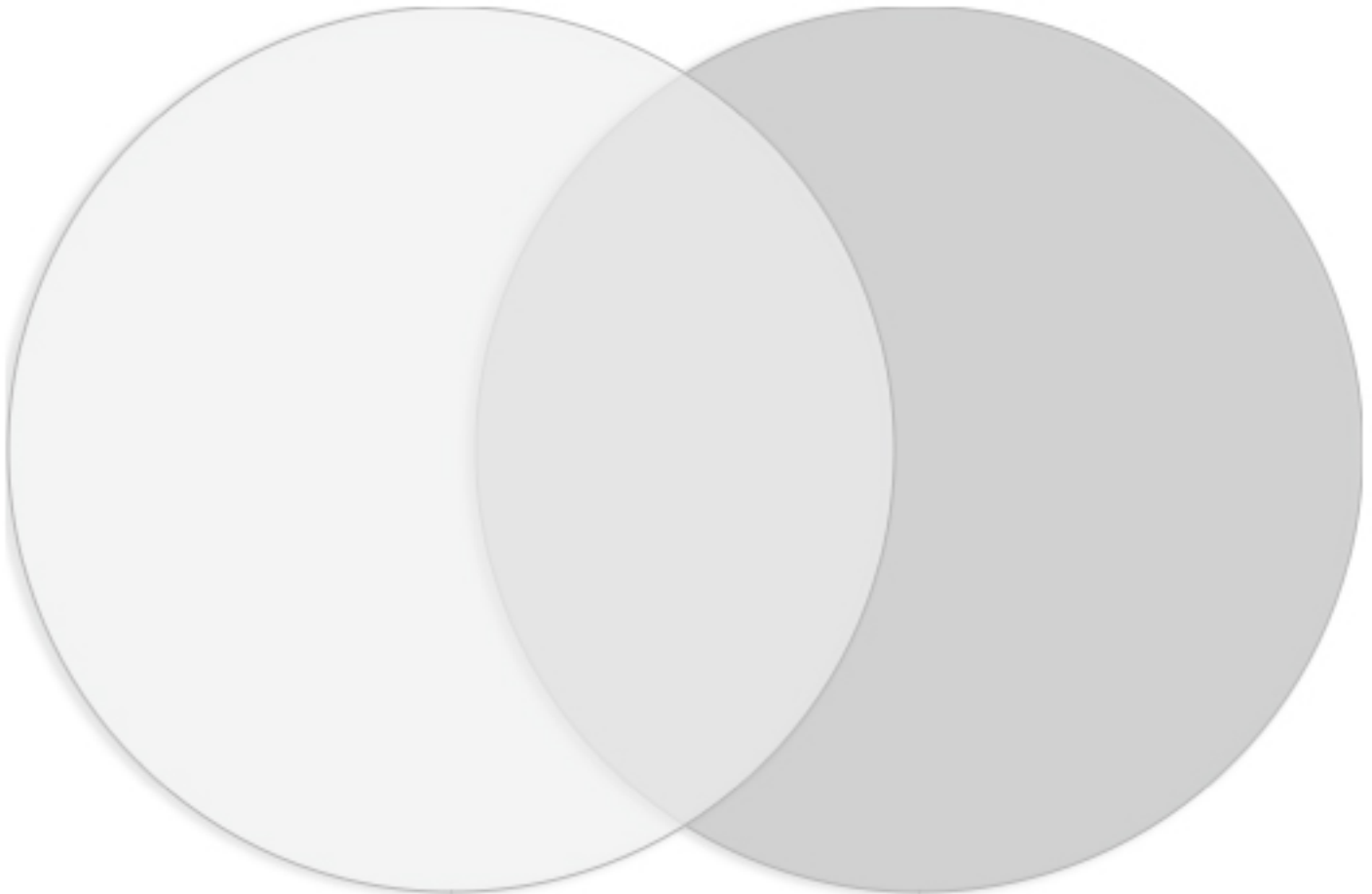
.....
Date:

Common Claim:

Evidence ONLY from Excerpt 1

Evidence in BOTH

Evidence ONLY from Excerpt 2





Venn Diagram

Reflection Question

1. Which author made the most convincing argument, and why? Use the criteria from the Evaluating an Argument anchor chart and the Note Sheet: Four Types of Evidence to support your answer. If you think both arguments were equally strong, your answer should include reasons why each of them was convincing.

Pages 183–186 of *The Big Thirst*
Text-Dependent Questions

.....
Name:

.....
Date:

1. A *basin* is a bowl-shaped area of land. Reread the first sentence of the second paragraph on page 186.
 - a. Using context clues, determine what a *rangeland* is.
 - b. What clues did you use to figure it out?
2. What does the line “It is no place to underestimate nature” mean?
3. Why do you think Fishman calls Laurie Arthur’s fields “The Big Dry”?
4. Fishman says, “Arthur, like all the farmers for hundreds of miles around, is an irrigator.”
 - a. Based on the context around this sentence, what does *irrigator* mean?
 - b. Why do you think it’s a problem when farmers have to rely on irrigation channels to water their crops?



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Pages 183–186 of *The Big Thirst Close*
Reading Guide For Teacher Reference

Time: 25 minutes

Questions	Teacher Guide
<p>1. A <i>basin</i> is a bowl-shaped area of land. Reread the first sentence of the second paragraph on page 186.</p> <p>a. Using context clues, determine what a <i>rangeland</i> is.</p> <p>b. What clues did you use to figure it out?</p>	<p>(5 minutes)</p> <p>Instruct students to open <i>The Big Thirst</i> to page 182.</p> <p>Say: * “Read along in your heads while I read aloud.”</p> <p>Read page 182. After you have read this page, pause and project Question 1. Read Part A and then B aloud.</p> <p>Ask the questions one at a time. For each question, ask students to think individually and then raise their hands when they know their answer. When most of the class has a hand up, call on several students to share out.</p> <p>Listen for: “It’s a large area of land.” “10,450 acres of field” and “wide-open”</p>



Pages 183–186 of *The Big Thirst Close*
Reading Guide For Teacher Reference

Questions:	Teacher Guide:
8. What does the line “It is no place to underestimate nature” mean?	<p>(7 minutes)</p> <p>Say: * “Read silently in your heads as I continue to read aloud.”</p> <p>Read from the top of page 183 to the line about halfway down the page that says: “The irrigation canals are dry, the Murray River itself is dry.”</p> <p>Project and read aloud Question 2 and pause.</p> <p>Ask students to think individually and then raise their hand when they have an answer. Cold call a student or two to share.</p> <p>Listen for something like: “It’s a difficult place to live because it is so dry, so people have to respect nature.”</p> <p>You may have to define the word <i>underestimate</i> for students. You can break down the word by asking what <i>estimate</i> and <i>overestimate</i> mean first, and then asking students what they think the word, and the line it’s in, mean.</p>
9. Why do you think Fishman calls Laurie Arthur’s fields “The Big Dry”?	<p>Project and read aloud Question 3 and pause.</p> <p>Ask students to think individually and then raise their hand when they have an answer. Cold call a student or two to share.</p> <p>Listen for: “He calls it the Big Dry because the land has so little water.”</p>



Pages 183–186 of *The Big Thirst Close*
Reading Guide For Teacher Reference

Questions:	Teacher Guide:
<p>10. Fishman says, “Arthur, like all the farmers for hundreds of miles around, is an irrigator.”</p> <p>a. Based on the context around this sentence, what does <i>irrigator</i> mean?</p> <p>b. Why do you think it’s a problem when farmers have to rely on irrigation channels to water their crops?</p>	<p>(3 minutes)</p> <p>Say: * “Read silently in your heads as I continue to read aloud.”</p> <p>Read from where you left off at the middle of page 184 to the middle of page 185, where it says: “Who in the world would imagine a quilt of emerald-green rice paddies here, in this semi-desert?”</p> <p>Project and read aloud Question 4, Parts A and B.</p> <p>Ask students to think individually and then raise their hand when they have an answer. Cold call a student or two to share.</p> <p>Listen for: “someone who uses water from one place in another place far away” “If there isn’t enough water in the original source, the farmers’ crops could die.”</p>



Pages 183–186 of *The Big Thirst Close*
Reading Guide For Teacher Reference

Questions:	Teacher Guide:
<p>11. A <i>baron</i> is like a captain or ruler of a certain business or industry. What does Fishman mean when he says, “In the Big Dry, Laurie Arthur is both a water baron and water prisoner”?</p>	<p>(5 minutes)</p> <p>Say: * “Read silently in your heads as I continue to read aloud.”</p> <p>Read from where you left off at the middle of page 185 to the middle of page 186, where it says: “In the Big Dry, Laurie Arthur is both a water baron and water prisoner.”</p> <p>Project and read aloud Question 5.</p> <p>Ask students to think individually and then raise their hand when they have an answer. Cold call a student or two to share.</p> <p>Listen for: “He is both controlling lots of water and being controlled by how much water there is. He is in charge of water use, but he doesn’t get to choose how much water there is.”</p>
<p>12. Why does Fishman use juxtaposition in this sentence?</p>	<p>Remind students about juxtaposition, which they discussed when they read <i>Kingsolver</i>.</p> <p>Then project and read aloud Question 6.</p> <p>Ask students to think individually and then raise their hands when they have an answer. Cold call a student or two to share.</p> <p>Listen for: “He uses juxtaposition to highlight the contrast between controlling large amounts of water and being helpless about how much water he himself might get.”</p>



Pages 183–186 of *The Big Thirst Close*
Reading Guide For Teacher Reference

Questions:	Teacher Guide:
13. According to Fishman, Arthur can grow enough food to feed 100,000 people for one year if he uses his six giga-liters of water, which is half the amount of water that the city of Toowoomba uses in a year. What do you think is the problem with this?	<p>(5 minutes)</p> <p>Say: * “Read silently in your heads as I continue to read aloud.”</p> <p>Read from where you left off through the first full paragraph on page 186, stopping where it says, “Arthur needs just 5.5 inches of water, his labor, and his land.”</p> <p>Consider showing a picture of a liter-size water bottle or bringing one in.</p> <p>Project and read aloud Question 7.</p> <p>Ask students to think individually and then raise their hand when they have an answer. Cold call a student or two to share.</p> <p>Listen for: “People need both food and water to live, so if he takes half the city’s water, even if he can feed them, he is creating a new problem because the city might run out of water.”</p>



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 6

Using Effective Search Terms: Researching Water Management



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
<p>I can gather relevant information from a variety of sources. (W.7.8)</p> <p>I can quote or paraphrase others' work while avoiding plagiarism. (W.7.8)</p> <p>I can use search terms effectively. (W.7.8)</p>	
Supporting Learning Targets	Ongoing Assessment
<ul style="list-style-type: none">• I can use search terms effectively to gather relevant information about water management.• I can gather relevant information from <i>The Big Thirst</i>.	<ul style="list-style-type: none">• Thinking Log• Pages 186–187 of <i>The Big Thirst</i> Text-Dependent Questions Researcher's Notebook• Exit ticket: Search Terms



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Thinking Log (4 minutes)B. Reviewing Learning Targets (2 minutes)2. Work Time<ol style="list-style-type: none">A. Read-aloud of Pages 186–187 of <i>The Big Thirst</i> with Text-Dependent Questions (20 minutes)B. Using Search Terms Effectively (15 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Exit Ticket: Search Terms (4 minutes)4. Homework<ol style="list-style-type: none">A. Reread pages 186–187 of <i>The Big Thirst</i> and fill out your researcher's notebook under Text Selection 5.	<ul style="list-style-type: none">• The excerpt students read in Work Time A is a continuation of the previous lesson about Laurie Arthur, the rice farmer in an arid region of Australia. In this particular snippet, students encounter larger and more abstract questions about who should make difficult decisions about water management and how to weigh one group's needs over another.• This lesson ties in with the concept of cascading consequences which will begin in Lesson 11, and it may be valuable to reference ideas from that lesson as you move through Pages 186–187 of <i>The Big Thirst</i> Text-Dependent Questions. In particular, consider having students discuss how the consequences in Question 3 are “cascading consequences” and asking students what the “cascading consequences” might be from the problems listed in Question 4.• This lesson marks the transition from using the text <i>The Big Thirst</i> as the primary source for students' research to preparing to use self-selected sources from the Internet. To do this successfully, students practice using search terms effectively in Work Time B. They also fill out an exit ticket that can serve as a formative assessment of this skill. You may want to provide feedback on the exit tickets and return them in the next lesson to make sure students are on track.• Consider that search results will change according to your school's access to the Internet. It might be helpful to run a “pilot” search on your own, to get a sense of what students' results might be. Please bear in mind that Youtube, social media video sites, and other website links may incorporate inappropriate content via comment banks and ads. Be sure to preview links, and/or use a filter service, such as www.safeshare.tv, for actually viewing these links in the classroom.• In advance: set up a projector and computer (open to a search engine of your choosing) for a quick transition to Work Time B.• Post: Learning targets.



Lesson Vocabulary	Materials
	<ul style="list-style-type: none">• Researcher's Notebook (begun in Lesson 3; one per student)• <i>The Big Thirst: The Secret Life and Turbulent Future of Water</i> (book; one per student)• Document camera• Pages 186–187 of <i>The Big Thirst</i> Text-Dependent Questions (one per student and one to display)• Pages 186–187 of <i>The Big Thirst</i> Close Reading Guide (for teacher reference)• Practice with Effective Search Terms (one per student)• Exit ticket: Search Terms (one per student)

Opening	Meeting Students' Needs
A. Thinking Log (4 minutes) <ul style="list-style-type: none">• Ask students to fill in the next entry in their Thinking Log for Lesson 6:<ul style="list-style-type: none">* “Based on what you read for homework, how have you expanded your understanding of water sustainability? What else are you wondering about water sustainability?”	
B. Reviewing Learning Targets (2 minutes) <ul style="list-style-type: none">• Read the learning targets aloud:<ul style="list-style-type: none">* “I can use search terms effectively to gather relevant information about water management.”* “I can gather relevant information from <i>The Big Thirst</i>.”	



Work Time	Meeting Students' Needs
<p>A. Read-aloud of Pages 186–187 of <i>The Big Thirst</i> with Text-Dependent Questions (20 minutes)</p> <ul style="list-style-type: none">• Be sure students have their text, <i>The Big Thirst</i>. Display (using the document camera) and distribute Pages 186–187 of <i>The Big Thirst</i> Text-Dependent Questions. Guide students through the text and this handout by using the Pages 186–187 of <i>The Big Thirst</i> Close Reading Guide (for teacher reference).	
<p>B. Using Search Terms Effectively (15 minutes)</p> <ul style="list-style-type: none">• Distribute Practice with Effective Search Terms.• Instruct students to listen and underline key lines from the text as you read it aloud to them.• Ask students to look over their underlining and write down the most important words from the article after you've read it aloud to them. This can include nouns, names, dates, and places.• Cold call a couple of students to share out the words they selected. As they listen to each others' words, ask students to raise their hands if they wrote down the same word. Write the most common words on the board. Listen for words such as: "water," "bottles," "waste," and "recycling."• Demonstrate how you would combine some of those words to run an Internet search (for example, water + bottle + waste).• If possible, project your computer screen and type those search terms into a search engine. Review with students the websites that result, looking for the excerpted article on this handout (from the article "Water is Life.")	



Closing and Assessment	Meeting Students' Needs
<p>A. Exit Ticket: Search Terms (4 minutes)</p> <ul style="list-style-type: none">Distribute an exit ticket to each student. Give them 2 to 3 minutes to fill it out and then collect them as they leave the room. Review their answers and, depending on whether they seem to identify appropriate search terms, you may want to return to this in the next lesson to clarify their understanding.	
Homework	Meeting Students' Needs
<ul style="list-style-type: none">Reread pages 186–187 of <i>The Big Thirst</i> and fill out the Researcher's Notebook under Text Selection 5. <p><i>Note: From this point on, students will locate their own texts for research. Prepare to support students differently in the next few lessons. Consider creating a system for checking in with them and informally assessing their research as they collect it. One possibility might be to create a list of 5 to 10 students each class to check in with. Be sure to consider which students may need the most support and informally assess their work early and often.</i></p>	



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 6

Supporting Materials



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Pages 186–187 of *The Big Thirst*
Text-Dependent Questions

Name: _____

Date: _____

1. When Fishman says, “A kangaroo peeing in the right place could have changed the productivity of his fields—if there had been any reason to plant them in the first place,” what point is he making?

2. On page 186, the text says, “He is too much in touch with the daily rhythm of weather, sunshine, and dry dirt not to have an almost elegiac view of the future. ‘I do think the halcyon days are gone,’ he says. ‘I think the days of big water are gone.’”

A. Elegiac means “full of sorrow.” What do you think halcyon means?

B. Where in the text did you find context clues to help you figure this out?

3. What does Fishman mention as some of the consequences when farmers do not have enough water to do their work?

4. Page 187 consists of several questions that Fishman wants his readers to think about. What is the general problem he is highlighting by asking these questions?



Pages 186–187 of *The Big Thirst*
Close Reading Guide for Teacher Reference

Time: 20 minutes

Questions	Teacher Guide
1. When Fishman says, “A kangaroo peeing in the right place could have changed the productivity of his fields—if there had been any reason to plant them in the first place,” what point is he making?	<p>(5 minutes)</p> <p>Instruct students to open <i>The Big Thirst</i> to page 186.</p> <p>Say:</p> <p>* “Read along in your heads while I read aloud.”</p> <p>Read page 186, from the second full paragraph to the line “... if there had been any reason to plant them in the first place.”</p> <p>Pause and project Question 1.</p> <p>Ask the questions one at a time. For each question, ask students to think individually and then raise their hand when they know their answer. When most of the class has a hand up, call on several students to share out.</p> <p>Listen for: “There was so little water that even a tiny amount could have made a big difference to his crops. Fishman is saying it might not make sense to grow crops here.”</p>



Pages 186–187 of *The Big Thirst*
Close Reading Guide for Teacher Reference

Question:	Teacher Reference:
<p>2. On page 186, the text says, “He is too much in touch with the daily rhythm of weather, sunshine, and dry dirt not to have an almost elegiac view of the future. ‘I do think the halcyon days are gone,’ he says. ‘I think the days of big water are gone.’”</p> <p>A. <i>Elegiac</i> means “full of sorrow.” What do you think <i>halcyon</i> means?</p> <p>B. Where in the text did you find context clues to help you figure this out?</p>	<p>(10 minutes)</p> <p>Say: * “Read silently in your heads as I continue to read aloud.”</p> <p>Read from where you just left off to the top of page 187, stopping after the line “This is what happens when you do not have enough water to do your work.”</p> <p>Project and read aloud Question 2 and pause.</p> <p>Ask students to think individually and then raise their hand when they have an answer. Cold call a student or two to share.</p> <p>Listen for: “good,” “hopeful,” “plentiful” “days of big water are gone”</p>
<p>3. What does Fishman mention as some of the consequences when farmers do not have enough water to do their work?</p>	<p>Project and read aloud Question 3 and pause.</p> <p>Ask students to think individually and then raise their hand when they have an answer. Cold call a student or two to share.</p> <p>Listen for: “They sell their land or water rights, commit suicide, and close down related businesses.”</p>



Pages 186–187 of *The Big Thirst*
Close Reading Guide for Teacher Reference

Question:	Teacher Guide:
<p>4. Page 187 consists of several questions that Fishman wants his readers to think about. What is the general problem he is highlighting by asking these questions?</p>	<p>(5 minutes)</p> <p>Say:</p> <p>* “Read silently in your heads as I continue to read aloud.”</p> <p>Read from where you left off on page 187 to the bottom of the page, stopping where it says, “And perhaps hardest of all, who decides?”</p> <p>Ask students to think individually and then raise their hand when they have an answer. Cold call a student or two to share.</p> <p>Listen for: “The problem is that there isn’t enough water to grow rice in this part of Australia, and it’s hard to balance the water needs of the city with the water needs of farmers who provide food for the people in the city.”</p>



Practice with Effective Search Terms

Name:

Date:

The following is an excerpt from an article about one negative consequence of bottled water:

All Bottled Up

By Jodie Mangor and Elizabeth Taft

Around the globe, people quench their thirst daily with bottled water. In the last 20 years, sales of bottled water in the United States have more than quadrupled.

Americans are currently the world's biggest consumer of bottled water, followed by China and Mexico, countries where tap water is scarce and often unsafe. It's estimated that the amount of water Americans bought in 2011 is equal to four bottles of water for every single person in the country-- every week! Compared to sugary, caffeinated soft drinks, bottled water seems a healthy choice. But is it a wise one?

Water for One

A single-serve water bottle offers great convenience. It can be bought almost anywhere, carried around for a while, and then thrown away. At times, bottled water is the best available option. Hurricanes, other natural disasters, and other emergency situations can negatively affect the safety of public water. Reliable water systems may not be in place in developing nations and war-torn countries. In these cases, bottled water can provide an important source of clean, safe drinking water.

The impact of bottled water on the environment, however, is staggering. Approximately 2.7 million tons of plastic are turned into disposable bottles each year. Just making the plastic requires large quantities of crude oil: researchers at the Pacific Institute found that about 2,000 times more energy is required to produce bottled water compared to the same amount of tap water. Transportation of bottled water in the United States each year produces the same amount of carbon dioxide as 2 million cars. And though the bottles can be recycled, only a fraction of them actually are.

