



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">Opening<ol style="list-style-type: none">Thinking Log (4 minutes)Reviewing Learning Targets (2 minutes)Work Time<ol style="list-style-type: none">Read-aloud of Pages 186–187 of <i>The Big Thirst</i> with Text-Dependent Questions (20 minutes)Using Search Terms Effectively (15 minutes)Closing and Assessment<ol style="list-style-type: none">Exit Ticket: Search Terms (4 minutes)Homework<ol style="list-style-type: none">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>	



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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?”
