EXPEDITIONARY LEARNING

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

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

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	**Ongoing Assessment**
• 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.	• 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

Agenda	Teaching Notes
1. Opening A. Sharing Cascading Consequences Chart for Agricultural Management of Water from Homework; Reviewing Learning Target; Introducing Stakeholder Chart (10 minutes) 2. Work Time A. Mini Lesson: Modeling Creating a Stakeholder Chart for Industrial Management of Water (10 minutes) B. B.Guided Practice: Creating the Stakeholder Chart for Industrial Management of Water (1o minutes) C. Application: Partner Work to Add to the Stakeholder Chart of the Industrial Management of Water Chart (10 minutes) 3. Closing and Assessment A. Debrief (5 minutes) 4. Homework A. Finish the industrial Stakeholder chart using your industrial management of water Cascading Consequences chart and researcher's notebook.	• 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)
	• 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)	• 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

A. Sharing Cascading Consequences Chart for Agricultural Management of Water from Homework; Reviewing Learning Target; Introducing Stakeholder Chart (10 minutes)
• 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:
  * "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:
  * "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 *stakeholder* 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 *stakeholder* 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:
  * "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**.
	• 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

• Invite students to discuss with their partner:
  * "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**:
  * "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 *The Big Thirst* 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 *before* 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
A. Mini Lesson: Modeling Creating a Stakeholder Chart for Industrial Management of Water (10 minutes) • 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: * "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 *better* 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."	• 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
* "Next, I check through to see if each consequence is *intended* or *unintended*. 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.	•

Work Time (continued)	Meeting Students' Needs
B. Guided Practice: Creating the Stakeholder Chart for Industrial Management of Water (10 minutes) • Distribute the Stakeholder chart for industrial management of water to students. • Remind them of the steps you took to build the chart: 1. Read the Cascading Consequences chart for industrial management of water, looking for consequences of the industrial management of water. 2. Use these consequences to decide who the stakeholders are. 3. Fill in the rest of the columns for each stakeholder. 4. 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: * "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.	• 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
C. Application: Partner Work to Add to the Stakeholder Chart of the Industrial Management of Water Chart (10 minutes) • 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 *industrial* use of water.	

Closing and Assessment	Meeting Students' Needs
A. Debrief (5 minutes) • Invite students to find a new partner and follow these steps: 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: * "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
• 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.	• 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

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