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Exit Ticket:
Search Terms

.....
Name:
.....

.....
Date:
.....

What search terms would you type in if you were researching this question: “How much water is used to grow grains in the United States?”



EXPEDITIONARY
LEARNING

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

Gathering Information about Water Management: Assessing and Reading Internet Sources, Day 1



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

I can gather relevant information from a variety of sources. (W.7.8)

I can use search terms effectively. (W.7.8)

Supporting Learning Targets

- I can use search terms effectively to gather relevant information about water management.
- I can evaluate a source's accuracy and credibility.

Ongoing Assessment

- Researcher's notebook



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Launch Independent Reading: Book Frenzy (10 minutes)2. Work Time<ol style="list-style-type: none">A. Preparing for Internet Research (5 minutes)B. Internet Research (25 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Turn and Talk: Challenges of Online Research (2 minutes)B. Previewing Homework (3 minutes)4. Homework<ol style="list-style-type: none">A. Continue reading your independent reading book for this module.	<ul style="list-style-type: none">• Recall that in Module 2A/2B, students were introduced to the research process. They practiced generating supporting research questions, gathering information from multiple sources, and paraphrasing to avoid plagiarism (W.7.7. and W.7.8). They did not, however, find and evaluate sources, which is part of this module.• In this lesson, students continue with independent reading with Book Frenzy. They will browse books that they will read during independent reading in this unit. Prepare for the Book Frenzy by laying out books from the recommended texts list on multiple tables so students can easily browse the selections. This lesson assumes that independent reading has been launched previously and that your structure is in place before this lesson. Please see two separate stand-alone documents on EngageNY.org: The Importance of Increasing the Volume of Reading and Launching Independent Reading in Grades 6–8: Sample Plan, which together provide the rationale and practical guidance for a robust independent reading program. You may wish to spend time before this lesson reviewing the independent reading materials and the recommended texts so they can better meet their students' needs.• In this lesson, students begin working to research supporting questions. This lesson is written assuming the use of computers to search the Internet and recommends the use of a student-friendly search engine, such as Sweet Search.• If computer or Internet access is not possible in your classroom, consider arranging a visit to your school's library or computer lab or to a public library. You may wish to have a research specialist (such as a school or public librarian or social studies teacher) come in to talk about and teach Internet research skills.• Post: Learning targets.



Lesson Vocabulary	Materials
accuracy, credibility	<ul style="list-style-type: none">• Independent reading books (various titles; one per student; see Teaching Note)• Researcher's roadmap (from Lesson 3)• Researcher's notebook (begun in Lesson 3; one per student)• Assessing Sources document (from Lesson 2; one new copy per student)

Opening	Meeting Students' Needs
<p>A. Launch Independent Reading: Book Frenzy (10 minutes)</p> <ul style="list-style-type: none">• Display an assortment of independent reading books for students to examine and choose from, ideally including some of the titles from the recommended reading lists for this module. Consider brief teacher book talks of those titles related to the module.• Give students time to browse and “shop” for books and to select a few titles to test drive.	<ul style="list-style-type: none">• Consider monitoring students' selections, using the Goldilocks handout from the Independent Reading Plan, conferring with students, or listing suggested books for students based on reading level, to make sure they select appropriate books.



Work Time	Meeting Students' Needs
<p>A. Preparing for Internet Research (5 minutes)</p> <ul style="list-style-type: none"> • Invite students to look at the displayed Researcher's roadmap. Orient them to where they are in the research process based on the roadmap. Ask students to turn and talk to a partner: <ul style="list-style-type: none"> * "What steps have you already taken?" * "What steps have you already taken but will need to repeat?" * "What steps do you still need to do?" • Listen for: "I have already initiated inquiry, have an overarching research question, and have gathered background information about the topic," "I have gathered some sources but will have to keep getting more information," "I have learned how to find sources using effective search terms," and "I have asked lots of questions, and I'll turn some of them into supporting research questions." • Ask students to look at their Researcher's notebook and read the overarching research questions aloud: <ul style="list-style-type: none"> * "How do industry and agriculture currently manage water? What strategies exist for industry and agriculture to manage water better?" • Tell students that effective research begins with asking a question. Remind them that they have already written many questions that they have about water management. Ask them to look through their researcher's notebook and star two questions that they may want to research further today. Give students 2 minutes to reread their questions. Then, ask them to turn and talk with a partner about their supporting research questions and identify one supporting research question they will try to understand during this class. • Some students may have, or may be having, difficulty with identifying or selecting an appropriate supporting research question. Consider how you might support these students: developing a bank of possible questions, sample/model questions, or perhaps assigning questions in extreme cases. • Call on a student to report the question he or she will research in class today. Ask students to turn and talk to a partner and discuss what might be effective search terms to use when searching for an answer to this question on the Internet. Cold call several students to share their answers. • Repeat this process with two or three students, asking them to explain why their search terms are effective. Listen for them to say that the words are "specific" or "unique" and "use context terms appropriately." 	<ul style="list-style-type: none"> • When possible, have students who need physical activity take on the active role of managing the distribution and collection of materials. • Consider calling on students who struggle to report on their questions so the class can assist them in generating search terms. • If students struggle to write or select strong supporting research questions, consider providing question stems or model questions for them to modify for their research.



Work Time (continued)	Meeting Students' Needs
<p>B. Internet Research (25 minutes)</p> <ul style="list-style-type: none">• Tell students that they will have the next 25 minutes to find an article that answers their chosen research question. They should read the article and add information to their researcher's notebook.• Distribute a new Assessing Sources document for today's work. Remind students that they have used this document before, and they will need to again evaluate their source(s) today based on this document.• Read aloud the second learning target.<ul style="list-style-type: none">* "I can evaluate a source's accuracy and credibility."• Ask students to turn and talk to a partner about what makes a source accurate and credible.• Then ask the class to popcorn-share ideas that will help determine a source's accuracy and credibility.• Remind students that they should paraphrase their reading and keep all the information about their source in their researcher's notebook so they can properly cite it later using the MLA format.	<ul style="list-style-type: none">• During this work time, you may want to pull out a small group of students to support in finding and recording their resources for Internet research. Some students will need more guided practice before they are ready for independent work.



Closing and Assessment	Meeting Students' Needs
<p>A. Turn and Talk: Challenges of Online Research (2 minutes)</p> <ul style="list-style-type: none"> Ask students to turn and talk: <ul style="list-style-type: none"> * “What is challenging about research online?” Cold call a few pairs to share their thoughts. Collect researcher’s notebooks for formative assessment. They will be given back to students in the next lesson. 	<ul style="list-style-type: none"> Consider selecting students ahead of time for cold calls. Those who need practice in oral response or extended processing time can be told the prompt before class begins to prepare for their participation. This also allows for a public experience of academic success for students who may struggle with on-demand questioning, or for struggling students in general.
<p>B. Previewing Homework (3 minutes)</p> <ul style="list-style-type: none"> Discuss with students how they will mark domain-specific vocabulary words that pertain to water management or sustainability in their independent reading books. Consider giving students two or three sticky notes to help them mark words that are unfamiliar to them. 	
Homework	Meeting Students' Needs
<ul style="list-style-type: none"> Continue reading your independent reading book for this module. 	

There are no new supporting materials for this lesson.



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 8

Gathering Information about Water Management: Assessing and Reading Internet Sources, Day 2



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
<p>I can gather relevant information from a variety of sources. (W.7.8)</p> <p>I can use search terms effectively. (W.7.8)</p> <p>I can evaluate the credibility and accuracy of each source. (W.7.8)</p>	
Supporting Learning Targets	Ongoing Assessment
<ul style="list-style-type: none"> I can use search terms effectively to gather information about water management. I can evaluate a source's accuracy and credibility. 	<ul style="list-style-type: none"> Researcher's notebook Assessing Sources document Exit Ticket: Next Steps

Agenda	Teaching Notes
<ol style="list-style-type: none"> Opening <ol style="list-style-type: none"> Vocabulary Entry Task (5 minutes) Work Time <ol style="list-style-type: none"> Setting Purpose for Research (5 minutes) Internet Research (30 minutes) Closing and Assessment <ol style="list-style-type: none"> Exit Ticket: Next Steps (2 minutes) Previewing Homework (3 minutes) Homework <ol style="list-style-type: none"> Continue reading your independent reading book for this module. 	<ul style="list-style-type: none"> This is students' second day of conducting independent Internet research. In this lesson, they continue working to research supporting questions. This lesson is written assuming the use of computers to search the Internet and recommends the use of a student-friendly search engine, such as Sweet Search. If computer or Internet access is not possible in your classroom, consider arranging a visit to your school's library or computer lab or a public library. You may wish to have a research specialist (such as a school or public librarian or social studies teacher) come in to talk about and teach Internet research skills. Post: Learning targets.



Lesson Vocabulary	Materials
student-selected vocabulary	<ul style="list-style-type: none">• Researcher's notebook (begun in Lesson 3; one per student)• Domain-Specific Vocabulary anchor chart (begun in Unit 1)• Assessing Sources document (from Lesson 2; one new copy per student)• Exit Ticket: Next Steps (one per student)• Sticky notes (optional; three per student)

Opening	Meeting Students' Needs
<p>A. Vocabulary Entry Task (5 minutes)</p> <ul style="list-style-type: none">• Ask students to look through their researcher's notebook to identify any domain-specific vocabulary words they have encountered. Invite them to raise their hand when they find a word that should be added to the Domain-Specific Vocabulary anchor chart. Encourage as many students as time allows to add to the anchor chart.	



Work Time	Meeting Students' Needs
<p>A. Setting Purpose for Research (5 minutes)</p> <ul style="list-style-type: none">• Ask students to turn their attention to their researcher's notebooks.• Remind them that they have already written many questions that they have about water management. Ask students to look through their researcher's notebook and star two questions that they may want to research further today. Give them 2 minutes to reread their questions. Then, ask them to turn and talk with a partner about their supporting research questions and choose one question they will try to understand during this class.• Call on a student to report the question he or she will research today. Ask the class to turn and talk to a partner and discuss what might be effective search terms to use when searching the Internet for an answer to their questions. Cold call several students to share their answers.• Repeat this process with two or three students, asking them to explain why their search terms are effective. Listen for them to say that the words are "specific" or "unique" and "use context terms appropriately."• Read aloud the first learning target:<ul style="list-style-type: none">* "I can use search terms effectively to gather information about water management."• Ask students to use the Fist to Five protocol to evaluate how well they think they can use search terms.• Distribute a new Assessing Sources document for today's work. Remind students that they have used this document previously, and they will need to again evaluate their source(s) today based on this document.• Read aloud the second learning target:<ul style="list-style-type: none">* "I can evaluate a source's accuracy and credibility."• Ask students to turn and talk to a partner about what makes a source accurate and credible.• Then ask the class to popcorn-share ideas that will help determine a source's accuracy and credibility.	<ul style="list-style-type: none">• Consider working individually with students who self-evaluate low during Fist to Five to help them use effective search terms.



Work Time (continued)	Meeting Students' Needs
<p>B. Internet Research (30 minutes)</p> <ul style="list-style-type: none"> • Tell students that they will have the next 30 minutes to find an article that answers their chosen research question, to read the article, and to add information to their researcher's notebook. • Remind them that they should paraphrase their reading and keep all the information about their source in their researcher's notebook so they can properly cite it later using the MLA format. 	<ul style="list-style-type: none"> • During this work time, you may want to pull out a small group of students to support in finding, assessing, and reading sources. Some students will need more guided practice before they are ready for independent work.
Closing and Assessment	Meeting Students' Needs
<p>A. Exit Ticket: Next Steps (2 minutes)</p> <ul style="list-style-type: none"> • Read aloud the overarching research questions: <ul style="list-style-type: none"> * "How do industry and agriculture currently manage water? What strategies exist for industry and agriculture to manage water better?" • Ask students to fill out the Exit Ticket: Next Steps: <ul style="list-style-type: none"> * "What information do you have that helps you answer the overarching research question? What kind of information do you still need?" • Collect the exit ticket for review before the next lesson. 	<ul style="list-style-type: none"> • Review students' responses on the exit tickets and consider what kind of individual support they might need on their last day of independent research.
<p>B. Previewing Homework (3 minutes)</p> <ul style="list-style-type: none"> • Discuss with students how they will mark domain-specific vocabulary words that pertain to water management or sustainability in their independent reading books. Consider giving them two or three sticky notes to help them mark words that are unfamiliar to them. 	
Homework	Meeting Students' Needs
<ul style="list-style-type: none"> • Continue reading your independent reading book for this module. 	



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 8

Supporting Materials



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Exit Ticket:
Next Steps

.....
Name:
.....

Date:
.....

Consider the overarching research questions: “How do industry and agriculture currently manage water? What strategies exist for industry and agriculture to manage water better?”

What information do you have that helps you answer the overarching research questions?

What kind of information do you still need?



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 9

Gathering Information about Water Management: Assessing and Reading Internet Sources, Day 3



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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 gather relevant information from a variety of sources. (W.7.8)
I can use search terms effectively. (W.7.8)

Supporting Learning Targets

- I can contrast how two authors emphasize different evidence on the topic of water management in agriculture.
- I can use search terms effectively to gather relevant information about water management.
- I can evaluate a source's accuracy and credibility.

Ongoing Assessment

- Researcher's notebook

Agenda

1. Opening
 - A. Comparing and Contrasting Authors' Use of Evidence (15 minutes)
2. Work Time
 - A. Internet Research (20 minutes)
3. Closing and Assessment
 - A. Read-aloud of Pages 203–205 of *The Big Thirst* (10 minutes)
4. Homework
 - A. Read pages 203–205 and complete Reader's Notes for pages 203–205 of *The Big Thirst*.

Teaching Notes

- In this lesson, students prepare for the Mid-Unit 2 Assessment in Lesson 10 by focusing on contrasting the types of evidence different authors use to support a similar claim.
- This will be students' third day of conducting independent internet research. In this lesson, they continue working to research supporting questions. This lesson is written assuming the use of computers to search the internet and recommends the use of a student-friendly search engine, such as Sweet Search.
- If computer or internet access is not possible in your classroom, consider arranging a visit to your school's library or computer lab or a public library. You may wish to have a research specialist (such as a school or public librarian or social studies teacher) come in to talk about and teach internet research skills.
- For homework, students will answer text-dependent questions from pages 203–205 of *The Big Thirst*. Students will need to understand this reading in order to complete the Mid-Unit 2 Assessment in the next lesson. To that end, a read-aloud is built into the Closing of this lesson, as well as some partner work in the Opening of Lesson 10.
- Post: Learning targets.



Lesson Vocabulary	Materials
student-selected vocabulary; desalination	<ul style="list-style-type: none"> • Domain-Specific Vocabulary anchor chart (begun in Unit 1) • Four Types of Evidence note-catcher (from Lesson 1; one per student) • Authors' Use of Evidence about Water Management in Agriculture (one per student) • Researcher's notebook (begun in Lesson 3) • <i>The Big Thirst: The Secret Life and Turbulent Future of Water</i> (book; one per student) • Reader's Notes for pages 203–205 of <i>The Big Thirst</i> (one per student) • Teacher's Guide: Reader's Notes for pages 203–205 of <i>The Big Thirst</i> (for teacher reference)

Opening	Meeting Students' Needs
<p>A. Comparing and Contrasting Authors' Use of Evidence (15 minutes)</p> <ul style="list-style-type: none"> • Ask students to read the first learning target to themselves and then call on someone to read the target aloud: <ul style="list-style-type: none"> * "I can contrast how two authors emphasize different evidence on the topic of water management in agriculture." • Remind students that they have examined author evidence, in Lesson 1 and again in Lesson 5, and that this will also be part of the mid-unit assessment in the next lesson. Emphasize that research often requires working with two sources that need to be understood and sometimes compared to see which to use. • Ask students to refer to the Domain-Specific Vocabulary anchor chart to find the four types of evidence they added in Lesson 1. Remind them that in order to compare and contrast how authors use different evidence, they must identify first what kind of evidence the author uses. Tell students that they can use their Four Types of Evidence note-catcher from Lesson 1 to compare how authors use evidence. Distribute the Authors' Use of Evidence about Water Management in Agriculture handout • Ask students to read the first article in the handout and mark (either highlight or underline) the evidence the author uses to support the claim of the article: Agriculture should reduce the amount of water it uses. Note that this is an argumentative text, not just informative. Give students a few minutes to read and mark, then ask them to turn and talk to a partner about what they marked and what type of evidence they think the author used. Ask students to share with partners, then ask them to repeat the process for the next article. 	



Work Time	Meeting Students' Needs
<p>A. Internet Research (20 minutes)</p> <ul style="list-style-type: none"> Tell students that they will have the next 20 minutes to find an article that answers their research question, to read the article, and to add information to their researcher's notebook. Remind them that they should paraphrase their reading and keep all the information about their source in their researcher's notebook so they can properly cite it later using the MLA format. 	<ul style="list-style-type: none"> During this time, consider working with a small group whose work on previous research days suggests they may need extra support with this skill.
Closing and Assessment	Meeting Students' Needs
<p>A. Read-aloud of Pages 203–205 of <i>The Big Thirst</i> (10 minutes)</p> <ul style="list-style-type: none"> Ask students to turn to page 203 in <i>The Big Thirst</i> and invite them to read along in their books while you read aloud. Begin reading at “The politics of water was never far from the surface in Perth” (203) and continue until “... but that building it would increase greenhouse gas emissions and so ultimately make worse the very problem it was supposedly solving” (205). Do not pause or answer questions as you read. Point out the word <i>desalination</i>, which is first used on page 204. Ask students to raise their hand if they have inferred the definition of <i>desalination</i> from the reading. Call on one student. Listen for: “Desalination means taking salt out of water to make it freshwater.” Add this word to the Domain-Specific Vocabulary anchor chart. Ask students to turn and talk to a partner about the gist of the excerpt. Cold call pairs to share. Listen for: “The city of Perth needs more water. Officials are considering using desalination, but there could be negative consequences if they do.” Distribute Reader's Notes for pages 203–205 of <i>The Big Thirst</i>. Let students know that their homework is to reread pages 203–205 and answer the text-dependent questions. Remind them that the Mid-Unit 2 Assessment is part of the next lesson, and the more carefully they do their homework, the better prepared they will be for the assessment. (Teacher's Guide is provided for teacher's use). 	<ul style="list-style-type: none"> Note students who self-assess low and consider giving suggestions for how each of them might feel more confident by Lesson 10.
Homework	Meeting Students' Needs
<ul style="list-style-type: none"> Read pages 203–205 of <i>The Big Thirst</i> and complete the Reader's Notes. 	



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 9

Supporting Materials



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Authors' Use of Evidence
About Water Management in Agriculture

Name: _____

Date: _____

In the excerpts below, all authors have the same claim, that agriculture should reduce the amount of water it uses. As you read, mark (underline or highlight) the evidence the authors use to support their claim and decide what kind of evidence it is.

Article 1: Tapped Out: How Will Cities Secure Their Water Future?

Posted by Brian Richter of the Nature Conservancy and University of Virginia in Water Currents on May 8, 2013

Today, global demands for food, energy, and shelter are putting unprecedented pressure on the resources of the planet. Water is at the heart of this crisis.

In fact, more than half of the world's cities are already experiencing water shortages on a recurring basis—based on findings from a study that I published, along with 13 of my colleagues, this week in the *Water Policy* journal. It was not difficult to see why so many cities got into trouble with water.

The water sources they depend upon—rivers, lakes, and aquifers—have for decades been heavily used for irrigated agriculture. Since 1950, the consumption of water globally for irrigation has tripled in volume, a trend that played a large role in enabling food production to more than double over the same period.

The result: Water-stressed cities are trying to expand in places where most of the water is already being consumed by irrigated agriculture. In fact, more than 90% of the water being consumed from those shared water sources is going to growing crops.

Promising opportunities exist to free up the water presently used in agriculture through techniques such as reducing unproductive water consumption (e.g., stopping canal leakage, reducing soil and reservoir evaporation), changing crop types, introducing rotational fallowing, temporary fallowing during droughts, or the elimination of low-value farming.

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Authors' Use of Evidence
About Water Management in Agriculture

Article 2: Another View: When Every Drop Counts: The Need for Conservation and Improved Water Management in Agriculture

Oct 18, 2012

Written by Danielle Nierenberg and Sophie Wenzlau

The 2012 drought has been the worst Iowa has experienced since 1936....

Fresh water is the planet's most essential and scarce resource. Although 75 percent of the Earth's surface is covered in water, we must rely on as little as 0.5 percent of the total water supply to meet all agricultural, industrial, domestic and ecological needs.

Water scarcity makes it painfully clear that farmers, businesses and consumers need to take concrete steps to conserve water and improve its productive use in our agricultural sector.

Let's reconsider the way we irrigate crops. Most Iowa farmers depend on Mother Nature to supply the water needed to grow their crops. And in times of drought, as Iowa farmers are well aware, crops dependent on rain will often fail.

Thankfully, there are a variety of promising techniques and technologies—such as drip irrigation—that could both conserve and increase the productive use of water in our agricultural sector while rendering Iowa's farms more resilient to the future uncertainty of our climate.

Drip irrigation is the precise application of water to plant roots via tiny holes in pipes that allow a controlled amount of water to drip onto the ground. This precise application avoids water loss due to evaporation, enables plants to absorb water at their roots (where they need it most), and allows farmers to water only those rows or crops they want to, in lieu of an entire field.



Authors' Use of Evidence
About Water Management in Agriculture

Over the course of a season, drip irrigation enhances plant growth, boosts crop yield and improves plant nutritional quality. Although not a “one-size-fits-all” solution to water challenges (it is expensive, high maintenance and does not work well in sandy soil), drip irrigation is a low-waste irrigation method capable of significantly boosting crop yields when applied appropriately, is well-suited to row crops like corn and soybeans, and, with drip tape’s lifetime of 5 to 7 years, especially when laid below the surface, can be a wise long-term investment that is significantly more reliable than rain-fed agriculture in times of drought.

Nierenberg, Danielle, and Sophie Wenzlau. "Another View: When Every Drop Counts: The Need for Conservation and Improved Water Management in Agriculture." The Des Moines Register, Web. <http://blogs.worldwatch.org/nourishingtheplanet/wp-content/uploads/2012/10/Another-View_When-Every-Drop-Counts_Des_Moines_Register.pdf>



Authors' Use of Evidence
About Water Management in Agriculture

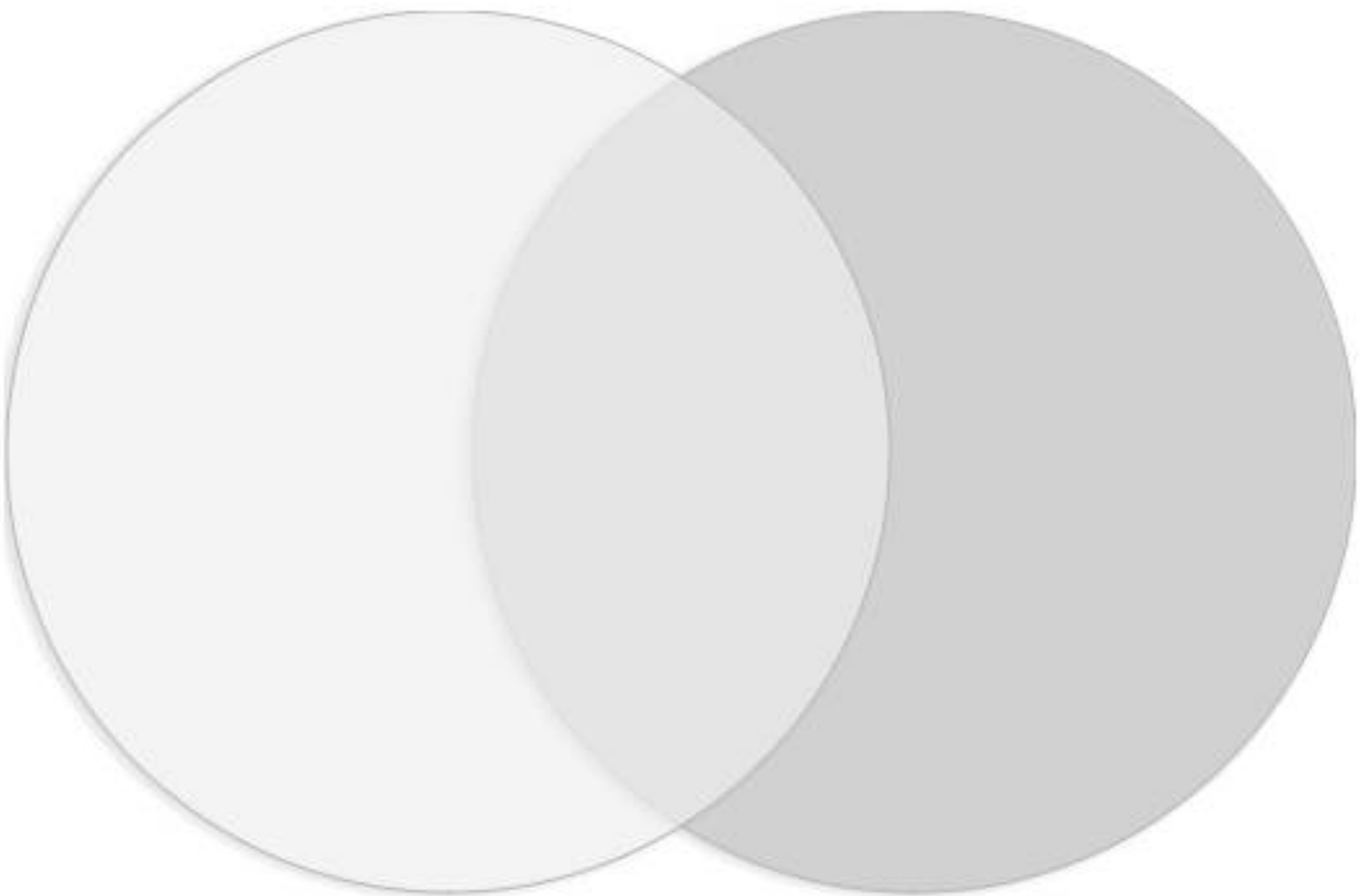
.....
Name:

.....
Date:

Venn Diagram

Common Claim:

Evidence ONLY from Excerpt 1 Evidence in BOTH Evidence ONLY from Excerpt 2





About Water Management in Agriculture – Venn Diagram

Which author made the most convincing argument, and why? Use the criteria from the Evaluating an Argument anchor chart and the Note Sheet: Four Types of Evidence to support your answer. If you think both arguments were equally strong, your answer should include reasons why each of them was convincing.



Reader's Notes for Pages 203–205
of *The Big Thirst*

Name: _____

Date: _____

Questions	Notes
1. Reread the paragraph that begins with “Environmentalists were equally opposed ...” on page 204. What is <i>brine</i> ?	
2. What does <i>diluted</i> mean?	
3. What is the problem with desalination that Fishman describes in this paragraph?	
4. Reread the paragraph that begins with “The site of Perth’s proposed desalination plant ...” on page 205. What is a <i>bay</i> ?	



Reader's Notes for Pages 203–205
of *The Big Thirst*

Question:	Teacher Guide:
<p>5. Fishman uses the term “desal plant” as a shorter form of “desalination plant.” According to Fishman, where would the brine from the desal plant go? Why is that a problem?</p> <p>6. Reread the paragraph that begins with “Desal faced opposition for another reason ...” on page 205. What do residents of Perth believe is the cause of their water shortage?</p> <p>7. According to Fishman, why might building a desal plant make this problem worse?</p>	



Reader's Notes for Pages 203–205
of *The Big Thirst*

Name: _____

Date: _____

Questions	Notes
1. Reread the paragraph that begins with “Environmentalists were equally opposed ...” on page 204. What is <i>brine</i> ?	1. <i>Brine</i> is salty water.
2. What does <i>diluted</i> mean?	2. <i>Diluted</i> means to mix with other water to make it less salty.
3. What is the problem with desalination that Fishman describes in this paragraph?	3. The problem is that when you desalinate water, the water that is left over still has all the original salt, so it is extremely salty. Releasing that very salty water back into the ocean has a negative effect on the environment.
4. Reread the paragraph that begins with “The site of Perth’s proposed desalination plant ...” on page 205. What is a <i>bay</i> ?	4. A <i>bay</i> is a partially enclosed part of the ocean.
5. Fishman uses the term “desal plant” as a shorter form of “desalination plant.” According to Fishman, where would the brine from the desal plant go? Why is that a problem?	5. According to Fishman, the brine would go into Cockburn Sound, a bay. That’s a problem because the amount of salt in the brine could kill all the natural life in the bay.



Reader's Notes for Pages 203–205
of *The Big Thirst*

Question:	Teacher Guide:
6. Reread the paragraph that begins with “Desal faced opposition for another reason ...” on page 205. What do residents of Perth believe is the cause of their water shortage?	6. The cause of the water shortage is the lack of rainfall due to climate change.
7. According to Fishman, why might building a desal plant make this problem worse?	7. A desal plant uses lots of electricity, so it would emit lots of greenhouse gases, contributing to climate change.



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
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Entry Task (15 minutes)2. Work Time<ol style="list-style-type: none">A. Mid-Unit 2 Assessment (28 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Collect Assessments (2 minutes)4. Homework<ol style="list-style-type: none">A. Continue reading your independent reading for this module.	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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
<p>A. Entry Task (15 minutes)</p> <ul style="list-style-type: none">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:<ul style="list-style-type: none">* "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."	<ul style="list-style-type: none">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
<p>A. Mid-Unit 2 Assessment (28 minutes)</p> <ul style="list-style-type: none">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.	<ul style="list-style-type: none">Consider allowing SPED students and ELLs more time to complete their assessment.

Closing and Assessment	Meeting Students' Needs
<p>A. Collect Assessments (2 minutes)</p> <ul style="list-style-type: none">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
<ul style="list-style-type: none">Continue reading your independent reading book for this module.	



EXPEDITIONARY
LEARNING

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

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

.....
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.

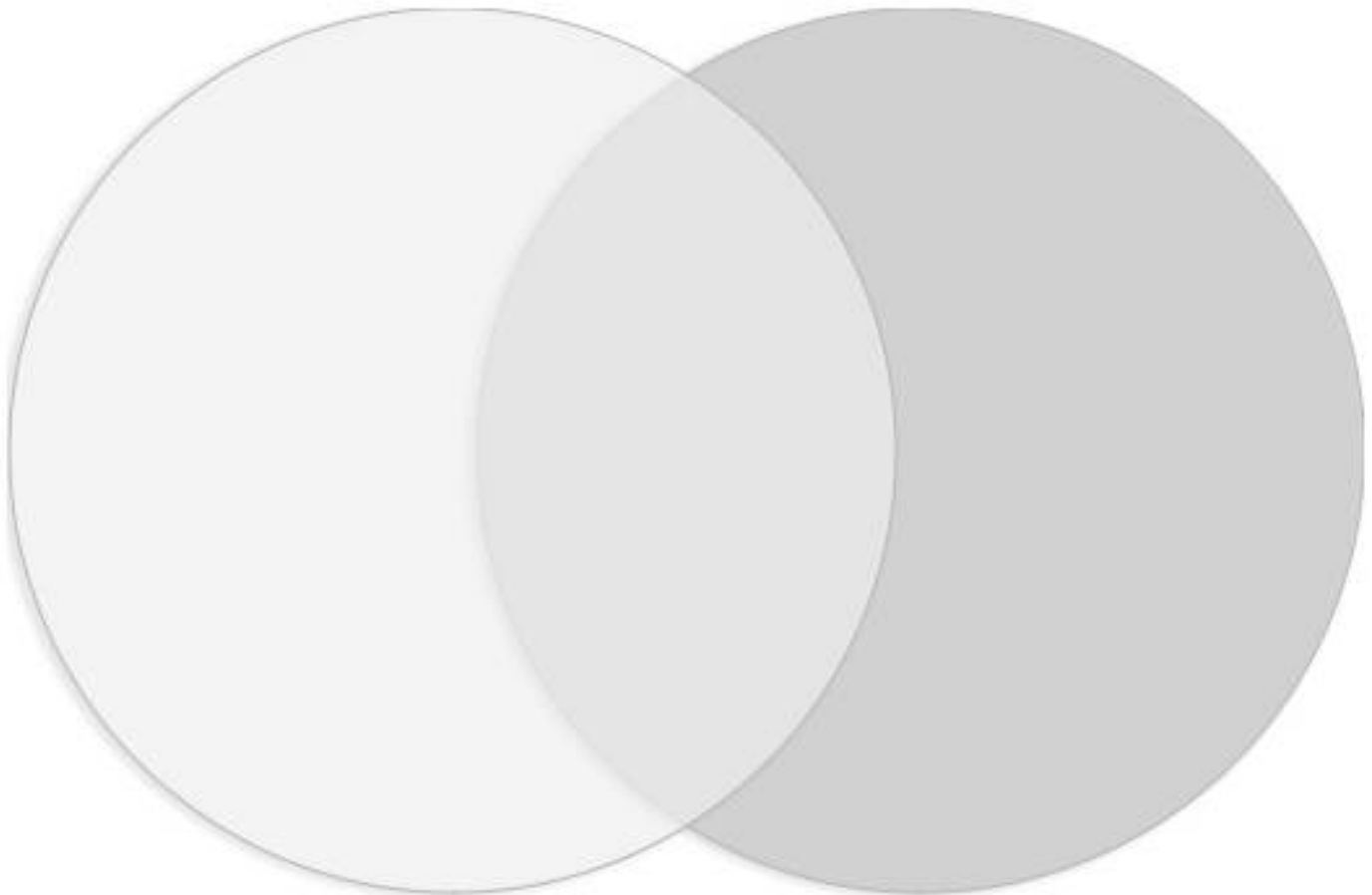


Mid-Unit 2 Assessment: Simulated Research Task:
Water Management Strategies

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

.....
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 – 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

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 – 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

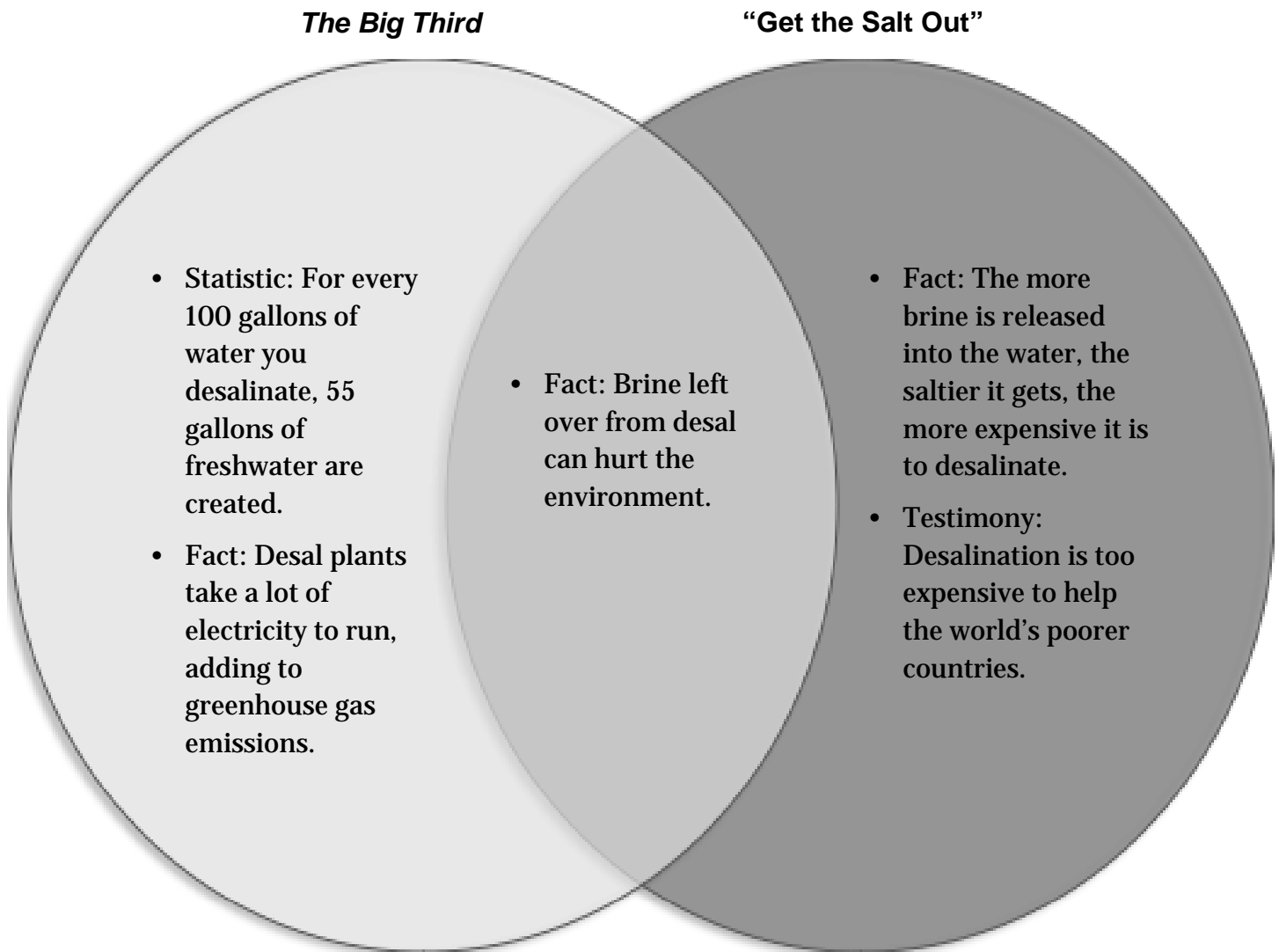
4. List two pieces of information from each source that would help you answer the question: “Should people rely on desalination to manage water better?” (W.7.8)

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.



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 11

Forming a Research-Based Claim: Cascading Consequences Charts



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

I can write arguments to support claims with clear reasons and relevant evidence. (W.7.1)

I can select evidence from literary or informational texts to support analysis, reflection, and research. (W.7.9)

Supporting Learning Target

- I can create a Cascading Consequences chart based on industrial management of water, using my researcher's notebook.

Ongoing Assessment

- Researcher's notebook
- Cascading Consequences chart for industrial management of water



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Introducing Essay Prompt; Reviewing Learning Target (10 minutes)2. Work Time<ol style="list-style-type: none">A. Modeling Creating a Cascading Consequences Chart for Industrial Management of Water (10 minutes)B. Cascading Consequences Chart for Industrial Management of Water (10 minutes)C. Partner Work to Add to the Cascading Consequences Chart (10 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Debrief (5 minutes)4. Homework<ol style="list-style-type: none">A. Complete a Cascading Consequences chart for the agricultural management of water. Continue reading your independent reading book for this module.	<ul style="list-style-type: none">• As noted in the module overview, this module focuses on just two of the steps in the SCDM process. In this lesson, students are introduced to the Cascading Consequences chart, which provides a way for them to create a visual “map” of the consequences of a particular choice or course of action. Students will add consequences to the chart as they continue reading <i>The Big Thirst</i>, as well as those they learn about through their independent research. They will refer to this chart throughout the rest of the unit for several important reasons, including to determine who the stakeholders are for the issue they are learning about and to use as a reference for writing about their position on the issue.• Students will create two Cascading Consequences charts to organize the information they gathered in their research. Once the charts are completed, they will be able to clearly see all the consequences (positive, negative, and neutral) of choosing to begin with reforms to either industrial or agricultural management of water. This will help them to answer the overarching research question: “How do industry and agriculture currently manage water? What strategies exist for industry and agriculture to manage water better?”• In this lesson, the class begins a Cascading Consequences chart specifically for the notes they have taken in their researcher’s notebook. Since this is the first time students work with this type of chart, their work is highly scaffolded, with you modeling using notes from the researcher’s notebook. After the modeling, students have a chance to practice with the same notes and get immediate feedback. Then, they have time to work with a partner to add to the chart, using another section of the researcher’s notebook. For homework, they will finish a second Cascading Consequence chart on the agricultural management of water.• The lessons on “cascading consequences” are among the most challenging of this unit. Feel free to modify and differentiate the lessons according to your professional judgment so that all students may reach the learning targets.• Encourage students to return to their original texts at any point for any clarification they require. Returning to the text consistently is a “habit of mind” that should be emphasized.



Agenda	Teaching Notes (continued)
	<ul style="list-style-type: none">• The next lesson will extend the scaffolded learning process, asking students to once again work with partners, and then individually, on a Stakeholder chart for the industrial management of water. These two charts (Cascading Consequences and Stakeholder) will form the basis for organizing the students' thoughts on the upcoming essay prompt, which they will develop and present in Unit 3: "Which category of water management would be a good place to begin to make the way we manage water more sustainable?"• The homework for this lesson is detailed and challenging. Consider making advanced preparations within the next lesson in case students need extra assistance with the homework upon coming to class, and/or using the "Meeting Students' Needs" column to differentiate the homework ahead of time.• In advance: Review the "Learning to Make Decisions Systematically" article (see Module Overview), which provides a concise explanation and useful student work examples of the research process the unit employs; review the sample Cascading Consequences charts in the supporting materials and the think-aloud portion of the lesson. Note especially that the think-aloud example provided here is one of specific consequences cascading from a specific situation; students may volunteer more wide-ranging examples from industrial water use and may work with wide-ranging examples in their own Cascading Consequences charts; find an image of a waterfall to display to illustrate the meaning of "cascading" when unpacking the learning targets; review the Fist to Five protocol (see Appendix).• Post: Learning target, Unit 3 essay prompt.



Lesson Vocabulary	Materials
consequence; effect, result, or outcome; cascading	<ul style="list-style-type: none">• Entry Task: Getting an iPad (one per student)• Sample Cascading Consequences chart: Getting an iPad (one per student)• Unit 3 essay prompt (one to display)• Researcher's notebooks (begun in Lesson 3; one per student)• Cascading Consequences chart for Industrial Management of Water (blank; one to display)• Document camera• Cascading Consequences chart for Industrial Management of Water (sample, for teacher reference)• <i>The Big Thirst: The Secret Life and Turbulent Future of Water</i> (book; one per student)• 8.5" by 14" (legal size) paper (two per student)• Homework directions (one per student)• Cascading Consequences chart for the Agricultural Management of Water (blank, for teacher reference; students create a similar chart using their Researcher's notebook; see Homework directions) <p><i>Note: Supporting materials are not in the order listed above, but they are all there.</i></p>



Opening	Meeting Students' Needs
<p>A. Introducing Essay Prompt; Reviewing Learning Target (10 minutes)</p> <ul style="list-style-type: none"> • Distribute the Entry Task: Getting an iPad and give students 2 minutes to complete it. • After two minutes of thinking and writing, invite students to explain to a partner: <ul style="list-style-type: none"> * “What did you decide, and why?” • Read the learning target: <ul style="list-style-type: none"> * “I can create a Cascading Consequences chart based on industrial management of water, using my researcher’s notebook.” • Circle the word <i>consequences</i> on the posted learning target. Invite students to review with a partner what a consequence is. Remind them of their discussion of this word in Lesson 3. • Reiterate that a consequence is an “effect, result, or outcome” of something that occurred earlier. Add new information about the definition by pointing out that often when we use the word <i>consequence</i>, it has a negative connotation. For example, parents might say to a child that the consequence of not cleaning his room is that he can’t go to the movies with friends on Friday night. However, in some cases, the word <i>consequence</i> is neutral, without a negative or positive connotation. When we talk about cascading consequences, we are using consequence as a neutral word. Consider that some consequences are positive, for example. Refer to the “virtuous water cycle” on page 116 of <i>The Big Thirst</i>. • Circle the word <i>cascading</i> on the posted learning target. • Display an image of a waterfall. • Explain that <i>cascade</i> is another word for waterfall and that <i>cascading</i> can describe anything that resembles a waterfall. Cascading also means that one thing follows the next, like a chain of events. In a waterfall, one water drop follows the next. • Distribute the Sample Cascading Consequences Chart: Getting an iPad. • Invite students to discuss with their partner: <ul style="list-style-type: none"> * “What do you notice about this Cascading Consequences chart?” * “What do you wonder?” * “How is it similar or different from the entry task you just completed?” • Circulate and listen for partners to say: “Some of the consequences on the chart are positive and some are negative,” and “It looks like a waterfall because everything is flowing from the center box.” 	<ul style="list-style-type: none"> • When possible, have students who need physical activity take on the active roles of managing and writing on charts or handing out materials. • For all vocabulary, consider drawing or posting small pictures next to each word on anchor charts to activate as many sensory means of comprehension as possible. The waterfall displayed here, for example, could then be transferred in miniature to the Academic Vocabulary anchor chart. Consider having your artistically talented or motivated students take on this responsibility.



Opening (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Have students look at the chart a second time:<ul style="list-style-type: none">* “Where are the consequences on this chart? How do they relate to one another?”• Circulate and listen for partners to say: “The consequences flow from the decision to get an iPad, and then from each other. Consequences lead to other consequences.”• Explain that creating a Cascading Consequences chart is one piece of the research process that they have already begun with their notes on <i>The Big Thirst</i> and their internet research in their researcher’s notebooks. Refer to the posted Unit 3 essay prompt:<ul style="list-style-type: none">* “Which category of water management would be a good place to begin to make the way we manage water more sustainable?”• Have students turn to their partners and discuss for 1 minute what they “notice” and “wonder” about this prompt.• Explain that they are going to learn to use a structured decision-making process so that each student decides how to best answer this question based on the evidence in <i>The Big Thirst</i> and on further research, rather than basing the decision on emotions or gut feelings.• Explain that students will create a Cascading Consequences chart for both industrial and agricultural water management. These charts will help them collect evidence and analyze which category would be a good place to begin managing water for sustainability and will also help with the Unit 3 essay prompt. Note that students won’t decide on an answer for that question until the end of this unit. It’s important that they keep an open mind and understand all the reasons and evidence before they make a decision.• Explain that today students will focus on industrial water management. In their homework, they will focus on agricultural water management.	



Work Time	Meeting Students' Needs
<p>A. Modeling Creating a Cascading Consequences Chart for Industrial Management of Water (10 minutes)</p> <ul style="list-style-type: none"> • Invite students to turn to Section I in their researcher's notebooks: Research Notes on Text. As they do so, display the Cascading Consequences chart for industrial management of water with the document camera. • Ask students to refer to the bottom of Section I of their researcher's notebook, the section called "Paragraph to sum up new information from this text about the use of water in industry." Ask for a volunteer to name three consequences he or she sees based on the contents of this paragraph. Write these three consequences on the side of the Cascading Consequences chart for industrial management of water, but do not chart them yet. • Begin to think aloud about how to turn this list of consequences into a Cascading Consequences chart, referring to the sample Cascading Consequences chart for industrial management of water (for teacher reference) as needed. Your think-aloud should sound something like this: <ul style="list-style-type: none"> * "Since this is a Cascading Consequences chart about industrial management of water, you can see that the central box is labeled with those words. Now, I'm going to use the chart to connect the three pieces of information you volunteered to the center of the chart with a 'cascade' of boxes: that is, a cascade of consequences. One consequence leads to another, which leads to another, just like on our sample Cascading Consequences chart for getting an iPad. * "<i>The Big Thirst</i> states that the Royal Caribbean company managed to save 2 gallons of water per passenger by swapping rocks for ice in cruise ship buffets. There are actually two consequences happening in this sentence: the rock-ice swap and the water savings. The rock-ice swap is a direct consequence of Royal Caribbean's management of water, so I'm going to draw a line directly from the center and label the attached box 'rock-ice swap.' * "Next, I'm going to draw a line from the 'rock-ice swap,' create another box, and label that '2 gallons per person water savings.' I'm doing this because the water savings was a cascading consequence of the rock-ice swap—the savings was a consequence of using rocks. So it belongs further out on the 'cascade.'" • Conduct a similar think-aloud for the placement of the second consequence. • Ask students to work with a partner to verbally place the last consequence from the list on the chart. Encourage them to talk about why they are placing each consequence in a particular place on the chart. • After about 3 minutes, cold call students to share out where they placed each consequence and why. • Point out that there is not just one way to create a Cascading Consequences chart from notes. People may disagree as to the exact location of a consequence and whether or not it is a direct or an indirect "cascading consequence." 	<ul style="list-style-type: none"> • Consider using the "Learning to Make Decisions Systematically" article and its contents as further exemplars of the process for students, either as further scaffolding or as extension material for academically talented students. • Consider selecting students ahead of time for cold calls. Those who need practice in oral response or extended processing time can be told the prompt before class begins to prepare for their participation. This also allows for a public experience of academic success for students who may struggle with on-demand questioning, or for struggling students in general. • Think about modifying the materials to meet students' physical and mental needs. Whole sheets of chart paper could be used instead of the recommended 8.5" by 14" versions of the Cascading Consequences charts; charts could be partially or even wholly filled in; vocabulary words could be defined



Work Time (continued)	Meeting Students' Needs
<p>B. Cascading Consequences Chart for Industrial Management of Water (10 minutes)</p> <ul style="list-style-type: none"> • Distribute two 8.5" by 14" (legal size) pieces of paper to each student. • Remind them of the steps you took to build the Cascading Consequences chart. • Ask students to read their notes and create a list of the consequences of the industrial management of water on the side of the paper. • Ask them to draw and label the center box and then add each consequence to the chart, deciding what is a direct consequence and what is not. • Invite students to work with their partner to add to the chart using researcher's notebook Sections I and III: Research Notes on Text. Point out that they can use all parts of their notes to help find consequences, not only the one you modeled. • As students work, circulate to observe and assist. Ask: <ul style="list-style-type: none"> * "Why did you place this consequence where you did?" * "How do you know this is a consequence of that?" • After 6 minutes of work time, invite one partnership to explain what they added to their Cascading Consequences chart. Make these additions to the displayed chart as they speak. During the explanation, cold call other students to answer these questions: <ul style="list-style-type: none"> * "Did you identify the same consequence as the presenting partnership? Why or why not?" * "Would you make any changes to this? What would you change? Why?" • Should the partnership volunteer an answer that is illogical or wrong, thank them for their hard work and record the answer as presented. Use the follow-up questions above to have peers guide the partnership to the correct answer, and make the necessary changes on the displayed chart. • After discussing the presenting partnership's additions to the chart, ask students to work with their own partner to revise their own charts. • Cold call two or three students to explain how they revised their chart and why. 	<ul style="list-style-type: none"> • After stretches of intensive reading and writing during which physical movement is not built into the instruction, consider having students stand up for a quick "brain break" or a physical stretch at natural breaks in the work time (between Work Times A and B, for example). Research indicates that these breaks are important for neurological growth, especially for boys. Their cognitive processing requires more "rest times" away from the subject matter before re-engaging in learning. • Be sure to note, both here and in Work Time C, those students who struggle with creating the charts. Target them for individual, immediate, and/or increased assistance in the next lesson as they create their second chart.



Work Time (continued)	Meeting Students' Needs
<p>C. Partner Work to Add to the Cascading Consequences Chart (10 minutes)</p> <ul style="list-style-type: none">• Invite students to continue to work with their partner on the chart, using the researcher's notebook Sections VII–IX, Internet Research. Remind them to use only those sections in which they explored a supporting research question that related to the industrial use of water.• Circulate to assist individually, taking special note of whether students are working with supporting research questions that relate to the industrial use of water.• After 7 or 8 minutes, invite students to take the consequences they have found so far and add them to their Cascading Consequences chart. They will share these additions during the debrief in a few minutes.	<ul style="list-style-type: none">• Some students may finish earlier than others here, depending on what and how many supporting research questions on industrial use of water they explored in their research. They may also have chosen supporting research questions that do not directly involve cascading consequences. Check the charts of those who finish early for accuracy and thoroughness, and encourage them to go back to the Fishman text in particular if there is a shortage of cascading consequences in their notes.• If the work is acceptable, ask these students to now become your “experts.” Direct them to circulate quietly among the other students, checking for accuracy, answering questions, giving positive feedback for interesting and thorough work, and letting you know if any of their peers seem stuck.



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief (5 minutes)</p> <ul style="list-style-type: none">• Invite students to find a new partner and follow these steps:<ol style="list-style-type: none">1. Show your Cascading Consequences chart to your partner. Point out the parts that you just added.2. Share with your partner one box that you feel very sure of. Explain why you are confident in this.3. Return to your original partner, share new insights, and revise your Cascading Consequences chart if needed.• Review the learning target:<ul style="list-style-type: none">* "I can create a Cascading Consequences chart based on industrial management of water, using my researcher's notebook."• Using the Fist to Five protocol, ask students to assess themselves on the target.• Distribute the homework directions and let students know that their homework is to create another Cascading Consequences chart for the agricultural management of water.	
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Complete a Cascading Consequences chart for the agricultural management of water.• Continue reading your independent reading book for this module.	<ul style="list-style-type: none">• Depending on the effort and abilities of your students, consider differentiating this homework depending on their demonstrated level of need. Students who complete the chart in class may be given the "Learning to Make Decisions Systematically" article for further reading, for example (see Teaching Notes). Other students may be sent home with a specified manageable amount of "cascades" of consequences to develop on their chart; given a "starter" for a cascade; or, as a mental challenge, given a concluding consequence with blank boxes and asked to "backward-design" the cascade.



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 11

Supporting Materials



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Entry Task:
Getting an iPad

.....
Name:

.....
Date:

Imagine you are deciding whether to get an iPad for your personal use.

List all the consequences (effects) of this decision.

Based on these consequences, what would you decide?

Why would you make that decision?



Unit 3 Essay Prompt

.....
Name:

.....
Date:

Which category of water management would be a good place to begin to make the way we manage water more sustainable?



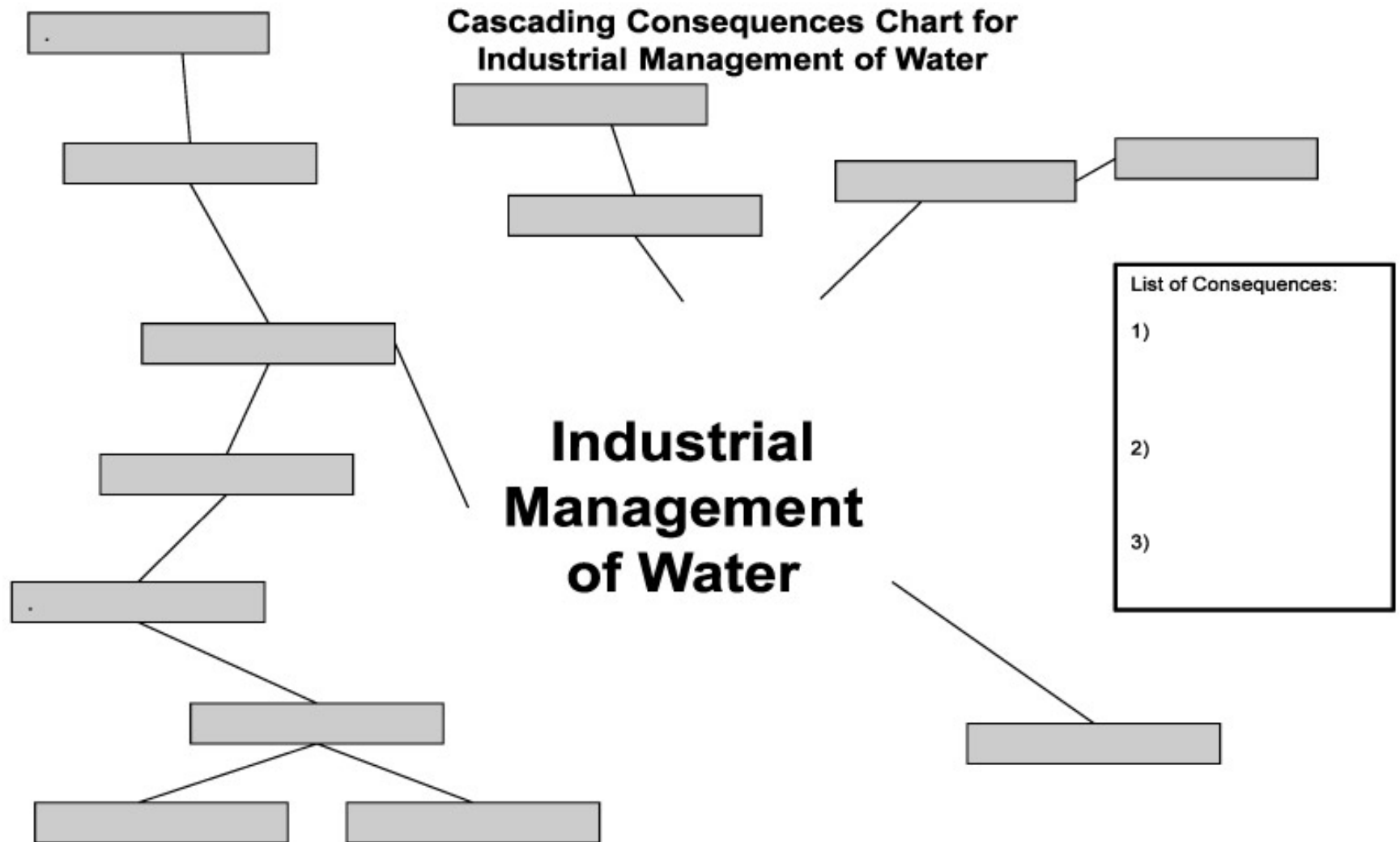
Homework Directions

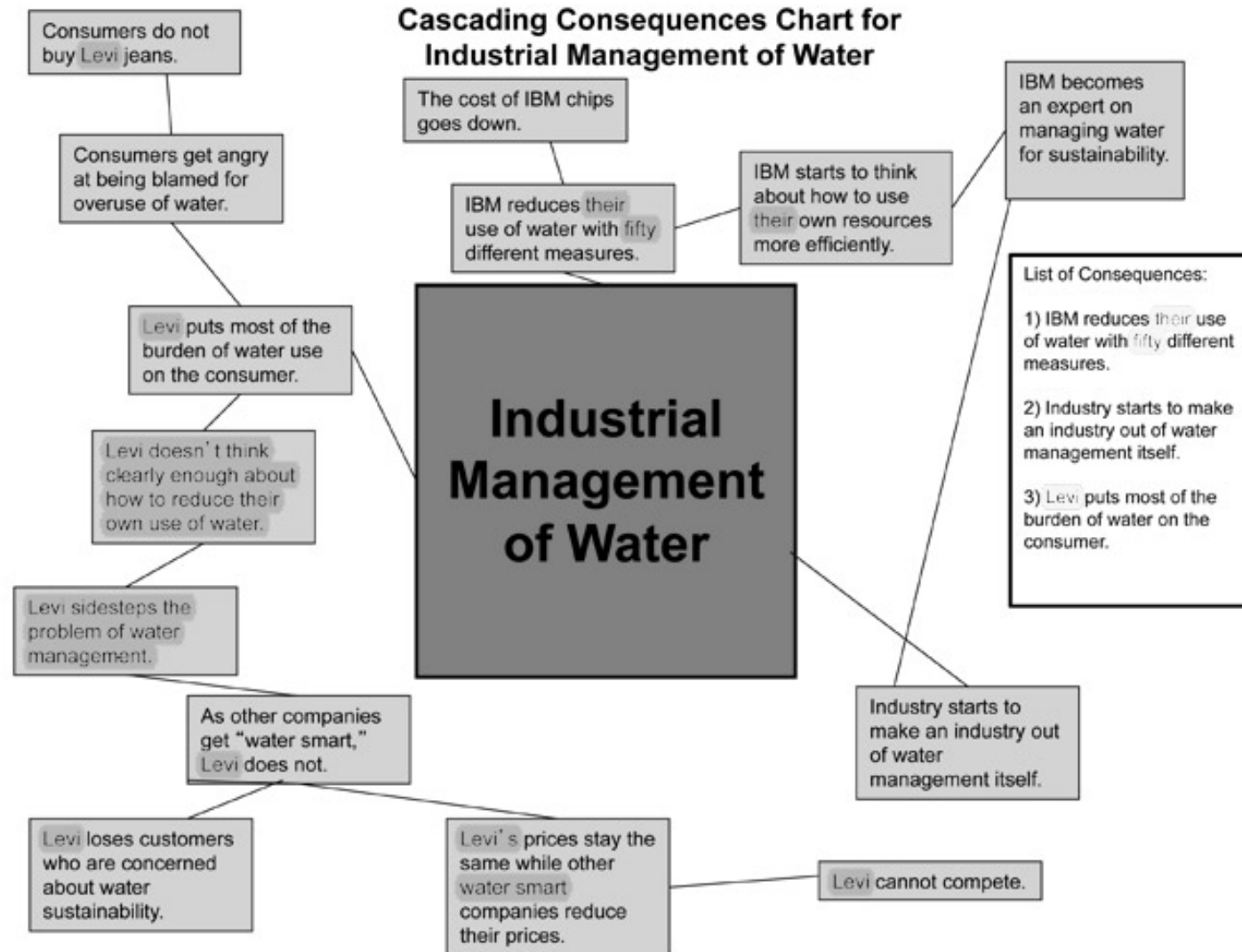
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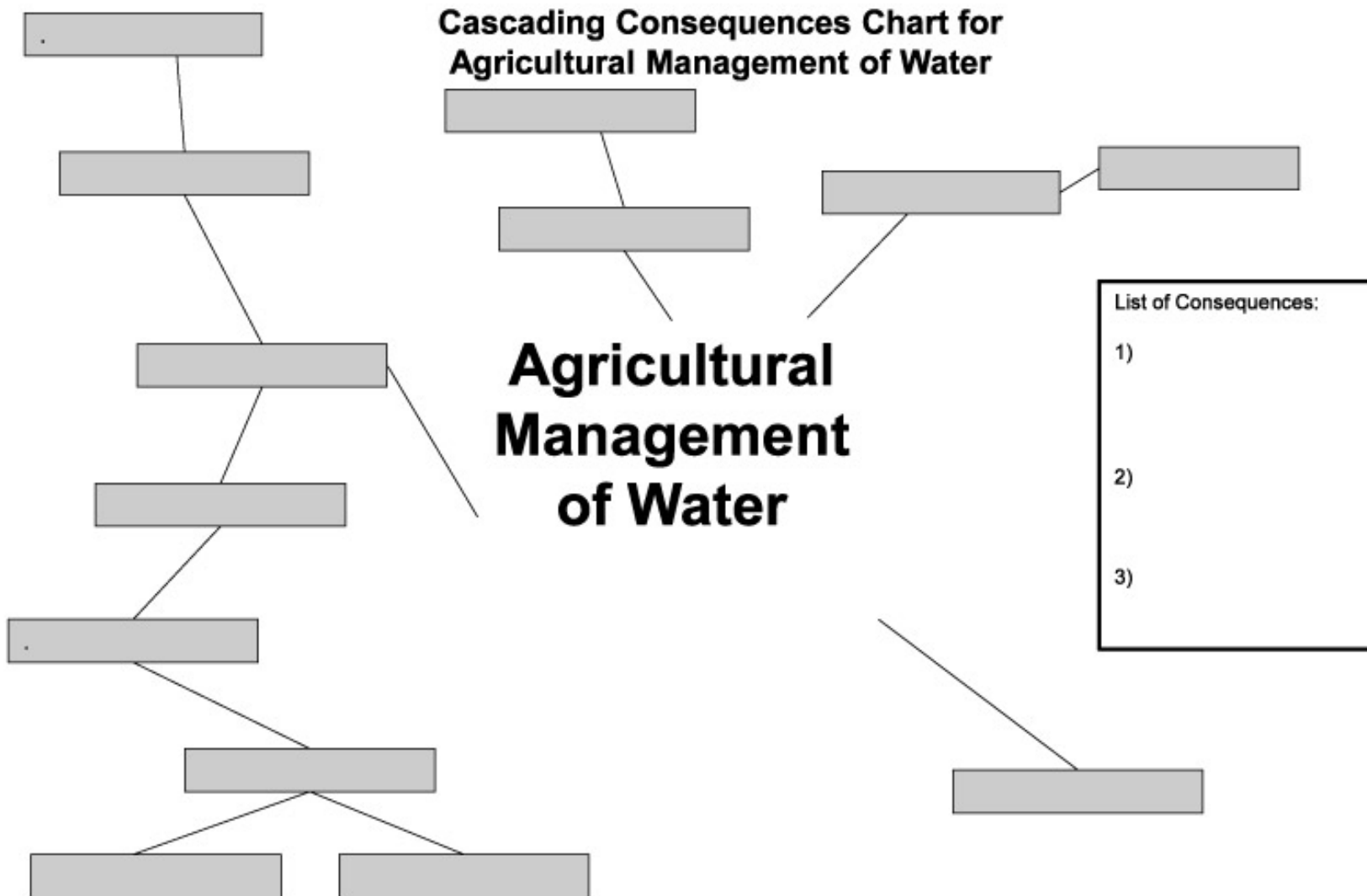
.....
Date:

- Use the second piece of 8.5-by-14 paper to create a Cascading Consequences chart for the Agricultural Management of Water in your researcher's notebook.
- Use Sections IV–VI Research Notes from Text and Sections VII–IX internet Research.
- Use the Cascading Consequences chart for industrial management of water as your model and guide.
- You can use all parts of your researcher's notebook to find consequences.
- Remember to use only those sections in which you explored a supporting research question that related to the **agricultural** use of water.
- When finished, continue your independent reading.











EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 12

Forming a Research-Based Claim: Stakeholder Chart on Better Industrial Water Management



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
<p>I can write arguments to support claims with clear reasons and relevant evidence. (W.7.1)</p> <p>I can select evidence from literary or informational texts to support analysis, reflection, and research. (W.7.9)</p>	
Supporting Learning Target	Ongoing Assessment
<ul style="list-style-type: none">I can create a Stakeholder chart based on industrial management of water, using my industrial management of water Cascading Consequences chart and researcher's notebook.	<ul style="list-style-type: none">Cascading Consequences chart: agricultural management of water (from homework)Cascading Consequences chart: industrial management of waterStakeholder chart: industrial management of waterResearcher's notebooks



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Sharing Cascading Consequences Chart for Agricultural Management of Water from Homework; Reviewing Learning Target; Introducing Stakeholder Chart (10 minutes) 2. Work Time <ol style="list-style-type: none"> A. Mini Lesson: Modeling Creating a Stakeholder Chart for Industrial Management of Water (10 minutes) B. Guided Practice: Creating the Stakeholder Chart for Industrial Management of Water (10 minutes) C. Application: Partner Work to Add to the Stakeholder Chart of the Industrial Management of Water Chart (10 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief (5 minutes) 4. Homework <ol style="list-style-type: none"> A. Finish the industrial Stakeholder chart using your industrial management of water Cascading Consequences chart and researcher's notebook. 	<ul style="list-style-type: none"> • In this lesson, students view the research they have organized in their Cascading Consequences charts through the lens of stakeholders: the people and places that will be affected by the potential answer to the Unit 3 essay prompt: “Which category of water management would be a good place to begin to make the way we manage water more sustainable?” To develop a researched-based claim that will answer this prompt, students use their industrial and agricultural Cascading Consequences charts and researcher’s notebooks to create Stakeholder charts. • Stakeholder charts will in turn form the basis for a Fishbowl discussion in Lessons 14 and 15, in which students will debate the merits of beginning with either industrial or agricultural management of water. The Fishbowl will then serve as the springboard into answering the Unit 3 essay prompt. • As with the Cascading Consequences charts, student work is highly scaffolded at first in this lesson, with you modeling using the Cascading Consequences chart to develop the Stakeholder chart. After the modeling, students have a chance to practice and get immediate feedback. Then, they have time to work with a partner to add to the chart. For homework, they will finish the chart. Note that this is similar to the way the Cascading Consequences charts were written; this is a deliberate design choice to make the lesson predictable and manageable for students while they work with complex information. • The next lesson will ask students to independently create the Stakeholder chart for the agricultural management of water, and then use both of the Stakeholders charts to begin to prepare for the Fishbowl. • This lesson requires using several organizers and pages of notes of simultaneously. As the lesson proceeds, consider modeling how to set up these papers physically in the student workspace for the most efficient use. • Encourage students to return to their original texts at any point for any clarification they require. Returning to the text consistently is a “habit of mind” that should be emphasized. • In advance: Review the Stakeholder chart template and samples and the think-aloud portion of the lesson; review the “Learning to Make Decisions Systematically” article to familiarize yourself with the connections between the Cascading Consequences chart and the Stakeholder chart. This article can be found in the Module Overview document.



Agenda	Teaching Notes (continued)
	<ul style="list-style-type: none">• In advance: find a picture of an American pioneer literally “staking his claim”; that is, using a wooden stake to delineate the boundary of the land he was claiming; review the Fist to Five in Checking for Understanding techniques (see Appendix).• Post: Learning target.

Lesson Vocabulary	Materials
stakeholder, intended, unintended, n/a (not applicable)	<ul style="list-style-type: none">• Sample Stakeholder chart for free soda in the school lunchroom (one per student)• Unit 3 essay prompt (from Lesson 11; one to display)• Cascading Consequences chart for industrial management of water (from Lesson 11; one per student)• Researcher’s notebooks (begun in Lesson 3; one per student)• Stakeholder chart for industrial management of water (one per student and one to display)• Document camera• Sample Stakeholder chart for industrial management of water (for teacher reference)• Sample Cascading Consequences chart for industrial management of water (from Lesson 11; one to display)• “Learning to Make Decisions Systematically” article (optional; see Homework, Meeting Students’ Needs column)



Opening	Meeting Students' Needs
<p>A. Sharing Cascading Consequences Chart for Agricultural Management of Water from Homework; Reviewing Learning Target; Introducing Stakeholder Chart (10 minutes)</p> <ul style="list-style-type: none"> Ask students to take out their homework (the Cascading Consequences chart for agricultural management of water). Invite them to turn and talk with a partner: <ul style="list-style-type: none"> * “What is your strongest cascading consequence—the one you feel you understand the most clearly?” * “Do you have any questions about what you wrote last night?” Students should copy their partner’s strongest cascading consequence onto their own chart. They should also attempt to clarify any questions their partners came across while doing the homework. Circulate during this discussion and provide answers if needed. Read the learning target aloud: <ul style="list-style-type: none"> * “I can create a Stakeholder chart based on industrial management of water, using my industrial management of water Cascading Consequences chart and researcher’s notebook.” Circle the word <i>stakeholder</i> on the posted learning target. Ask if students have heard this word before, and if so, in what context. Cold call two or three for their answers. Display the picture of the pioneer stakeholder. Inform the class that the word <i>stakeholder</i> comes from many places, but the one they might remember best is related to American history. An American pioneer claiming land in the West would mark the boundary of his property with wooden stakes. It was his way of saying, “This land is mine, so what happens on this piece of land is very important to me.” Similarly, a stakeholder today is a person or group of people who are deeply affected by certain decisions. Ask students: <ul style="list-style-type: none"> * “Who is a stakeholder in this school? Why?” Listen for: “parents,” “teachers,” “students,” “staff,” and “community members” and ask students to explain why decisions made about school affect each of those groups. Distribute the sample Stakeholder chart for free soda in the school lunchroom. 	<ul style="list-style-type: none"> When possible, have students who need physical activity take on the active roles of managing and writing on charts or handing out materials. Consider selecting students ahead of time for cold calls. Those who need practice in oral response or extended processing time can be told the prompt before class begins to prepare for their participation. This also allows for a public experience of academic success for students who may struggle with on-demand questioning, or for struggling students in general. For all vocabulary, consider drawing or posting small pictures next to each word on anchor charts to activate as many sensory means of comprehension as possible. Consider having your artistically talented or motivated students take on this responsibility.



Opening (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Invite students to discuss with their partner:<ul style="list-style-type: none">* “What do you notice about this Stakeholder chart?”* “What do you wonder?”• Listen for: “It shows the viewpoint of everyone affected by the decision,” “It asks you to balance out the positives and the negatives,” and “It asks you to rank the stakeholders.”• Explain that creating a Stakeholder chart is the second piece of the research process that they have already begun. Refer to the posted Unit 3 essay prompt:<ul style="list-style-type: none">* “Which category of water management would be a good place to begin to make the way we manage water more sustainable?”• Reiterate that the class is using a structured decision-making process so that each student decides how to best answer this question based on the evidence in <i>The Big Thirst</i> and on further research, rather than basing the decision on emotions or gut feelings.• Explain that it is important to “put yourself in the shoes” of the stakeholders involved in each of the potential decisions to be made. In this way, researchers understand the effects of their decision as accurately as possible <i>before</i> the decision is made. This allows researchers to anticipate problems and think about solutions ahead of time, as well as understand the viewpoints and opinions of all the people involved.• Explain that today students will continue to focus on industrial water management. In the next lesson, they will focus their Stakeholder chart on agricultural water management.	



Work Time	Meeting Students' Needs
<p>A. Mini Lesson: Modeling Creating a Stakeholder Chart for Industrial Management of Water (10 minutes)</p> <ul style="list-style-type: none"> Ask students to put away their homework and take out their Cascading Consequences chart for industrial management of water and their researcher's notebook. As they do, place the Stakeholder chart for industrial management of water under the document camera. Ask students to volunteer a cascading consequence “chain” they included on their Cascading Consequences chart for industrial management of water. Write this consequence on the side of the Stakeholder chart for industrial management of water, but do not chart it yet. Begin to think aloud about how to turn this consequence into entries on the Stakeholder chart, referring as needed to the sample Stakeholder chart for industrial management of water (for teacher reference). Your think-aloud should sound something like this: <ul style="list-style-type: none"> * “Let’s revisit the rock versus ice swap of the Royal Caribbean company, which is the first cascade of consequences I wrote on the sample Cascading Consequences chart for industrial management of water in the previous lesson. I check my chart and see that the whole cascade of consequences goes like this: Royal Caribbean swapped out ice for rocks; it saved 2 gallons of water per passenger.” (Display the sample Cascading Consequences chart briefly to make this point and then switch the display back to the Stakeholder chart.) * “So let’s think now about who is affected by this particular cascade of consequences. Who are the stakeholders? Definitely the Royal Caribbean company, since it’s the one that made the decision in the first place. I’m going to write its name down on a Stakeholder line. I’m going to write ‘employees’ on the next line, since they are the ones who have to actually make the swap. Lastly, I’m going to write ‘passengers.’ They’re the folks who have to eat the food being chilled by rocks now.” * “Onto the next column—what way will they be affected? Well, the company will save water, and thus save money. I’m going to write that down in the first box. Note that I’m not writing full sentences here; I’m going to make sure I’m including all the facts, but I’m not going crazy with perfect grammar and punctuation. That will come later, when you write your essay.” * “The employees have to learn new routines. I’ll note that. But the routines are easier for rocks than for ice, so I’ll note that as well. The passengers don’t seem to be affected by the rock-ice swap at all, because the rocks do as good a job chilling the food. In fact, I see from my notes in the researcher’s notebook that the rocks did a <i>better</i> job, so the passengers actually have a better eating experience. I also wonder if the price of their ticket goes down because the company saves money. I’ll note both of those thoughts here.” 	<ul style="list-style-type: none"> After stretches of intensive reading and writing during which physical movement is not built into the instruction, consider having students stand up for a quick “brain break” or a physical stretch at natural breaks in the work time (between Work Time A and B, for example). Research indicates that these breaks are important for neurological growth, especially for boys. Their cognitive processing requires more “rest times” away from the subject matter before re-engaging in learning. Consider reinforcing the idea of “intended,” “unintended,” and “not applicable” through pictures for ELLs or students with emerging literacy



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> * “Next, I check through to see if each consequence is <i>intended</i> or <i>unintended</i>. That means that the consequence is either something that was meant to happen, or something that wasn’t meant to happen but did. Looking over these, it seems that each one was intended by the company, except, perhaps, the rocks doing a better job chilling the food than ice. The company discovered that along the way. So I’m going to mark that as an unintended consequence.” * “The next column asks: Were these consequences positive? Saving water and money, getting easier routines, and having better-chilled food all seem positive to me, so I’m going to mark that down. Some employees think that learning new routines is annoying, though, so I’ll mark that as negative. For the rest of the boxes, I’m going to use the abbreviation ‘N/A.’ That means ‘not applicable’; the consequences were positive, so the question doesn’t apply (it’s not applicable).” * “The next column asks you to look at only the negative consequences. For us, that’s the annoyed employees. The column asks: ‘If the consequence is negative, do you feel it is offset by greater good elsewhere?’ So is the saved money, easier routine, and better food worth having a few annoyed employees? I think so. I am going to write ‘yes’ here.” * “Last column: How important to you are the interests of this stakeholder? This is an interesting one, and there’s not one right answer. For example, if you are really concerned about the poor having better access to water, whether a cruise ship company can chill its food using less water may not seem very relevant to solving that problem. You might place a 3 in this box. On the other hand, you might think that the thousands of passengers who see that rocks work better than ice might go home and try it themselves and save lots of water. You might put a 1 in the box for passengers.” • Ask students to work with a partner to verbally place another stakeholder from their list on the chart. Encourage them to talk about why they are placing that stakeholder in a particular place on the chart. • After about 3 minutes, cold call pairs to share out what stakeholder they placed and why. 	<ul style="list-style-type: none"> •



Work Time (continued)	Meeting Students' Needs
<p>B. Guided Practice: Creating the Stakeholder Chart for Industrial Management of Water (10 minutes)</p> <ul style="list-style-type: none"> Distribute the Stakeholder chart for industrial management of water to students. Remind them of the steps you took to build the chart: <ol style="list-style-type: none"> Read the Cascading Consequences chart for industrial management of water, looking for consequences of the industrial management of water. Use these consequences to decide who the stakeholders are. Fill in the rest of the columns for each stakeholder. Refer to the researcher's notebook if necessary for clarification or ideas. Invite students to work with their partner to add to the chart. Be sure to indicate that they can use all parts of their notes, not just the one you modeled. As students work, circulate to observe and assist. Ask them about each column; in particular, have them articulate the reasoning behind their choices of stakeholders. After 6 minutes, invite one partnership to explain what they added to their chart. Make these additions to the display chart as they speak. During the explanation, cold call other students to answer these questions: <ul style="list-style-type: none"> * "Did you identify the same stakeholder as the presenting partnership? Why or why not?" * "Would you make any changes to this? What would you change? Why?" After discussing the presenting partnership's additions to the chart, ask students to work with their own partner to revise their Stakeholder chart. Cold call two or three students to explain how they revised their chart and why. 	<ul style="list-style-type: none"> Keep in mind that this lesson requires visual comparison and written transferral of information. If students are visually or physically challenged, this process might be modified for them ahead of time so they are not unnecessarily impeded in categorizing and analyzing the evidence. Possible modifications include partially filled-in Stakeholder charts; creating a Stakeholder chart on chart paper and/or lined paper; or giving the students items from the research notes on sticky notes to physically sort on the Stakeholder charts. The lesson hinges on the accurate and full completion of the Cascading Consequences charts. Think ahead to whether any previous modifications to these materials for students with special needs should be replicated here. Also, if a student struggles with gathering information on the Cascading Consequences charts, consider pairing him or her with a proficient student or giving examples from the text on sticky notes.



Work Time (continued)	Meeting Students' Needs
<p>C. Application: Partner Work to Add to the Stakeholder Chart of the Industrial Management of Water Chart (10 minutes)</p> <ul style="list-style-type: none">• Invite students to continue to work with their partner on the chart. They will share these additions during the Debrief in a few minutes.• Circulate to offer individual assistance. Monitor that students are using their notes and charts on <i>industrial</i> use of water.	
Closing and Assessment	Meeting Students' Needs
<p>A. Debrief (5 minutes)</p> <ul style="list-style-type: none">• Invite students to find a new partner and follow these steps:<ol style="list-style-type: none">1. Show your Stakeholder chart to your partner and point out the parts that you just added.2. Share with your partner one box that you feel very sure of. Explain why you are confident in this.3. Share with your partner one box that you are unsure of. Explain why you are unsure.4. Ask your partner for any guidance with the answer you are unsure of.• Invite students to return to their original partners, share new insights, and revise their Stakeholder chart if needed.• Review the learning target:<ul style="list-style-type: none">* "I can create a Stakeholder chart based on industrial management of water, using my industrial management of water Cascading Consequences chart and researcher's notebook."• Using the Fist to Five Checking for Understanding technique, ask students to assess themselves on the target.	



Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Finish the industrial Stakeholder chart, using your industrial management of water Cascading Consequences chart and researcher's notebook as resources.• When finished, complete independent reading.	<ul style="list-style-type: none">• This homework is detailed and challenging. Depending on the effort and abilities of your students, consider differentiating the homework according to demonstrated level of need. Students who complete the chart in class may be given the "Learning to Make Decisions Systematically" article for further reading, for example (see Teaching Notes; this article can be found as a part of the Module Overview document). Other students may be sent home with specified manageable amount of rows to develop on their chart, or given a specific Stakeholder category to develop.



EXPEDITIONARY
LEARNING

Grade 7: Module 4B Unit 2: Lesson 12

Supporting Materials



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Sample Stakeholder Chart
For Free Soda in the School Lunchroom

Name: _____

Date: _____

What is the option being considered? To make soda available for free during school lunches.

Stakeholder	What way will this stakeholder be affected?	Is this an intended or unintended consequence?	Is this a positive or negative consequence?	If the consequence is negative, do you feel it is offset by greater good elsewhere?	How important to you are the interests of this stakeholder? 1-very 2-somewhat 3-not so much
Students	Students will enjoy the free soda but may react badly to the increased sugar and caffeine.	enjoyment = intended bad physical reactions = unintended	enjoyment = positive bad physical reactions = negative	no	1
Teachers	Students may be wired and/or crashing due to soda consumption, unable to concentrate.	unintended	negative	no	1
Parents	will need to handle students influenced by sugar and caffeine; possible increase in cavities/dental work	unintended	negative	no	1
School Nurse	will need to handle more medical emergencies brought on by increased sugar and caffeine consumption	unintended	negative	no	2



Stakeholder Chart
For Industrial Management of Water

Name: _____

Date: _____

What is the option being considered (from Fishman or your own research)?

Stakeholder	What way will this stakeholder be affected?	Is this an intended or unintended consequence?	Is this a positive or negative consequence?	If the consequence is negative, do you feel it is offset by greater good elsewhere?	How important to you are the interests of this stakeholder? 1-very 2-somewhat 3-not so much

Stakeholder Chart

For Industrial Management of Water - For Teacher Reference

Name: _____

Date: _____

What is the option being considered?

To begin reforming our water management with industrial management of water.

Stakeholder	What way will this stakeholder be affected?	Is this an intended or unintended consequence?	Is this a positive or negative consequence?	If the consequence is negative, do you feel it is offset by greater good elsewhere?	How important to you are the interests of this stakeholder? 1-very 2-somewhat 3-not so much
Royal Caribbean company	save money; save water	intended	positive	n/a	3
employees	learn new routines (they may be easier)	intended	negative; if easier routines, positive	yes	2
passengers	eat better-chilled food on rocks	unintended	positive	n/a	1



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 13

Forming a Research-Based Claim: Stakeholder Chart on Better Agricultural Water Management



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
<p>I can write arguments to support claims with clear reasons and relevant evidence. (W.7.1)</p> <p>I can select evidence from literary or informational texts to support analysis, reflection, and research. (W.7.9)</p> <p>I can use my experience and knowledge of language and logic to address problems and advocate persuasively. (RI.7.9a, SL.7.2a)</p>	
Supporting Learning Targets	Ongoing Assessment
<ul style="list-style-type: none">• I can create a Stakeholder chart based on agricultural management of water, using my Cascading Consequences chart for agricultural management of water and researcher's notebook.• I can use my knowledge of industrial and agricultural management of water to advocate persuasively for one side or another.• I can practice the skills and expectations of a Fishbowl discussion.	<ul style="list-style-type: none">• Stakeholder chart for industrial management of water (from homework)• Stakeholder chart for agricultural management of water• Industrial/Agricultural Fishbowl graphic organizer



Agenda	Teaching Notes
<ol style="list-style-type: none"> 1. Opening <ol style="list-style-type: none"> A. Sharing Stakeholder Charts for Industrial Management of Water from Homework; Reviewing Learning Targets (7 minutes) 2. Work Time <ol style="list-style-type: none"> A. Creating Stakeholder Chart for Agricultural Management of Water (15 minutes) B. Position Power-Talk: World Cafe (20 minutes) 3. Closing and Assessment <ol style="list-style-type: none"> A. Debrief (3 minutes) 4. Homework <ol style="list-style-type: none"> A. Prepare the graphic organizer for the agriculture/industry Fishbowl discussion in the next lesson. 	<ul style="list-style-type: none"> • In this lesson, students complete the series of lessons that have helped them prepare their research for both a Fishbowl discussion (in Lessons 14 and 15) and the eventual position paper/essay in Unit 3 in which they will answer this prompt: “Which category of water management would be a good place to begin to make the way we manage water more sustainable?” If you have not done so already, preview Unit 3 to be more oriented to this culminating task. • The Fishbowl serves as the first half of the End of Unit 2 Assessment; the second half of the assessment is the preparation of a visual aid (during Lessons 16 and 17) based on the students’ research and Fishbowl discussion. • Students will create the final Stakeholder chart independently but will have an opportunity to share and add knowledge once the chart is complete. • Based on your preference, you may collect the Stakeholder chart for agricultural management of water as an additional assessment, but this is not required. If collecting as an assessment, do so in Lesson 15, so students can use the Stakeholder charts to prepare for the Fishbowl discussion. • See the Teaching Note at the end of this lesson about assigning students to groups for the Fishbowl discussion. • Stakeholder charts and Fishbowl discussions require an intimate understanding of position and opinion; as much as possible, encourage students to imagine themselves “in the shoes” of the stakeholders in industry and agriculture. To that end, in this lesson and those following, consider using props, costume pieces, or simple signs that indicate to the students what “role” they are taking at any given point. For example, during the World Café, as students talk through questions that relate to the agricultural management of water, they might put on a farmer’s straw hat or cap, or prop up a sign with agricultural graphics or pictures on their desks. • Students should be familiar with and move fairly quickly through the World Café protocol; however, based on the needs of your students, this lesson may take more than 45 minutes. Consider breaking the lesson across two days (splitting it between Rounds II and III of the World Café protocol) or reducing the number of rounds.



Agenda	Teaching Notes (continued)
	<ul style="list-style-type: none">• Encourage students to return to their original texts at any point for any clarification they require. Returning to the text consistently is a “habit of mind” that should be emphasized.• In advance: set up the materials for the World Café.• In advance: create Recording Charts: on chart paper; one per group of four, labeled “Recording Chart #1, 2, 3, 4, etc., depending on the number of groups you have when students are divided into fours).• Post: Learning targets.

Lesson Vocabulary	Materials
	<ul style="list-style-type: none">• Cascading Consequences chart for agricultural management of water (from Lesson 11; one per student)• Researcher’s notebook (begun in Lesson 3; one per student)• Stakeholder chart for agricultural management of water (from Lesson 12; one per student)• Stakeholder chart tips (one to display)• Document camera• Unit 3 essay prompt (from Lesson 11; one to display)• Recording charts (Markers - one per group of four)• Table cards (one per group of four)• Discussion protocols (one per group of four)• World Café protocol directions (one to display; see Appendix)• Sample Stakeholder chart for agricultural management of water (for teacher reference)• Industrial/Agricultural Fishbowl graphic organizer, Parts I and II (one per student)



Opening	Meeting Students' Needs
<p>A. Sharing Stakeholder Charts for Industrial Management of Water from Homework; Reviewing Learning Targets (7 minutes)</p> <ul style="list-style-type: none">• Have students work with a partner to compare and contrast their Stakeholder charts for industrial management of water from homework. Have pairs ask each other:<ul style="list-style-type: none">* “What is your strongest stakeholder row—the one you feel the most confident about?”* “Do you have any questions about what you wrote last night?”• Students should copy their partner’s strongest stakeholder onto their own chart. Circulate during this discussion and provide answers if needed.• Have students read the learning targets aloud with you:<ul style="list-style-type: none">* “I can create a Stakeholder chart based on agricultural management of water, using my Cascading Consequences chart for agricultural management of water and researcher’s notebook.”* “I can use my knowledge of industrial and agricultural management of water to advocate persuasively for one side or another.”* “I can practice the skills and expectations of a Fishbowl discussion.”• Note that the targets indicate that today’s lesson is going to be full, but active. Let students know that today they are in the home stretch and will begin preparations for the End of Unit 2 Assessment in Lessons 14–17. Congratulate them for their hard work up to this point.• Ask them to turn to an elbow partner and discuss briefly how the last two learning targets will help them prepare for the end of unit assessment. Listen for: “We’re going to practice our speaking and listening skills today,” “We’re going to get a chance to prepare our thoughts for the Fishbowl discussion,” and “We get to try out our ideas before we’re assessed.”	



Work Time	Meeting Students' Needs
<p>A. Creating Stakeholder Chart for Agricultural Management of Water (15 minutes)</p> <ul style="list-style-type: none"> • Have students take out their Cascading Consequences chart for agricultural management of water and their researcher's notebook. • Distribute the Stakeholder chart for agricultural management of water. • Explain that students will independently create their Stakeholder chart for agricultural management of water based on their corresponding Cascading Consequences chart. • Display the Stakeholder chart tips under the document camera: <ol style="list-style-type: none"> 1. Remember to use your Stakeholder chart for industrial management of water as a model. 2. Go back to your researcher's notebook for further clarification and ideas. 3. Remember to put yourself in the shoes of the stakeholders. • Circulate as students work silently and independently. • With 5 minutes left in the Work Time, have students get up for a quick 30-second stretch. • Ask students to find a new partner to compare and contrast their Stakeholder chart and discuss these questions: <ul style="list-style-type: none"> * "What is your strongest stakeholder row—the one you feel the most confident about?" * "Do you have any questions about what you wrote just now?" • Students should copy their partner's strongest stakeholder onto their own chart. They should also attempt to clarify any questions their partners came across while doing the homework. Circulate during this discussion and provide answers if needed. (See Sample Stakeholder chart for agricultural management of water (for teacher reference)). 	<ul style="list-style-type: none"> • When possible, have students who need physical activity take on the active roles of managing and writing on charts or handing out materials. • After lengthy stretches of writing or reading in which students are remaining still or seated, provide a "stretch" or "brain" break before continuing on to the next activity (for example, between Work Time A and Work Time B). Research indicates that these breaks are necessary for retention of information, especially for boys, who need multiple breaks away from the material to maximize their learning. • Consider doing a "mop-up model" in the middle of this Work Time, should students demonstrate that they need extra assistance. Follow the think-aloud model used in Lesson 12, substituting the agricultural charts for the industrial charts.



Work Time (continued)	Meeting Students' Needs
	<ul style="list-style-type: none">• Keep in mind that this lesson requires visual comparison and written transferral of information. If students are visually or physically challenged, this process might be modified for them ahead of time so they are not unnecessarily impeded in categorizing and analyzing the evidence. Possible modifications include partially filled-in Stakeholder charts; creating a Stakeholder chart on chart paper and/or lined paper; or giving the students items from the research notes on sticky notes to physically sort on the Stakeholder charts.• The lesson hinges on the accurate and full completion of the Cascading Consequences charts. Think ahead to whether any previous modifications to these materials for students with special needs should be replicated here. Also, if a student has struggled with gathering the information on the Cascading Consequences charts, consider pairing him or her with a proficient student or giving examples from the text on sticky notes.



Work Time (continued)	Meeting Students' Needs
<p>B. Position Power-Talk: World Café (20 minutes)</p> <ul style="list-style-type: none"> • Make sure students have both of their Stakeholder charts and a writing utensil. • Refer them back to the Unit 3 essay prompt: “Which category of water management would be a good place to begin to make the way we manage water more sustainable?” Let them know that they will now participate in a discussion activity that will help them decide what the answer to that question should be. • Arrange students into groups of four, with each quad sitting at a table with materials for the World Café: recording chart, a marker, a table card, and discussion protocols. • Students must bring their charts and writing utensils with them through the World Café. • The four table cards will pose the following four questions, one on each card: <ul style="list-style-type: none"> – “Who are the most important stakeholders in the <i>agricultural</i> management of water, and why?” – “Who are the most important stakeholders in the <i>industrial</i> management of water, and why?” – “Discuss the <i>positive</i> consequences listed on your Stakeholder charts for both agricultural and industrial management of water. Which ones do you feel are the most powerful, and why?” – “Discuss the most <i>negative</i> consequence listed on your Stakeholder charts for both agricultural and industrial management of water. How could this strengthen an argument? How could this weaken an argument?” • Display the World Café protocol directions on the document camera or on a chart. Briefly review the protocol directions. • Remind students that they may have done this protocol once before, in Module 2A. Remind them that it will feel fast-paced at first, because it’s designed to give every student a chance to think for a bit about each question. Caution students that you will interrupt their conversations, but they will have a chance to keep working with their ideas at the end of the activity. Review the simple signal you will use to indicate when each round is done (e.g., raising hands, clapping). • Note that this is also an activity in which students will practice conducting civil, respectful conversations with one another about the subject material. Refer back to the second and third learning targets: <ul style="list-style-type: none"> * “I can use my knowledge of industrial and agricultural management of water to advocate persuasively for one side or another.” * “I can practice the skills and expectations of the Fishbowl discussion.” 	<ul style="list-style-type: none"> • Use of protocols (like World Café) allows for total participation of students. It encourages critical thinking, collaboration, mixed-level groups, and social construction of knowledge. It also helps students practice their speaking and listening skills. • If necessary, to accommodate the size of your classes, either eliminate or add a round to the World Café. Note that if you must add a round, you also need to develop an additional table card discussion question. Note also that if you eliminate a round, the other table card questions may need to be adjusted to ensure that students have an equal opportunity to discuss both Stakeholder charts. • Students may have engaged in the World Café protocol before, in Module 2A. If not, consider how you might need to adapt this Work Time to introduce the World Café as a new activity.



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Round I:• Ask each quad to choose a student to be the “Recorder” for the first round. The Recorder will write down ideas from the group’s conversation on the recording chart at the table. Ask all groups to have their Recorder raise his or her hand.• Remind students to use both of their Stakeholder charts to support their discussions.• Focus the class on the discussion protocols. State that these are the same protocols for which they will be assessed in the next lesson’s Fishbowl. Ask students to read the discussion protocols aloud:<ul style="list-style-type: none">– Present your claim in a focused, coherent manner.– Incorporate relevant facts, descriptions, details, and examples to support your claim.– Present evidence in a logical and convincing manner.– Use appropriate eye contact.– Use adequate volume.– Use clear pronunciation.– Use formal English.– Take notes on what your classmates are saying when it is not your turn to speak.• Focus groups on the question on their table card prompts. Ask them to read the question aloud and then discuss that question. Ask the Recorder to take notes on the table’s recording chart. Remind Recorders to make their letters about 1 inch high so that their writing will be visible when posted at the end of the activity.• After 3 minutes, use the signal to get students’ attention. Explain the transition that they will do momentarily:<ul style="list-style-type: none">– The Recorders will stay seated at the table where they have been working.– The other students in each quad will stand and rotate together to the table in the next section with different table card prompts.• Signal students to transition quickly and quietly.• Round II:• Give specific positive praise for strong discussions—e.g., text-based, focused on the question, building on each other’s ideas, asking each other questions, and following the discussion protocols.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Be sure that the Round I Recorder has remained at his/her original table. Tell the class the following three steps, then prompt them to begin:<ul style="list-style-type: none">– The Round I Recorder summarizes the conversation that happened at that table during Round I.– Choose a new Round II Recorder from the new students at the table.– The new group reads the discussion protocols and the question on their table card prompt, then begins a discussion about that question.• Remind students to use their charts to support their discussions. Prompt the Round II Recorder to take notes on the table's recording chart. Remind Recorders to make their letters about 1 inch high so that their writing will be visible when posted at the end of the activity.• After 3 minutes, use the signal to get students' attention. Remind them of the transition:<ul style="list-style-type: none">– Round II Recorders will stay seated at the table where they have been working.– The other students in each quad will stand and rotate together to the table in the next section with different table card prompts.• Signal the transition to Round III.• Round III:• Give specific positive praise for strong discussions—e.g., text-based, focused on the question, building on each other's ideas, asking each other questions, and following the discussion protocols.• Repeat the process from Round II.• Be sure that the Round II Recorder has remained at his/her Round II table. Review the three steps, then prompt them to begin:<ul style="list-style-type: none">– The Round II Recorder summarizes the conversation that happened at that table during Round II.– Choose a <i>new</i> Round III Recorder from the new students at the table.– The new group reads the question on their table card prompt, then begins a discussion about that question.• Remind them to use their charts to support their discussions. Prompt the new Recorder to take notes on the table's recording chart. Remind Recorders to make their letters about 1 inch high so that their writing will be visible when posted at the end of the activity.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• After 3 minutes, use the signal to get students' attention. Remind them of the transition:<ul style="list-style-type: none">– Round III Recorders will stay seated at the table where they have been working.– The other students in each quad will stand and rotate together to the table in the next section with different table card prompts.• Signal the transition to Round IV.• Round IV:• Give specific positive praise for strong discussions—e.g., text-based, focused on the question, building on each other's ideas, asking each other questions, and following the discussion protocols.• Repeat the process from Round III.• Be sure that the Round III Recorder has remained at his/her Round III table. Review the three steps, then prompt them to begin:<ul style="list-style-type: none">– The Round III Recorder summarizes the conversation that happened at that table during Round III.– Choose a <i>new</i> Round IV Recorder from the new students at the table.– The new group reads the discussion protocols and the question on their table card prompt, then begins a discussion about that question.• After 3 minutes, use the signal to get students' attention. At this point, students should have discussed each of the questions on the table card prompts. Thank them for their participation and collaboration during the World Café. Point out several specific things you noticed about how they used the protocol more effectively this time than the first time.• Ask all Round IV Recorders to bring their recording charts to the front of the room and post them so that they are visible to all.	



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief (3 minutes)</p> <ul style="list-style-type: none">Refer students back to the learning targets:<ul style="list-style-type: none">* "I can create a Stakeholder chart based on agricultural management of water, using my agricultural management of water Cascading Consequences chart and researcher's notebook."* "I can use my knowledge of industrial and agricultural management of water to advocate persuasively for one side or another."* "I can practice the skills and expectations of a Fishbowl discussion."Ask students to think of one thing they saw or heard today that helped make discussions effective. When they have thought of one, they should raise their hands. When more than half the class has a hand up, cold call several students to share their thinking.Have students do a Heads Down, Hands Up closing activity. Ask them to put their heads down on their desks and raise their hands when you say the sentence that best applies to them:<ul style="list-style-type: none">* "I am ready for the Fishbowl discussion."* "I am going to need to review my notes and discussion skills a bit before the Fishbowl discussion."* "I need some significant practice at home before the Fishbowl discussion."Distribute the Industrial/Agricultural Fishbowl graphic organizer, Parts I and II. Remind students that they should take all their charts and the researcher's notebook home tonight to help them complete the graphic organizer.	<ul style="list-style-type: none">Consider selecting students ahead of time for cold calls. Those who need practice in oral response or extended processing time can be told the prompt before class begins to prepare for their participation. This also allows for a public experience of academic success for students who may struggle with on-demand questioning, or for struggling students in general.



Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Complete the Industrial/Agricultural Fishbowl graphic organizer. <p><i>Notes: Before Lesson 14, assign each student to one of two groups: those arguing that water reform should begin with agriculture, and those arguing that water reform should begin with industry. One group will participate in a Fishbowl discussion in Lesson 14 while the other listens and takes notes; the groups will “flip” for Lesson 15. Do not inform students ahead of time which group they have been assigned to. Students are expected to complete activities and homework relating to both agricultural and industrial management of water.</i></p> <p><i>Also see Lesson 14's Teaching Notes and Work Time A to prepare accordingly to model the speaking techniques students will be asked to use during the Fishbowl discussion.</i></p>	



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Grade 7: Module 4B: Unit 2: Lesson 13

Supporting Materials



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Stakeholder Chart Tips

.....
Name:

.....
Date:

Remember to use your Stakeholder chart for industrial management of water as a model. Go back to your researcher's notebook for further clarification and ideas. Remember to put yourself in the shoes of the stakeholders.



Table Cards

Name:

Date:

Who are the most important stakeholders in the *agricultural* management of water, and why?

Who are the most important stakeholders in the *industrial* management of water, and why?

Discuss the *positive* consequences listed on your Stakeholder charts for both agricultural and industrial management of water. Which ones do you feel are the most powerful, and why?

Discuss the most *negative* consequence listed on your Stakeholder charts for both agricultural and industrial management of water. How could this strengthen an argument? How could this weaken an argument?



Discussion Protocols

Review Your Discussion Protocols

- Present your claim and evidence in a focused, logical, coherent manner.
- Incorporate relevant facts, descriptions, details, and examples to support your claim.
- Use appropriate eye contact.
- Use adequate volume.
- Use clear pronunciation.
- Use formal English.
- Take notes on what your classmates are saying when it is not your turn to speak.



Sample Stakeholder Chart
For Agricultural Management of Water For Teacher Reference

Name: _____

Date: _____

What is the option being considered?

To begin reforming our water management with agricultural management of water.

Stakeholder	What way will this stakeholder be affected?	Is this an intended or unintended consequence?	Is this a positive or negative consequence?	If the consequence is negative, do you feel it is offset by greater good elsewhere?	How important to you are the interests of this stakeholder? 1-very 2-somewhat 3-not so much
farmers	will need to radically revise methods of growing, or possibly get out of the business altogether	Former: intended. Latter: unintended.	Globally positive, but possibly personally negative.	Yes	1
Consumers of product (ex: rice)	Prices may go up if more expensive production is required, or product becomes scarcer	unintended	negative	Yes	1
Consumers of water	Water will be treated and conserved more sustainably	intended	positive	Yes	1



Industrial/Agricultural Fishbowl
Graphic Organizer: Part I

Name: _____

Date: _____

Claim: We should begin to manage water better by addressing water use in industry instead of agriculture.

Evidence	
Who are the most important stakeholders in industrial water use?	What positive consequences are there for addressing water use in industry?
What can be done to change the negative consequences of addressing water use in industry?	Using the information in the three other boxes, summarize here why industry's use of water should be addressed before agriculture.
If you are a listener instead of a participant in the Fishbowl discussion today, take notes on what you hear in this space.	

Industrial/Agricultural Fishbowl
Graphic Organizer: Part II

Name: _____

Date: _____

Claim: We should begin to manage water better by addressing water use in agriculture instead of industry.

Evidence	
Who are the most important stakeholders in agricultural water use?	What positive consequences are there for addressing water use in agriculture?
What can be done to change the negative consequences of addressing water use in agriculture?	Using the information in the three other boxes, summarize here why agriculture's use of water should be addressed before industry.
If you are a listener instead of a participant in the Fishbowl discussion today, take notes on what you hear in this space.	



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Grade 7: Module 4B: Unit 2: Lesson 14

End of Unit 2 Assessment, Part 1A:

Fishbowl on Better Use of Water in Agriculture



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

- I can present claims and findings with descriptions, facts, details, and examples, using effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation). (SL.7.4)
- I can come to discussions prepared to refer to evidence on the topic, text, or issue that probes and reflects on ideas under discussion. (SL.7.1 and SL.7.1a)
- I can use my experience and knowledge of language and logic, as well as culture, to think analytically, address problems creatively, and advocate persuasively. (RI.7.9a and SL.7.9a)
- I can self-select a text based on personal preferences and read it independently. (RI.7.11a)

Supporting Learning Targets

- I can prepare for a class discussion and participate in it effectively by collecting and explaining appropriate evidence to support my claims.
- I can engage with my peers to discuss the controversy over water management and persuade them to agree with my point of view using logic, evidence, and appropriate speaking techniques to advocate for my position.
- I can self-select a text based on personal preferences and read it independently.

Ongoing Assessment

- Ticket to Enter
- End of Unit 2 Assessment, Part 1A: Fishbowl



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Ticket to Enter (8 minutes)B. Reviewing Learning Targets (2 minutes)2. Work Time<ol style="list-style-type: none">A. Teacher Models Fishbowl Speaking Techniques (3 minutes)B. End of Unit 2 Assessment, Part 1A: Fishbowl (15 minutes)C. Stakeholder Charts and Reflection (5 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Checking In on Independent Reading (12 minutes)4. Homework<ol style="list-style-type: none">A. Read your independent reading book.	<ul style="list-style-type: none">• This lesson is in many ways a culmination and celebration of the reading and research students have done thus far in this unit. It provides an opportunity for each student to share his or her learning aloud with the class, as well as to learn from classmates' research before committing to a position.• The Ticket to Enter is a written synthesis of the preparation students have done for homework the night before and addresses the standard RI.7.9a, which asks students to advocate persuasively. Consider collecting and assessing it to see how your students are performing on that standard.• Review the Fishbowl Prep: Teacher Model (see supporting materials) to prepare to model the speaking techniques you are asking students to use during the Fishbowl (such as appropriate volume and eye contact). Explain that you are modeling a third option—changing personal water use—instead of agricultural or industrial use, so they can learn from you without you giving any “answers” away.• In Work Time C, students perform one of their routine independent reading check-ins. Use whichever structure you have established with your class to do this. For ideas, see the stand-alone document on EngageNY.org: “Launching Independent Reading in Grades 6–8: Sample Plan.” The routine you have or will establish should support students in checking to see if they met their previous goal and set a new goal, allow students to talk about their books with a peer, and give you a chance to confer with some students about their reading. By bringing their independent reading into class, this routine both motivates students and holds them accountable.• Remember that the Fishbowl is the first half of the End of Unit 2 Assessment; the second half is the preparation of a visual aid (Lessons 16 and 17) based on the students' research and Fishbowl discussion.• In advance: Make sure you have decided on a routine for checking in about independent reading; review the Fishbowl protocol (see Appendix). Some teachers like to keep a tally of how many times each student participates. Others assess using a checklist as students are speaking. You might even consider videotaping the Fishbowl to watch and assess later.• Post: Learning targets.



Lesson Vocabulary	Materials
advocate	<ul style="list-style-type: none"> • Ticket to Enter (one per student) • Industrial/Agricultural Fishbowl Graphic Organizer: Part I (from Lesson 13) • Fishbowl Prep: Teacher Model (for teacher reference) • End of Unit 2 Assessment, Part 1 (one per student) • End of Unit 2 Assessment, Part 1: Teacher Assessment Checklist (for teacher reference) • Stakeholder chart for agricultural management of water (from Lesson 13)

Opening	Meeting Students' Needs
<p>A. Ticket to Enter (8 minutes)</p> <ul style="list-style-type: none"> • As students enter the room, distribute the Ticket to Enter. Ask them to take out their Industrial/Agricultural Fishbowl Graphic Organizer: Part I as a reference to help them fill out the Ticket to Enter. • Collect the tickets. 	<ul style="list-style-type: none"> • Whenever possible, ask students who would benefit from physical activity to help you distribute and collect materials and handouts.
<p>B. Reviewing Learning Targets (2 minutes)</p> <ul style="list-style-type: none"> • Read the learning targets aloud: <ul style="list-style-type: none"> * “I can prepare for a class discussion and participate in it effectively by collecting and explaining appropriate evidence to support my claims.” * “I can engage with my peers to discuss the controversy over water management and persuade them to agree with my point of view using logic, evidence, and appropriate speaking techniques to advocate for my position.” * “I can self-select a text based on personal preferences and read it independently.” • Ask students to raise their hands if they think they know what the word <i>advocate</i> means. Cold call a student who has raised his or her hand. • Listen for: “help,” “support,” or “persuade.” You may want to reiterate that “to advocate for” something is to support it and defend it, and that the noun form of advocate means “a supporter.” 	



Work Time	Meeting Students' Needs
<p>A. Teacher Models Fishbowl Speaking Techniques (3 minutes)</p> <ul style="list-style-type: none">• Use the Fishbowl Prep: Teacher Model (for teacher reference) as a guide as you model the appropriate speaking techniques you would like students to use in the Fishbowl.• When you are done, ask the class:<ul style="list-style-type: none">* “What speaking techniques did you notice me use?”• Cold call several students to share out. Listen for: “You looked at us, not just your paper,” “You spoke in a respectful tone,” “You spoke loudly enough for us to hear you,” and “You spoke formally and used vocabulary words.”• Refer students to the checklist at the bottom of their Industrial/Agricultural Fishbowl Graphic Organizer: Part I. Invite them to read the checklist and note whether you followed all of the criteria (with the exception of taking notes).• Ask students to hold up a Fist to Six (since there are six criteria) to show how many of the items on the checklist you displayed.• Look at how many fingers students are holding up. If any students rate you lower than a 6, call on them and ask them to clarify what they saw.	



Work Time (continued)	Meeting Students' Needs
<p>B. End of Unit 2 Assessment, Part 1A: Fishbowl (15 minutes)</p> <ul style="list-style-type: none">• Distribute the End of Unit 2 Assessment, Part 1 handout.• Review this document with the class by calling on several students to read different sections aloud. Stop and check for understanding before you move on.• Announce that the group of students defending making changes in agriculture will go first. Invite students to make two concentric circles with their desks, with those assigned to agriculture on the inside. Remind them to bring their Industrial/Agricultural Fishbowl Graphic Organizer: Part I with them.• Remind students of the speaking techniques and sentence starters. Emphasize that the more they can connect to and build on what their classmates have said, the more successful the conversation will be. Ask students to encourage each other to speak and to invite each other's ideas.• Explain that you will announce the official start and end of the Fishbowl, and you will step in only to ask clarifying questions if necessary.• Begin the Fishbowl by rereading the prompt: "Defend this claim: We should begin to manage water better by addressing water use in agriculture first instead of industry." Announce that the Fishbowl will now begin.• Allow students to talk for approximately 10 minutes, depending on the direction the conversation is heading and its general flow. Feel free to interject if you feel that a student would benefit by being prodded with a clarifying question or an invitation to speak.• Give students a 2-minute warning before you end the Fishbowl.• After the allotted time, during a natural stopping place, announce that the Fishbowl will now conclude.	<ul style="list-style-type: none">• Some students may need extra encouragement to participate in the Fishbowl and share their ideas out loud. Use your discretion to interject if you notice that a student has not spoken yet and say something like: "I'd like to invite any students who haven't spoken yet to share their opinions." Alternatively, you could ask individual students to share their ideas in a supportive way. Use your judgment as to what would be most supportive to each individual student. You could also select certain students as "leaders" in advance and ask them privately to help prompt quieter students to speak during the Fishbowl.



Work Time (continued)	Meeting Students' Needs
<p>C. Stakeholder Charts and Reflection (5 minutes)</p> <ul style="list-style-type: none">• Ask students to take out their Stakeholder chart for agricultural management of water. Assign students to a partner from the opposite group (one partner defending industry; the other partner defending agriculture) and ask them to sit together with their charts and a writing utensil.• Prompt students to review the information discussed in the Fishbowl and, using memory and notes from the Fishbowl, to fill in more details on their Stakeholder charts.• After a few minutes, refocus the class. Explain that you will debrief the Fishbowl together, checking in on how the whole class did on the first two learning targets of the day.• Ask students to hold up a Fist to Five, demonstrating how well they think the class collectively achieved the learning targets. Read them one at a time:<ul style="list-style-type: none">* “I can prepare for a class discussion and participate in it effectively by collecting and explaining appropriate evidence to support my claims.”* “I can engage with my peers to discuss the controversy over water management and persuade them to agree with my point of view using logic, evidence, and appropriate speaking techniques to advocate for my position.”• Invite students to look at each other’s assessments and remind them that they will have another chance tomorrow to address these learning targets.• Explain that now the class will address the third learning target as you transition to independent reading.	



Closing and Assessment	Meeting Students' Needs
<p>A. Checking In on Independent Reading (12 minutes)</p> <ul style="list-style-type: none">• Use this time for an independent reading check-in, using whichever routine you have established with your class. For ideas, see the stand-alone document on EngageNY.org: “Launching Independent Reading in Grades 6–8: Sample Plan.” Remember that in this time:<ul style="list-style-type: none">– Students need time to talk with a peer about their book.– You need a chance to confer with students about their reading (you will confer with a few each time, working your way through a class over several weeks).– Students need to check in to see if they met their last goal and then set a new goal.	<ul style="list-style-type: none">• Consider inviting coordinating service providers to your class to check in with students who need more reading support. This is an opportunity to ensure that students comprehend their independent reading and to monitor their progress.• In the next independent reading check-in, prioritize talking with students who did not meet their goals.
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Read your independent reading book.	



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 14

Supporting Materials



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Ticket to Enter

.....
Name:

.....
Date:

Using your Industrial/Agricultural Fishbowl Graphic Organizer: Part I as a guide, respond one of the following prompts, depending on which topic you have been selected to defend:

- If you are supporting the claim that we should address **industry** first, respond to this prompt:

Pretend it is just before class and a classmate in the hallway says, “It’s clear that solving water management issues in industry is the way to go. It would have a much greater impact.” Now, in a paragraph below, use logic and reasoning to prove your classmate wrong. Imagine you are responding to the comment and advocate for the position that industry could have a greater impact on water management than agriculture.

- If you are supporting the claim that we should address **agriculture** first, respond to this prompt:

Pretend it is just before class and a classmate in the hallway says, “It’s clear that solving water management issues in agriculture is the way to go. It would have a much greater impact.” Now, in a paragraph below, use logic and reasoning to prove your classmate wrong. Imagine you are responding to the comment and advocate for the position that agriculture could have a greater impact on water management than industry.



Fishbowl Prep: Teacher Model
For Teacher Reference

Name: _____

Date: _____

Imagine you are a student about to participate in a Fishbowl discussion. Pretend that you filled out the following note-catcher for homework last night. Use it as an outline from which to speak to the class about how the first step to better water management is changing our personal use (as opposed to industry or agriculture).

Speak to the class for 1 to 2 minutes, convincing them of your claim, and use the notes below and the Assessment Checklist (see the End of Unit 2 Assessment—Teacher Assessment Checklist) as your guide. The goal is to model the appropriate speaking techniques you would like students to emulate as they participate in the Fishbowl.

Claim: We should begin to manage water better by addressing personal use first.

Evidence	
<p>Who are the most important stakeholders in personal water use?</p> <ul style="list-style-type: none"> • Every single individual is a stakeholder. • It is easier to control our own actions rather than someone else's, especially if it's a big industry. 	<p>What positive consequences are there for addressing personal water use?</p> <ul style="list-style-type: none"> • Every single drop can make a difference; we can save billions of gallons a day. • We can save 150 gallons of water per month if we shorten our showers. • We can save 10 gallons of water every hour if we turn off our electronic devices. • We can control how much water we use individually.



Fishbowl Prep: Teacher Model
For Teacher Reference

Who are the most important stakeholders in personal water use?

- **Every single individual is a stakeholder.**
- **It is easier to control our own actions rather than someone else's, especially if it's a big industry.**

Using the information in the three other boxes, summarize here why personal use of water should be addressed before agriculture or industry.

Because the only thing we can really control is ourselves, it makes sense to start by changing our personal use of water to address the water shortage. By making small changes in our water use habits at home with toilets, showers, and swimming pools, unplugging electronics, and being careful consumers, we could help to prevent a water shortage. Then we can get industry and agriculture on our side.

End of Unit 2 Assessment
Part 1

Name: _____

Date: _____

Learning targets addressed in this assessment:

- I can present claims and findings with descriptions, facts, details, and examples. (SL.7.4)
- I can use effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation). (SL.7.4)
- I can come to discussions prepared to refer to evidence on the topic, text, or issue that probes and reflects on ideas under discussion. (SL.7.1 and SL.7.1a)
- I can use my experience and knowledge of language and logic, as well as culture, to think analytically, address problems creatively, and advocate persuasively. (SL.7.9a)

Directions: In a Fishbowl discussion with your class, you will take a stand on one of the following prompts, assigned to you by your teacher. You may use your Ticket to Enter to help you provide evidence when you speak. When it is not your turn to participate in the Fishbowl, you will take notes on what your classmates say (in a separate section of your Ticket to Enter) so you can add them later to your Stakeholder chart.

The Prompts:

1A. Defend this claim: We should begin to manage water better by addressing water use in industry first instead of agriculture.

Use concrete evidence from your reading and research to support this claim.

1B. Defend this claim: We should begin to manage water better by addressing water use in agriculture first instead of industry.

Use concrete evidence from your reading and research to support this claim.



End of Unit 2 Assessment
Part 1

The checklist below is how the teacher will assess you. When participating in the Fishbowl, keep the criteria below in mind.

During the Fishbowl, I am expected to ...	✓
Present my claim and evidence in a focused, logical, and coherent manner	
Incorporate relevant facts, descriptions, details, and examples to support claim	
Use appropriate eye contact	
Use adequate volume	
Use clear pronunciation	
Use formal English: <ul style="list-style-type: none">• Academic and domain-specific vocabulary• Language that expresses ideas precisely, eliminating wordiness and redundancy	
Take notes on what my classmates are saying when it is not my turn to speak	



End of Unit 2 Assessment, Part 1:
Teacher Assessment Checklist For Teacher Reference

Student's Name: _____

Date: _____

During the Fishbowl, I am expected to ...	✓
Present my claim and evidence in a focused, logical, and coherent manner	
Incorporate relevant facts, descriptions, details, and examples to support claim	
Use appropriate eye contact	
Use adequate volume	
Use clear pronunciation	
Use formal English: <ul style="list-style-type: none">• Academic and domain-specific vocabulary• Language that expresses ideas precisely, eliminating wordiness and redundancy	
Take notes on what my classmates are saying when it is not my turn to speak	



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 15

End of Unit 2 Assessment, Part 1B:

Fishbowl on Better Use of Water in Industry



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

I can present claims and findings with descriptions, facts, details, and examples. (SL.7.4)

I can use effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation). (SL.7.4)

I can come to discussions prepared to refer to evidence on the topic, text, or issue that probes and reflects on ideas under discussion. (SL.7.1 and SL.7.1a)

I can use my experience and knowledge of language and logic, as well as culture, to think analytically, address problems creatively, and advocate persuasively. (RI.7.9a and SL.7.9a)

Supporting Learning Targets

- I can prepare for a class discussion and participate in it effectively by collecting and explaining appropriate evidence to support my claims.
- I can engage with my peers to discuss the controversy over water management and persuade them to agree with my point of view using logic, evidence, and appropriate speaking techniques to advocate for my position.

Ongoing Assessment

- End of Unit 2 Assessment, Part 1 B: Fishbowl
- Thinking Log



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Entry Task: Reflection on Fishbowl (4 minutes)B. Reviewing Learning Targets (1 minute)2. Work Time<ol style="list-style-type: none">A. End of Unit 2 Assessment, Part 1B: Fishbowl (15 minutes)B. Stakeholder Charts (5 minutes)C. Choose a Position (10 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Thinking Log and Share Out (5 minutes)4. Homework<ol style="list-style-type: none">A. Fill out your Decision Statement graphic organizer in preparation for your presentation.	<ul style="list-style-type: none">• This lesson is a continuation of the previous lesson's Fishbowl and serves as the transition between discussing different possible solutions to water management to homing in on one.• After the second round of the Fishbowl is complete and students have heard both sides, they will make a decision about which category of water management they think is truly the best place to start making changes to improve water sustainability.• Today's lesson allows for some reflection in students' Thinking Logs on how the Fishbowls have helped to refine and clarify their thinking about this topic. It would be beneficial to have students share these ideas with each other to debrief. Also consider collecting the Thinking Logs and using excerpts as part of a classroom display to document students' learning.• Remember that the Fishbowl is the first half of the End of Unit 2 Assessment; the second half is the preparation of a visual aid (Lessons 16 and 17) based on students' research and Fishbowl discussion. Students will start to prepare for this presentation by answering probing questions to help them clarify their position on the overarching research question: "How do industry and agriculture currently manage water? Which category of water management would be a good place to begin to make the way we manage water more sustainable?" They will also fill out graphic organizers that will help them capture their thoughts for homework.• Applaud students for their hard work up to this point: Preparing for and defending a position in the Fishbowl (which they may not actually agree with) takes intellectual effort. Assure them that they now get to pick a side they truly believe in and get more and more creative with how they express their opinions, including a visual representation of their thinking.• You will want to review these assessments as soon as possible as the next lesson builds on the feedback you provide.• Post: Learning targets.



Lesson Vocabulary	Materials
	<ul style="list-style-type: none">• Entry task (one per student)• Industrial/Agricultural Fishbowl graphic organizer (from Lesson 13; one per student)• End of Unit 2 Assessment, Part 1 (from Lesson 14; one per student)• End of Unit 2 Assessment, Part 1: Teacher Assessment Checklist (from Lesson 14; for teacher reference)• Stakeholder chart for industrial management of water (from Lesson 12; one per student)• Probing questions (one to display)• Document camera• Decision Statement graphic organizer (one per student)

Opening	Meeting Students' Needs
<p>A. Entry Task: Reflection on Fishbowl (4 minutes)</p> <ul style="list-style-type: none">• As students enter the room, give them an entry task slip. Allow them 2 minutes to fill it out, and then cold call students to share out.• Respond to what they say the class could have improved on by inviting students in today's session to make an effort to do those things.	<ul style="list-style-type: none">• Whenever possible, ask students who would benefit from physical activity to help you distribute and collect materials and handouts.
<p>B. Reviewing Learning Targets (1 minute)</p> <ul style="list-style-type: none">• Read aloud today's learning targets:<ul style="list-style-type: none">* "I can prepare for a class discussion and participate in it effectively by collecting and explaining appropriate evidence to support my claims."* "I can engage with my peers to discuss the controversy over water management and persuade them to agree with my point of view using logic, evidence and appropriate speaking techniques to advocate for my position."	



Work Time	Meeting Students' Needs
<p>A. End of Unit 2 Assessment, Part 1B: Fishbowl (15 minutes)</p> <ul style="list-style-type: none">• Ask students to take out their Industrial/Agricultural Fishbowl graphic organizer and End of Unit 2 Assessment: Part 1 handouts.• Announce that today the class will hear from the group defending making changes in industry. Invite students to make two concentric circles with their desks, with those assigned to industry on the inside.• Remind students of the speaking techniques and sentence starters. Emphasize that the more students can connect to and build on what their classmates have said, the more successful the conversation will be. Ask them to encourage each other to speak and to invite each other's ideas.• Explain that you will announce the official start and end of the Fishbowl, and you will step in only to ask clarifying questions if necessary.• Begin the Fishbowl by rereading the prompt: "Defend this claim: We should begin to manage water better by addressing water use in industry first instead of agriculture." Announce that this Fishbowl will now begin.• Allow students to talk for approximately 10 minutes, depending on the direction the conversation is heading and its general flow. Feel free to interject if you feel that a student would benefit by being prodded with a clarifying question or an invitation to speak.• Give students a 2-minute warning before you end the Fishbowl.• After the allotted time, during a natural place, announce that the Fishbowl will now conclude.	



Work Time	Meeting Students' Needs
<p>B. Stakeholder Charts (5 minutes)</p> <ul style="list-style-type: none">• Invite students to take out their Stakeholder charts for industrial management of water and keep their Industrial/Agricultural Fishbowl graphic organizers with them as they meet with the same cross-group partner as in the last lesson.• Instruct students to work together to add to their Stakeholder charts based on the information they heard in today's Fishbowl.• Invite students to return to their regular seats.	<ul style="list-style-type: none">• Some students may need extra encouragement to participate in the Fishbowl and share their ideas out loud. Use your discretion to interject if you notice that a student has not spoken yet and say something like: "I'd like to invite any students who haven't spoken yet to share their opinions." Alternatively, you could ask individual students to share their ideas in a supportive way. Use your judgment as to what would be most supportive to each individual student. You could also select certain students as "leaders" in advance and ask them privately to help prompt quieter students to speak during the Fishbowl.
<p>C. Choose a Position (10 minutes)</p> <ul style="list-style-type: none">• Project the probing questions with the document camera and read one question at a time aloud to the class. After each question, pause and allow students to respond in conversation with their seat partners.• After allowing students to discuss their thoughts about each question, distribute the Decision Statement graphic organizer and give them time to start filling in some of their ideas. Circulate as they do this to provide support and answer any questions.• Once you have addressed any questions, ask students to put these in a safe place, as they will finish them for homework.	



Closing and Assessment	Meeting Students' Needs
<p>A. Thinking Log and Share Out (5 minutes)</p> <ul style="list-style-type: none">• Ask students to fill out the final entry in their Thinking Logs for Lesson 15: “How did the Fishbowls clarify your thinking about better ways to manage the agricultural and industrial use of water more sustainably?” Give them 2 minutes to write.• For the remaining 3 minutes, ask if any students would like to share their entries aloud for the whole class. Call on volunteers.• Collect the Thinking Logs. Consider using excerpts from them for a classroom display.	
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Fill out your Decision Statement graphic organizer in preparation for your presentation.	



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 15

Supporting Materials



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Entry Task

Name:

Date:

In the space below, write down what you noticed that students did well and what you thought they could have improved in yesterday's Fishbowl. Think of their use of evidence and effective speaking techniques in particular.

Did well:

-
-
-

Could have improved:

-
-
-



Probing Questions

.....
Name:

.....
Date:

First, consider your overarching research question:

How do industry and agriculture currently manage water? Which category of water management would be a good place to begin to make the way we manage water more sustainable?

Now, to help you decide on an answer, discuss these questions with a partner:

- Which category will have the most immediate impact?
- Which one will have the most long-term impact?
- Which changes are easiest to implement right now?
- Which will help us change how we think about water and our water habits?
- Which will help make water seem less “invisible”?



Decision Statement
Graphic Organizer

.....
Name:
.....

.....
Date:
.....

Overarching question: How do industry and agriculture currently manage water? Which category of water management would be a good place to begin to make the way we manage water more sustainable?

My Claim:

Reason 1:

Reason 2:

Reason 3:

Evidence:

Evidence:

Evidence:

•

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EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 16

Using Multimedia in Presentations: Presenting Claims



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

I can include multimedia components and visual displays in a presentation to clarify claims and to add emphasis. (SL.7.5)

I can present claims and findings with descriptions, facts, details, and examples. (SL.7.4)

I can use effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation). (SL.7.4)

Supporting Learning Targets

- I can create a visual display to clarify the claim in my presentation.
- I can speak clearly, with appropriate eye contact and adequate volume.

Ongoing Assessment

- Visual display



Agenda	Teaching Notes
<ol style="list-style-type: none"> Opening <ol style="list-style-type: none"> Entry Task (6 minutes) Work Time <ol style="list-style-type: none"> Creating Visual Displays (25 minutes) Practicing for End of Unit 2 Assessment, Part 2 (12 minutes) Closing and Assessment <ol style="list-style-type: none"> Previewing Homework (2 minutes) Homework <ol style="list-style-type: none"> Complete your visual display and practice your presentation. Continue reading your independent reading book for this module. 	<ul style="list-style-type: none"> The entry task for this lesson is a recap of the communication skills assessed in the end of unit assessment. Encourage students to think critically about what skills they should highlight and which they should practice further while presenting the visual display they create in this lesson. The visual display for this lesson uses a blank 8.5" by 11" piece of paper as a base. Use your professional judgment as to whether to allow students access to other means of creating visuals, including technology. If technological tools are allowed, be vigilant that students are following the guidelines and focusing on the academic content of their presentations, not just on technological bells and whistles. The technology should enhance presentations, not take them over. A sample Decision Statement graphic organizer has been provided in the supporting materials to assist in your sample presentation for the students. Note that an asterisk has been placed in parts of the text where it would be ideal to refer specifically and physically to the sample visual. In advance: Consider the sources and means by which students will access images while creating their visuals. Again, use your professional judgment to meet your students' needs and make the best use of your specific resources. Art instructors in your building may be available for partnership; technology is also an option. Post: Learning targets.

Lesson Vocabulary	Materials
visual display	<ul style="list-style-type: none"> End of Unit 2 Assessment, Part 1 (from Lessons 14 and 15, returned in this lesson with teacher feedback) End of Unit 2 Assessment, Part 2 (one per student) Sample visual display (one for display) Document camera Sample Decision Statement graphic organizer (for teacher reference; see Teaching Note) Blank 8.5" by 11" paper (at least one sheet per student)



Opening	Meeting Students' Needs
<p>A. Entry Task (6 minutes)</p> <ul style="list-style-type: none">• Distribute students' End of Unit 2 Assessment, Part 1 from the previous two lessons, and the End of Unit Assessment, Part 2. Point out that many of the speaking and listening skills that students were assessed on in the End of Unit 2 Assessment, Part 1 can help them figure out what they need to practice for Part 2. Using the End of Unit 2 Assessment, Part 2, ask students to reflect on which skills they might be good at in the presentation and which skills they might need to work on.• Read the learning targets aloud and ask students to follow along:<ul style="list-style-type: none">* "I can create a visual display to clarify the claim in my presentation."* "I can speak clearly, with appropriate eye contact and adequate volume."• Point out that the second learning target is something students have already practiced in the End of Unit 2 Assessment: Part 1. Remind them that they will need to use those skills again in their presentations for the End of Unit 2 Assessment: Part 2.• Explain that they will now learn more about the visual display mentioned in the first learning target.	
Work Time	Meeting Students' Needs
<p>A. Creating Visual Displays (25 minutes)</p> <ul style="list-style-type: none">• Ask students to infer what a visual display might be in a presentation and to raise their hand when they think they know. When most students have their hands up, call on a student with his or her hand raised. Listen for: "A visual display is something for the audience to look at to help them understand the presentation better."• Let students know that they are going to start drafting a visual display today and will practice using the draft as they practice their presentation.• Display the sample visual display using a document camera. Ask:<ul style="list-style-type: none">* "What on this visual display looks like something you have worked on?"• Cold call a student and listen for: "There's part of a Cascading Consequences chart." Point out that, in addition to the Cascading Consequences chart, there is also an image.• Explain that you will do a sample presentation for students now. Encourage them to pay attention to how you use the visual display in the presentation.	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Use the Sample Decision Statement graphic organizer to give a sample presentation for the students. Be sure to refer to the visual display. Refer also to the idea of “cascading consequences” as a means of determining the reasons and evidence in support of a claim.• When you're done, cold call students to describe how you used the visual display. Listen for observations like: “You used it to support your point that getting an iPad might cause tension with your friends” and “You used it to emphasize your ultimate goal, which is to go to college.”• Emphasize that the visual display works only when it is in service of the content. The visuals must emphasize content, making it clearer, easier to understand, and so on. The content, in other words, is the first priority. Warn students that it will be tempting to get wrapped up in the presentation for presentation's sake only.• Explain that they now have the opportunity to draft their own visual displays. Write these criteria on the board:<ul style="list-style-type: none">* “Your visual display needs to include part of your Cascading Consequences chart or Stakeholder chart.”* “Your visual display needs to include another image.”* “Your visual display needs to identify your claim and important supporting reasons and evidence.”• Distribute blank 8.5" by 11" paper and explain how students will access images for the visual display (see Teaching Note). Ask them to work individually on their visual display draft.• Circulate, reminding students that it is important to take care when drafting so that their final product is high-quality.	



Work Time (continued)	Meeting Students' Needs
<p>B. Practicing for End of Unit 2 Assessment, Part 2 (12 minutes)</p> <ul style="list-style-type: none">• Refocus the class. Explain that now they will have the opportunity to practice for their presentations in the End of Unit 2 Assessment: Part 2.• Set guidelines for this type of practice. Here are some suggested guidelines:<ul style="list-style-type: none">– Practice speaking clearly and as loudly as you need to for your audience to hear you (but not more loudly than that).– Practice using your visual display draft. During the presentations in the next lesson, you'll use your final visual display.– Practice using the domain-specific words that are appropriate for your claim and evidence.– Keep in mind any challenges you identified in your entry task.– Take turns with your partner. Practice as many times as you can in the time you have; the more practice, the better your presentation will be in the next lesson.• Pair students and encourage pairs to spread out as much as possible.• Circulate as students practice. Listen for students who are having a particularly difficult time or who you know might need extra support. When possible, let pairs practice at least once all the way through before supporting them.	
Closing and Assessment	Meeting Students' Needs
<p>A. Previewing Homework (2 minutes)</p> <ul style="list-style-type: none">• Explain that for homework tonight, students should use their draft visual display to create a final, polished display to use in their presentation in the next lesson.	
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Complete your visual display and practice your presentation.• Continue reading your independent reading book for this module.	



EXPEDITIONARY
LEARNING

Grade 7: Module 4B: Unit 2: Lesson 16

Supporting Materials



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End of Unit 2 Assessment: Part 2
Present Your Claim

.....
Name:

.....
Date:

Directions: Read over the feedback you received on the End of Unit 2 Assessment: Part 1 and the criteria that your teacher will use to assess your presentation (the End of Unit 2 Assessment: Part 2). Based on those documents, answer the questions below.

1. What is one skill that is a strength for you?

2. How will that skill help you in your presentation (End of Unit 2 Assessment: Part 2)?

3. What is one skill that is challenging for you?

4. What can you do to make sure you improve on that skill for your presentation (End of Unit 2 Assessment: Part 2)?



End of Unit 2 Assessment: Part 2
Present Your Claim

.....
Name:
.....

.....
Date:
.....

Long-Term Learning Targets:

- I can present claims and findings with descriptions, facts, details, and examples. (SL.4)
- I can use effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation). (SL.4)
- I can include multimedia components and visual displays in a presentation to clarify claims and to add emphasis. (SL.7.5)
- I can adapt my speech for a variety of contexts and tasks, using formal English when indicated or appropriate. (SL.6)

Directions: For this part of the assessment, you will formally present your research-based claim to an audience using your choice of visual aid to explain your idea. Your visual aid can be a part of your Cascading Consequences chart or your Stakeholder chart. You must use it to help explain your response to the position paper focusing question: **“Which category of water management would be a good place to begin to make the way we manage water more sustainable?”** Be sure to provide relevant and sufficient evidence and use sound reasoning to support your claim.

The checklist below is how the teacher will assess you. When preparing for and practicing your presentation, keep these criteria in mind.



End of Unit 2 Assessment: Part 2
Present Your Claim

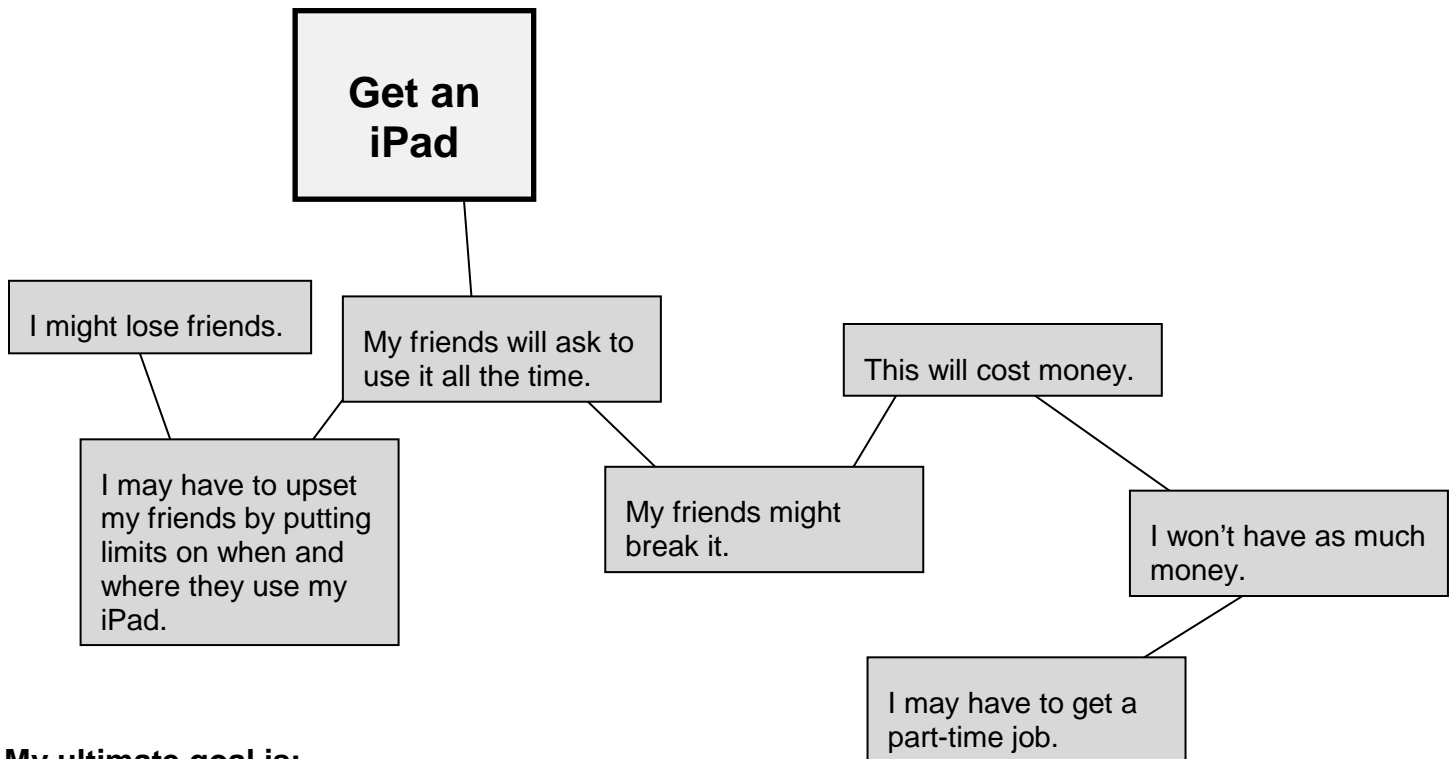
In my presentation, I am expected to ...	✓
Present my claim in a focused, coherent manner	
Incorporate relevant facts, descriptions, details, and examples to support the claim and reasons for the claim	
Use appropriate eye contact	
Use adequate volume	
Use clear pronunciation	
Clarify my claim and add emphasis by using a visual display	
Use formal English: <ul style="list-style-type: none">• Academic and domain-specific vocabulary• Language that expresses ideas precisely, eliminating wordiness and redundancy	



Sample Visual Display
Cascading Consequences

Name: _____

Date: _____



My ultimate goal is:



photo by lee_wu

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Sample Decision Statement Graphic Organizer
For Teacher Reference

Name:

Date:

My Claim: It is not a good idea for me to buy an iPad.

Reason 1:	Reason 2:	Reason 3:
<i>It might break.</i>	<i>It might cause tension between me and my friends.</i>	<i>It could keep me from doing my schoolwork.</i>
Evidence:	Evidence:	Evidence:
<ul style="list-style-type: none"> <i>I dropped my iPod Touch out a window after having it for one week.</i> <i>Sometimes I leave my backpack on the floor and trip over it. If an iPad is in there, it isn't safe.</i> <i>My friend Caroline always borrows my things, but she doesn't take care of them. She lost the sweater I loaned her. *</i> <i>Some of my friends grab things without asking. If that happens, the iPad might fall.</i> 	<ul style="list-style-type: none"> <i>My friends and I borrow things from each other pretty often, so they might expect to borrow my iPad and I'll have to say no. *</i> <i>The cascading consequence of this might be tension between me and my friends.</i> 	<ul style="list-style-type: none"> <i>When I had a computer in my room, I was usually online rather than reading or doing homework.</i> <i>I procrastinate sometimes, and an iPad would give me something else to use to procrastinate.</i> <i>If the iPad breaks, I would need to pay to fix it. To do that, I would need a job, and that might take time away from doing my schoolwork.</i> <i>My ultimate goal is to graduate from college, so I shouldn't do anything that might get in the way of that.</i>



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Grade 7: Module 4B: Unit 2: Lesson 17

End of Unit 2 Assessment Part 2: Presenting a Claim



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

I can present claims and findings with descriptions, facts, details, and examples. (SL.7.4)
I can use effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation). (SL.7.4)
I can include multimedia components and visual displays in a presentation to clarify claims and to add emphasis. (SL.7.5)
I can adapt my speech for a variety of contexts and tasks, using formal English when indicated or appropriate. (SL.7.6)
I can use my experience and knowledge of language and logic, as well as culture, to think analytically, address problems creatively, and advocate persuasively. (RI.7.9a and SL.7.9a)

Supporting Learning Targets

- I can present my claim about water management using facts, reasons, details, and examples.
- I can use effective speaking techniques in my presentation.
- I can include a multimedia visual display in my presentation to clarify my claim and add emphasis.
- I can use formal English in my presentation.
- I can use my experience and knowledge of language and logic to advocate persuasively.

Ongoing Assessment

- Visual display
- End of Unit 2 Assessment, Part 2
- Exit ticket



Agenda	Teaching Notes
<ol style="list-style-type: none">1. Opening<ol style="list-style-type: none">A. Entry Task (5 minutes)2. Work Time<ol style="list-style-type: none">A. End of Unit 2 Assessment: Part 2: Presenting a Claim (35 minutes)3. Closing and Assessment<ol style="list-style-type: none">A. Exit Ticket (5 minutes)4. Homework<ol style="list-style-type: none">A. Continue reading your independent reading book for this module.	<ul style="list-style-type: none">• In this lesson, students engage in the End of Unit 2 Assessment, Part 2. This assessment focuses on SL.7.4, SL.7.5, SL.7.6, RI.7.9a, and SL.7.2a. Because students are being assessed on their speaking skills, a checklist rather than a rubric is used. The purpose of a checklist is to facilitate teacher recording of skills during the presentation itself.• This lesson is designed to allow choice as to how to best to set up the presentations in classrooms. There are several options that you could use for the presentations:<ul style="list-style-type: none">– Option A: Whole class presentations. In this option, each student presents his or her claim to the whole class, and you can assess each presentation as it happens. If you choose this option, consider giving the audience a task to do while listening, such as adding new information and ideas to their Cascading Consequences charts or being responsible for jotting down at least one important idea that they heard. Option A may take more than one class period.– Option B: Small group presentations #1. For this option, split students up into groups of four or five with a mix of claims. Then, invite other teachers and/or support staff to come in as guest assessors and pair each adult with a small group. Give each adult enough copies of the End of Unit 2 Assessment: Part 2 to assess his or her group members. Consider either focusing on one group yourself (perhaps with some of the students who may need more support presenting) or leave yourself without a group and circulate while students are presenting. Also, if possible, consider sending some groups into different rooms or spaces so that simultaneous presentations do not disturb one another.– Option C: Small group presentations #2. Split students into groups of four or five. Instead of inviting other adults in as guest assessors, in this option you could distribute the presentations over two or three class periods and assess each student yourself. Each class period, start the students with work they can complete independently, such as continuing their independent reading. Then, while students are working, pull one group at a time to present to you and each other.• The work that students have done to decide on and support their claim has prepared them for writing a position paper in Unit 3.• In advance: Decide how best to do presentations in your classroom.• Post: Learning targets.



Lesson Vocabulary	Materials
	<ul style="list-style-type: none">• Decision Statement graphic organizer (from Lesson 15; one per student)• Visual displays (from Lesson 16; one per student)• End of Unit 2 Assessment, Part 2: Presenting a Claim (for teacher reference; one to display; see Teaching Note)• Exit ticket (one per student)

Opening	Meeting Students' Needs
<p>A. Entry Task (5 minutes)</p> <ul style="list-style-type: none">• As students enter, ask them to get out their Decision Statement graphic organizers and visual displays. Direct them to review their claim and evidence, as well as their visual display, in preparation for the day's work.• After 3 minutes, refocus the class. Point to the posted learning targets and read them aloud:<ul style="list-style-type: none">* "I can present my claim about water management using facts, reasons, details, and examples."* "I can use effective speaking techniques in my presentation."* "I can include a multimedia visual display in my presentation to clarify my claim and add emphasis."* "I can use formal English in my presentation."* "I can use my experience and knowledge of language and logic to advocate persuasively."• Remind students that they have practiced these skills and now they are ready to present their claims.	



Work Time	Meeting Students' Needs
<p>A. End of Unit 2 Assessment: Part 2: Presenting a Claim (35 minutes)</p> <ul style="list-style-type: none">• Let students know how excited you are to see their presentations. Emphasize the importance of being a respectful audience member, including:<ul style="list-style-type: none">– Not talking during a classmate's presentation– Reacting appropriately (e.g., it's OK to laugh, as long as the presenter has made a joke)– Showing appreciation at the end (applause or finger snaps)• Display the End of Unit 2 Assessment, Part 2: Presenting a Claim (for teacher reference). Let students know that this is how they will be assessed.• Explain the logistics of the presentations. These will vary depending on how you decide to set them up. (See Teaching Notes for further guidance.)• Encourage students to do their very best in their presentations and to keep in mind the speaking skills they have practiced. Remind them to speak clearly, make eye contact, and use their visual displays.• If necessary, ask students to physically transition to their group and begin their presentations. If students are presenting to the whole class, invite the first student to the front of the classroom to begin.• When students are finished, collect their Decision Statement graphic organizers and visual displays.	



Closing and Assessment	Meeting Students' Needs
<p>A. Exit Ticket (5 minutes)</p> <ul style="list-style-type: none">• Congratulate students on their hard work and acknowledge those who were respectful, engaged audience members. It is especially effective to point out specific things that students did, such as listening actively, supporting others, keeping full attention on the speakers, etc.• Distribute the exit ticket to students who presented. Ask students to reflect on how they did in their presentations by rating themselves on the learning targets:<ul style="list-style-type: none">* “I can present my claim about water management using facts, reasons, details, and examples.”* “I can use effective speaking techniques in my presentation.”* “I can include a multimedia visual display in my presentation to clarify my claim and add emphasis.”* “I can use formal English in my presentation.”* “I can use my experience and knowledge of language and logic to advocate persuasively.”• Collect the exit tickets. Remind students that their homework is to continue their independent reading.	
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Continue reading your independent reading book for this module. <p><i>Note: Give students feedback on their Decision Statement graphic organizers and be prepared to hand them back during the next lesson. These graphic organizers will be the starting point for students' work on their position papers in Unit 3.</i></p> <p><i>Also give feedback on students' visual displays. For the Unit 3 performance task, students will create a visual representation of their position paper, and feedback on their visual displays will help strengthen their final products. Be prepared to give these back by Lesson 9 of Unit 3.</i></p>	



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Grade 7: Module 4B: Unit 2: Lesson 17

Supporting Materials



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End of Unit 2 Assessment, Part 2: Presenting a Claim
(For Teacher Reference)

Focus question: Which category of water management would be a good place to begin to make the way we manage water more sustainable? Be sure to provide relevant and sufficient evidence and use sound reasoning to support your claim.

Assessment Criteria	<input type="checkbox"/>	Notes
Present claim in a focused, coherent manner		
Incorporate relevant facts, reasons, descriptions, details, and examples to support claim		
Use appropriate eye contact		
Use adequate volume		
Use clear pronunciation		
Clarify claim and add emphasis by using a visual display		
Use formal English: <ul style="list-style-type: none">• Academic and domain-specific vocabulary• Language that expresses ideas precisely, eliminating wordiness and redundancy		



Exit Ticket

Name: _____

Date: _____

Congratulations! You have completed your presentation. Take a few minutes to reflect on how you did. Below each of the learning targets below, circle how well you feel you did.

- **I can present my claim about water management using facts, details, and examples.**

I did very well.

I did well.

I did OK.

I struggled with this.

- **I can use effective speaking techniques in my presentation.**

I did very well.

I did well.

I did OK.

I struggled with this.

- **I can include a multimedia visual display in my presentation to clarify my claim and add emphasis.**

I did very well.

I did well.

I did OK.

I struggled with this.

- **I can use formal English in my presentation.**

I did very well.

I did well.

I did OK.

I struggled with this.

- **I can use my experience and knowledge of language and logic to advocate persuasively.**

I did very well.

I did well.

I did OK.

I struggled with this.



Exit Ticket

Name one thing you did today as a presenter or an audience member that you're proud of:
