



EXPEDITIONARY  
LEARNING

# Grade 8: Module 4: Unit 2: Overview



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## Unit 2: Researching Consequences and Stakeholders of Michael Pollan's Four Food Chains

In this unit, students research in order to help them make a decision to answer this question: Which of Michael Pollan's four food chains would best feed the United States? They make a decision to answer this question by researching the consequences and stakeholders of each food chain. Students use *The Omnivore's Dilemma* as a starting point to identify the consequences of each of the food chains. They work in research teams to create a Cascading Consequences chart for each

food chain that begins with consequences listed in the text; then they expand their research and consequences by searching for appropriate articles and resources through a child-safe search engine. Teams then use their cascading consequences to identify the stakeholders who will be affected by the consequences, and from there determine which food chain they would choose to feed the United States. At the end of the unit, students present a position speech answering the question.

### Guiding Questions And Big Ideas

- **Which of Michael Pollan's four food chains would best feed the United States?**
- **What are the consequences of each of the food chains?**
- **Which stakeholders are affected by the consequences of each food chain?**
- *The food we buy comes to us from various routes and processes. We can make more informed decisions about what food to buy when we understand those processes and the stakeholders affected by the food choices we make.*
- *When taking a position on an issue, you need to research the consequences and stakeholders affected by each option.*
- *When putting forward an argument, you need to provide relevant and sufficient evidence to support your claims.*

### Mid-Unit 2 Assessment

#### Research Simulation

This assessment centers on NYSP12 ELA CCLS W.8.7 and W.8.8. In this assessment, students apply the research skills they have been learning throughout the unit to answer research questions about two new research texts. They paraphrase research, choose search terms, cite sources, and determine the credibility and accuracy of research sources.

### End of Unit 2 Assessment

#### Position Speech: Which of Michael Pollan's four food chains would best feed the United States?

This assessment centers on NYSP12 ELA CCLS SL.8.4, SL.8.5, and SL.8.6. Students present a position speech to answer the question: Which of Michael Pollan's four food chains would best feed the United States? They state a claim and provide two reasons for making that claim based on the consequences and affected stakeholders they have identified for each food chain throughout the unit. They select evidence to support their reasons, and they provide a counterclaim and respond to it.



### Content Connections

This module is designed to address English Language Arts standards as students read *The Omnivore's Dilemma*, an informational text about food sustainability. However, the module intentionally incorporates Social Studies practices 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 New York State Common Core K–8 Social Studies Framework:**

#### **Unifying Themes (pages 6–7)**

- Theme 4: Geography, Humans, and the Environment: The relationship between human populations and the physical world (people, places, and environments); impact of human activities on the environment; interactions between regions, locations, places, people, and environments.
- Theme 9: Science, Technology, and Innovation: Applications of science and innovations in transportation, communication, military technology, navigation, agriculture, and industrialization.

#### **Social Studies Practices, Geographic Reasoning, Grades 5–8:**

- Descriptor 2: Describe the relationships between people and environments and the connections between people and places (page 58).
- Descriptor 3: Identify, analyze, and evaluate the relationship between the environment and human activities, how the physical environment is modified by human activities, and how human activities are also influenced by Earth's physical features and processes.

#### **Social Studies Practices, Gathering, Using, and Interpreting Evidence, Grades 5–8:**

- Descriptor 1: Define and frame questions about events and the world in which we live and use evidence to answer these questions.
- Descriptor 2: Identify, describe, and evaluate evidence about events from diverse sources (including written documents, works of art, photographs, charts and graphs, artifacts, oral traditions, and other primary and secondary sources).
- Descriptor 4: Describe and analyze arguments of others.
- Descriptor 6: Recognize an argument and identify evidence that supports the argument; examine arguments related to a specific social studies topic from multiple perspectives; deconstruct arguments, recognizing the perspective of the argument and identifying evidence used to support that perspective.

### Texts

1. Michael Pollan, *The Omnivore's Dilemma*, Young Readers Edition (New York: The Penguin Group, 2009), ISBN: 978-0-8037-3500-2.



**This unit is approximately 3 weeks or 17 sessions of instruction.**

Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
<b>Lesson 1</b>	Determining Cascading Consequences Using <i>The Omnivore's Dilemma</i> : Industrial Food Chain	<ul style="list-style-type: none"> <li>I can cite text-based evidence that provides the strongest support for an analysis of informational text. (RI.8.1)</li> <li>I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)</li> <li>I can generate additional research questions for further exploration. (W.8.7)</li> </ul>	<ul style="list-style-type: none"> <li>I can analyze <i>The Omnivore's Dilemma</i> to determine the cascading consequences of the industrial food chain.</li> </ul>	<ul style="list-style-type: none"> <li>Industrial Food Chain Cascading Consequences chart</li> </ul>	
<b>Lesson 2</b>	Preparing for Further Research: Industrial Food Chain	<ul style="list-style-type: none"> <li>I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)</li> <li>I can generate additional research questions for further exploration. (W.8.7)</li> </ul>	<ul style="list-style-type: none"> <li>I can develop a supporting research question to help me focus my research.</li> <li>I can evaluate research sources to choose the most appropriate one to answer my supporting research question.</li> </ul>		<ul style="list-style-type: none"> <li>Good Supporting Research Questions Are...</li> </ul>



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
<b>Lesson 3</b>	Further Research: Industrial Food Chain	<ul style="list-style-type: none"> <li>• I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)</li> <li>• I can use several sources in my research. (W.8.7)</li> <li>• I can gather relevant information from a variety of sources. (W.8.8)</li> <li>• I can use search terms effectively. (W.8.8)</li> <li>• I can evaluate the credibility and accuracy of each source. (W.8.8)</li> <li>• I can quote and paraphrase others' work while avoiding plagiarism. (W.8.8)</li> <li>• I can use a standard format for citation. (W.8.8)</li> </ul>	<ul style="list-style-type: none"> <li>• I can use research skills to determine the consequences of the industrial organic food chain.</li> <li>• I can devise a supporting research question to help me focus my research.</li> <li>• I can identify the relevant information in a research source to answer my supporting research question.</li> <li>• I can evaluate the credibility and accuracy of a source.</li> <li>• I can quote and paraphrase others' work while avoiding plagiarism.</li> </ul>	<ul style="list-style-type: none"> <li>• Researcher's notebook</li> </ul>	
<b>Lesson 4</b>	Adding to Cascading Consequences and Stakeholders: Industrial Food Chain	<ul style="list-style-type: none"> <li>• I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)</li> </ul>	<ul style="list-style-type: none"> <li>• I can use my research to add to the Cascading Consequences chart for Michael Pollan's industrial food chain.</li> <li>• I can determine the stakeholders affected by the consequences of Michael Pollan's industrial food chain</li> </ul>	<ul style="list-style-type: none"> <li>• Cascading Consequences chart</li> <li>• Stakeholders chart</li> </ul>	



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
<b>Lesson 5</b>	Determining Cascading Consequences Using <i>The Omnivore's Dilemma</i> : Industrial Organic Food Chain	<ul style="list-style-type: none"> <li>I can cite text-based evidence that provides the strongest support for an analysis of informational text. (RI.8.1)</li> <li>I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)</li> <li>I can generate additional research questions for further exploration. (W.8.7)</li> </ul>	<ul style="list-style-type: none"> <li>I can determine the cascading consequences of the industrial organic food chain using <i>The Omnivore's Dilemma</i>.</li> <li>I can develop a supporting research question to help me focus my research.</li> </ul>	<ul style="list-style-type: none"> <li>Industrial Organic Food Chain Cascading Consequences team charts</li> <li>Exit Ticket: Developing a Supporting Research Question: Consequences of Industrial Organic Food Chain</li> </ul>	<ul style="list-style-type: none"> <li>Good Supporting Research Questions are...</li> </ul>
<b>Lesson 6</b>	Using Search Terms for Further Research: Industrial Organic Food Chain	<ul style="list-style-type: none"> <li>I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)</li> <li>I can use several sources in my research. (W.8.7)</li> <li>I can gather relevant information from a variety of sources. (W.8.8)</li> <li>I can use search terms effectively. (W.8.8)</li> <li>I can evaluate the credibility and accuracy of each source. (W.8.8)</li> <li>I can quote and paraphrase others' work while avoiding plagiarism. (W.8.8)</li> <li>I can use a standard format for citation. (W.8.8)</li> </ul>	<ul style="list-style-type: none"> <li>I can use research skills to determine consequences of the industrial organic food chain.</li> <li>I can list the criteria of credible research sources.</li> <li>I can choose the most effective search terms to find relevant research sources to answer my research question.</li> <li>I can identify the relevant information in a research source to answer my research question.</li> </ul>	<ul style="list-style-type: none"> <li>Assessing Sources handout (from homework)</li> <li>Researcher's notebook</li> </ul>	<ul style="list-style-type: none"> <li>Prepare the What Makes a Source Accurate and Credible?</li> <li>Effective Search Terms Are..</li> <li>Paraphrasing</li> </ul>



Lesson	Lesson Title	Long-Term Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
<b>Lesson 7</b>	Adding to Cascading Consequences and Stakeholders: Industrial Organic Food Chain	<ul style="list-style-type: none"> <li>I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)</li> </ul>	<ul style="list-style-type: none"> <li>I can use my research to add to the Cascading Consequences chart for Michael Pollan's industrial organic food chain.</li> <li>I can determine the stakeholders affected by the consequences of Michael Pollan's industrial organic food chain.</li> </ul>	<ul style="list-style-type: none"> <li>Cascading Consequences charts</li> <li>Stakeholders charts</li> <li>MLA citations in researcher's notebooks</li> </ul>	<ul style="list-style-type: none"> <li>Correct Citations</li> </ul>
<b>Lesson 8</b>	Determining Cascading Consequences Using <i>The Omnivore's Dilemma</i> : Local Sustainable Food Chain	<ul style="list-style-type: none"> <li>I can cite text-based evidence that provides the strongest support for an analysis of informational text. (RI.8.1)</li> <li>I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)</li> <li>I can generate additional research questions for further exploration. (W.8.7)</li> </ul>	<ul style="list-style-type: none"> <li>I can determine the cascading consequences of the local sustainable food chain using <i>The Omnivore's Dilemma</i>.</li> <li>I can develop a supporting research question to help me focus my research.</li> </ul>	<ul style="list-style-type: none"> <li>Team Local Sustainable Food Chain Cascading Consequences chart</li> <li>Exit Ticket: Developing a Supporting Research Question: Consequences of Local Sustainable Food Chain</li> </ul>	<ul style="list-style-type: none"> <li>Good Supporting Research Questions Are</li> </ul>



Lesson	Lesson Title	Long-Term Learning Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
<b>Lesson 9</b>	Further Research: Local Sustainable Food Chain	<ul style="list-style-type: none"> <li>I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)</li> <li>I can use several sources in my research. (W.8.7)</li> <li>I can gather relevant information from a variety of sources. (W.8.8)</li> <li>I can use search terms effectively. (W.8.8)</li> <li>I can evaluate the credibility and accuracy of each source. (W.8.8)</li> <li>I can quote and paraphrase others' work while avoiding plagiarism. (W.8.8)</li> <li>I can use a standard format for citation. (W.8.8)</li> </ul>	<ul style="list-style-type: none"> <li>I can use research skills to determine consequences of the local sustainable food chain.</li> <li>I can cite sources using MLA format.</li> <li>I can choose the most effective search terms to find relevant research sources to answer my research question.</li> <li>I can evaluate the credibility and accuracy of a source.</li> <li>I can quote and paraphrase others' work while avoiding plagiarism.</li> <li>I can identify the relevant information in a research source to answer my research question.</li> </ul>	<ul style="list-style-type: none"> <li>Researcher's notebook</li> </ul>	<ul style="list-style-type: none"> <li>Effective Search Terms Are ...</li> <li>What Makes a Source Credible and Accurate?</li> <li>Paraphrasing</li> <li>Correct Citations</li> </ul>
<b>Lesson 10</b>	Adding to Cascading Consequences and Stakeholders: Local Sustainable Food Chain	<ul style="list-style-type: none"> <li>I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)</li> </ul>	<ul style="list-style-type: none"> <li>I can use my research to add to the Cascading Consequences chart for Michael Pollan's local sustainable food chain.</li> <li>I can determine the stakeholders affected by the consequences of Michael Pollan's local sustainable food chain.</li> </ul>	<ul style="list-style-type: none"> <li>Team Local Sustainable Food Chain Cascading Consequences charts</li> <li>Local Sustainable Stakeholders charts</li> </ul>	<ul style="list-style-type: none"> <li>Advocating Persuasively Criteria</li> <li>Effective Speaking Skills</li> </ul>





Lesson	Lesson Title	Long-Term Learning Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
<b>Lesson 11</b>	Mid-Unit Assessment: Research Simulation	<ul style="list-style-type: none"> <li>I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)</li> <li>I can use several sources in my research. (W.8.7)</li> <li>I can generate additional research questions for further exploration. (W.8.7)</li> <li>I can gather relevant information from a variety of sources. (W.8.8)</li> <li>I can use search terms effectively. (W.8.8)</li> <li>I can evaluate the credibility and accuracy of each source. (W.8.8)</li> <li>I can quote and paraphrase others' work while avoiding plagiarism. (W.8.8)</li> <li>I can use a standard format for citation. (W.8.8)</li> </ul>	<ul style="list-style-type: none"> <li>I can devise a research question to help me focus my research.</li> <li>I can identify the relevant information in a research source to answer my research question.</li> <li>I can evaluate the credibility and accuracy of a source.</li> <li>I can choose the most effective search terms to find relevant research sources to answer my research question.</li> <li>I can quote and paraphrase others' work while avoiding plagiarism.</li> <li>I can cite sources using MLA format.</li> </ul>	<ul style="list-style-type: none"> <li>Mid-Unit 2 Assessment: Research Simulation</li> </ul>	<ul style="list-style-type: none"> <li>Effective Speaking Skills</li> <li>Correct Citations</li> </ul>
<b>Lesson 12</b>	Determining Cascading Consequences Using <i>The Omnivore's Dilemma</i> : Hunter-Gatherer Food Chain	<ul style="list-style-type: none"> <li>I can cite text-based evidence that provides the strongest support for an analysis of informational text. (RI.8.1)</li> <li>I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)</li> <li>I can generate additional research questions for further exploration. (W.8.7)</li> </ul>	<ul style="list-style-type: none"> <li>I can determine the cascading consequences of the hunter-gatherer food chain using <i>The Omnivore's Dilemma</i>.</li> <li>I can develop a supporting research question to help me focus my research.</li> </ul>	<ul style="list-style-type: none"> <li>Team Hunter-Gatherer Food Chain Cascading Consequences chart</li> <li>Exit Ticket: Developing a Supporting Research Question: Consequences of Hunter-Gatherer Food Chain</li> </ul>	<ul style="list-style-type: none"> <li>Good Supporting Research Questions Are ...</li> </ul>



Lesson	Lesson Title	Long-Term Learning Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
<b>Lesson 13</b>	Further Research: Hunter-Gatherer Food Chain	<ul style="list-style-type: none"> <li>I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)</li> <li>I can use several sources in my research. (W.8.7)</li> <li>I can gather relevant information from a variety of sources. (W.8.8)</li> <li>I can use search terms effectively. (W.8.8)</li> <li>I can evaluate the credibility and accuracy of each source. (W.8.8)</li> <li>I can quote and paraphrase others' work while avoiding plagiarism. (W.8.8)</li> <li>I can use a standard format for citation. (W.8.8)</li> </ul>	<ul style="list-style-type: none"> <li>I can use research skills to determine consequences of the hunter-gatherer food chain.</li> <li>I can devise a research question to help me focus my research.</li> <li>I can identify the relevant information in a research source to answer my research question.</li> <li>I can evaluate the credibility and accuracy of a source.</li> <li>I can choose the most effective search terms to find relevant research sources to answer my research question.</li> <li>I can quote and paraphrase others' work while avoiding plagiarism.</li> <li>I can cite sources using MLA format.</li> </ul>	<ul style="list-style-type: none"> <li>Researcher's notebook</li> <li>Exit Ticket: Reflection Questions</li> </ul>	<ul style="list-style-type: none"> <li>Effective Search Terms Are ...</li> </ul>
<b>Lesson 14</b>	Adding to Cascading Consequences and Stakeholders: Hunter-Gatherer Food Chain	<ul style="list-style-type: none"> <li>I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)</li> </ul>	<ul style="list-style-type: none"> <li>I can use my research to add to the Cascading Consequences chart for Michael Pollan's hunter-gatherer food chain.</li> <li>I can determine the stakeholders affected by the consequences of Michael Pollan's hunter-gatherer food chain.</li> </ul>	<ul style="list-style-type: none"> <li>Team Hunter-Gatherer Food Chain Cascading Consequences charts</li> <li>Hunter-Gatherer Stakeholders charts</li> </ul>	
<b>Lesson 15</b>	Writing a Position Speech: Which Food Chain Would Be Best?	<ul style="list-style-type: none"> <li>I can present claims and findings in a focused, coherent manner (use relevant evidence, sound reasoning, and well-chosen details). (SL.8.4)</li> </ul>	<ul style="list-style-type: none"> <li>I can make a claim supported by reasons and evidence from research.</li> </ul>	<ul style="list-style-type: none"> <li>Position Speech Rubric (content section only for Birke Baehr speech)</li> <li>Completed Position Speech graphic organizer</li> </ul>	<ul style="list-style-type: none"> <li>Effective Speaking Skills</li> </ul>



Lesson	Lesson Title	Long-Term Learning Targets	Supporting Targets	Ongoing Assessment	Anchor Charts & Protocols
<b>Lesson 16</b>	Creating a Visual Component for the Speech: End of Unit Assessment Preparation and Practice	<ul style="list-style-type: none"> <li>• I can present claims and findings in a focused, coherent manner (use relevant evidence, sound reasoning, and well-chosen details). (SL.8.4)</li> <li>• I can use effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation). (SL.8.4)</li> <li>• I can integrate multimedia components and visual displays in a presentation to clarify information, strengthen claims, and add emphasis. (SL.8.5)</li> <li>• I can adapt my speech for a variety of contexts and tasks, using formal English when indicated or appropriate. (SL.8.6)</li> </ul>	<ul style="list-style-type: none"> <li>• I can demonstrate effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation).</li> <li>• I can appropriately use a visual component to clarify, support, and emphasize the content of my speech.</li> </ul>		<ul style="list-style-type: none"> <li>• Effective Speaking Skills</li> <li>• Stars and Steps protocol</li> </ul>
<b>Lesson 17</b>	End of Unit Assessment: Presentation of Position	<ul style="list-style-type: none"> <li>• I can present claims and findings in a focused, coherent manner (use relevant evidence, sound reasoning, and well-chosen details). (SL.8.4)</li> <li>• I can use effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation). (SL.8.4)</li> <li>• I can integrate multimedia components and visual displays in a presentation to clarify information, strengthen claims, and add emphasis</li> </ul>	<ul style="list-style-type: none"> <li>• I can present my claim about which food chain would best feed all the people in the United States using relevant evidence, sound reasoning, and well-chosen details.</li> <li>• I can adapt my speech for an audience of adults.</li> </ul>	• End of Unit 2 Assessment: Position Speech	• Adapting a Speech



### Optional: Experts, Fieldwork, And Service

**Experts:**

- Invite local farmers to discuss with students their farming methods and how the issues that Michael Pollan discusses affect their food production and their livelihood.
- Invite representatives from grocery stores, including organic and health food stores, to share with students how the issues that Michael Pollan discusses affect their stores and customers.
- Invite hunters who hunt to feed their families to share with students their perspective on hunting.

**Fieldwork:**

- Arrange for a visit to a local grocery store to look at where the produce comes from and the ingredients in different foods.
- Arrange for a visit to a food processing plant to look at what happens to food in a factory.
- Arrange for a visit to farms—for example, a local sustainable farm and an industrial farm—to see how food is produced and to compare the different ways things are done.

### Optional: Extensions

- Make Cascading Consequences charts for other decisions or dilemmas.
- Present end of unit assessment adapted position speeches to an audience of adults—for example, parents, teachers, and experts from the food industry.

### Preparation and Materials

- Consider partnering with a school library media specialist for this unit as students will be doing a lot of research on each of the food chains; the media specialist will be able to help students find useful articles to answer their research questions.
- The research materials provided in the research folders are purposely of a range of Lexile measures in order to challenge students of all abilities. Guide students to choose research materials from the folder that are at an appropriate level for them. Glossaries have been provided for each of the articles, so ensure that students use the glossaries when using the articles in order to gain a greater understanding of the text. Be prepared to provide support to students who will struggle with all of the texts in a group—choose one text for all of them to work with and read it for the gist as a group.
- This unit contains a lot of supporting materials, including Cascading Consequences charts and Stakeholders charts for each food chain, that students will need at the end of the unit for their position speech. Consider how to help students organize their work so that these important pieces of work are available for reference when needed.



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# **Grade 8: Module 4: Unit 2: Lesson 1**

## **Determining Cascading Consequences Using *The Omnivore's Dilemma*: Industrial Food Chain**



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

I can cite text-based evidence that provides the strongest support for an analysis of informational text. (RI.8.1)  
I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)  
I can generate additional research questions for further exploration. (W.8.7)

**Supporting Learning Targets**

- I can analyze *The Omnivore's Dilemma* to determine the cascading consequences of the industrial food chain

**Ongoing Assessment**

- Industrial Food Chain Cascading Consequences chart



Agenda	Teaching Notes
<ol style="list-style-type: none"> <li>1. Opening               <ol style="list-style-type: none"> <li>A. Unpacking the Learning Target (4 minutes)</li> <li>B. Thinking about How We Make Decisions (8 minutes)</li> </ol> </li> <li>2. Work Time               <ol style="list-style-type: none"> <li>A. Mini Lesson: Modeling Creating a Cascading Consequences Chart Using Pages 48 and 49 (12 minutes)</li> <li>B. Guided Practice: Partner Work to Add to the Cascading Consequences Chart Using Pages 55 and 56 (10 minutes)</li> <li>C. Application: Partner Work to Add to the Cascading Consequences Chart Using a New Excerpt (6 minutes)</li> </ol> </li> <li>3. Closing and Assessment               <ol style="list-style-type: none"> <li>A. Debrief (5 minutes)</li> </ol> </li> <li>4. Homework               <ol style="list-style-type: none"> <li>A. Finish adding to your Industrial Food Chain Cascading Consequences chart using your text excerpt.</li> </ol> </li> </ol>	<ul style="list-style-type: none"> <li>• This first lesson of Unit 2 introduces students to a specific decision-making process they will use throughout the unit to answer the question: Which of Michael Pollan's four food chains would best feed all the people in the United States? Their answer to this question will be based on evidence from Pollan's <i>The Omnivore's Dilemma</i> and further research they do throughout the unit.</li> <li>• In this lesson, students learn how to create a Cascading Consequences chart, which they will do several times throughout the unit to organize their evidence. Creating a Cascading Consequences chart is the first step in the decision-making process that students use in this unit. Once the chart is completed, they will be able to clearly see all the consequences (positive, negative, and neutral) of the industrial food chain. This will help them answer the question about which food chain would best feed all the people in the United States. Throughout the unit, students will create Cascading Consequences charts for each of Pollan's four food chains.</li> <li>• In this lesson, the class begins a Cascading Consequences chart specifically for the industrial food chain. Since this is the first time students work with this type of chart, their work is highly scaffolded at first with the teacher modeling using an excerpt of <i>The Omnivore's Dilemma</i>. After the modeling, students have a chance to practice with another short excerpt and get immediate feedback from the teacher. Then they have time to work with a partner to add to the chart using a longer piece of text.</li> <li>• In advance: Read the article "Learning to Make Systematic Decisions" (<a href="http://education.nationalgeographic.com/education/media/learning-make-systematic-decisions/?ar_a=1">http://education.nationalgeographic.com/education/media/learning-make-systematic-decisions/?ar_a=1</a>) about the use of the Stakeholder Consequences Decision-making (SCDM) process in a science class.</li> <li>• On a classroom wall, post the focus question for the whole unit: Which of Michael Pollan's four food chains would best feed all the people in the United States? This is the focus question for the unit, and it will also be the question students answer in their position speech at the end of the unit.</li> <li>• Review the sample Cascading Consequences charts in the supporting materials and the think-aloud portion of the lesson.</li> <li>• Find an image of a waterfall to display to illustrate the meaning of "cascading" when unpacking the learning target.</li> </ul>



Agenda	Teaching Notes (continued)
	<ul style="list-style-type: none"><li>• Decide how to assign the text excerpts in Work Time C. Students work with a partner on one of four text excerpts. They will share out their additions to the Cascading Consequences chart in the beginning of the next lesson in order to add to the class Cascading Consequences chart. It is important that all four excerpts are represented in this class chart because this chart is what students will use to determine what consequence they will dig deeper into in further research.</li><li>• Review: Fist to Five in Checking for Understanding Techniques (Appendix).</li></ul>

Lesson Vocabulary	Materials
cascading, consequence	<ul style="list-style-type: none"><li>• Article: “Learning to Make Systematic Decisions” (for teacher reference)</li><li>• Image of a waterfall (one for display; see Teaching Notes)</li><li>• Getting a Dog Cascading Consequences sample chart (one per student)</li><li>• <i>The Omnivore's Dilemma</i> (book; distributed to each student in Unit 1)</li><li>• Industrial Food Chain Cascading Consequences chart (new; teacher-created on chart paper; see Work Time A)</li><li>• Chart paper (optional)</li><li>• Blank 8" x 11" paper (one per student)</li><li>• Industrial Food Chain Cascading Consequences chart using pages 48 and 49 (for teacher reference)</li><li>• Industrial Food Chain Cascading Consequences chart with additions from pages 55 and 56 (for teacher reference)</li><li>• Industrial Food Chain graphic organizer (created by each student in Unit 1)</li></ul>





Opening	Meeting Students' Needs
<p><b>A. Unpacking the Learning Target (4 minutes)</b></p> <ul style="list-style-type: none"> <li>Read the learning target out loud. <ul style="list-style-type: none"> <li>"I can analyze <i>The Omnivore's Dilemma</i> to determine the cascading consequences of the industrial food chain."</li> </ul> </li> <li>Circle the word <i>consequences</i> on the posted learning targets.</li> <li>Invite students to discuss with an elbow partner: <ul style="list-style-type: none"> <li>"What is a consequence?"</li> </ul> </li> <li>Explain that a consequence is an effect, result, or outcome of something occurring earlier. Point 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 your room is that you can't go to the movies with your 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 the word <i>consequence</i> as a neutral word.</li> <li>Circle the word cascading on the posted learning target. <b>Display an image of a waterfall.</b></li> <li>Explain that "cascade" is another word for waterfall and that <i>cascading</i> can describe anything that resembles a waterfall. <i>Cascading</i> also means that one thing follows the next, like a chain of events. In a waterfall, one water drop follows the next.</li> </ul>	<ul style="list-style-type: none"> <li>ELLs benefit from having picture cues to help explain word meanings.</li> </ul>
<p><b>B. Unpacking the Learning Target (4 minutes)</b></p> <ul style="list-style-type: none"> <li>Display the following steps for students to take: <ol style="list-style-type: none"> <li>Imagine you are deciding whether to get a dog for a family pet.</li> <li>List all the consequences (effects) of this decision.</li> <li>Based on these consequences, what would you decide?</li> <li>Why would you make that decision?</li> </ol> </li> <li>After 2 minutes of thinking and writing, invite students to explain to a partner: <ul style="list-style-type: none"> <li>"What did you decide, and why?"</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Strategically placing ELLs or students with language production difficulties next to students who are more fluent can support language development during partner talk.</li> </ul>



Opening (continued)	Meeting Students' Needs
<ul style="list-style-type: none"><li>• Distribute the <b>Getting a Dog Cascading Consequences sample chart</b>.</li><li>• Invite students to discuss the following questions with their elbow partner:<ul style="list-style-type: none"><li>* “What do you notice about this Cascading Consequences chart?”</li><li>* “What do you wonder?”</li></ul></li><li>• Listen for students 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.”</li><li>• Explain that creating a Cascading Consequences chart is one piece of a decision-making process that they will be using throughout this unit. Explain that the decision they are each faced with is: Which of Michael Pollan’s four food chains would best feed all the people in the United States? Tell students that this is the guiding question for the next two units and students will be using their research to answer this question in a speech at the end of the unit and in a position paper in Unit 3.</li><li>• 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 Pollan’s book and on further research, rather than basing the decision on emotions or gut feelings. Ask students to discuss with their elbow partner:<ul style="list-style-type: none"><li>* “What is the problem with making a decision based on emotions or gut feelings?”</li></ul></li><li>• Select volunteers to share their answers. Listen for them to explain that when you make a decision based on an emotion or gut feeling, you may not make the best decision because you aren’t necessarily considering all of the consequences.</li></ul>	



Work Time	Meeting Students' Needs
<p><b>A. Mini Lesson: Modeling Creating a Cascading Consequences Chart Using Pages 48 and 49 (12 minutes)</b></p> <ul style="list-style-type: none"><li>• Invite students to turn to page 48 of <i>The Omnivore's Dilemma</i>, to the section titled "CAFO—Concentrated Animal Feeding Operation."</li><li>• Invite students to follow along silently in their heads as you read the section aloud. Direct them to look for consequences of the industrial food chain as you read.</li><li>• In writing so students can see, list the consequences that you find in this section of the text, including page numbers:<ul style="list-style-type: none"><li>– Family farmers grow mostly corn (49)</li><li>– Cows and other animals are not raised on farms anymore (49)</li><li>– Cattle are now raised on CAFOs (49)</li><li>– Meat is cheap (49)</li><li>– People eat a lot of meat (49)</li><li>– Manure waste from CAFOs causes toxic pollution (49)</li><li>– CAFOs increase bacteria in our food (49)</li><li>– Cows are forced to eat corn (49)</li><li>– Eating so much corn negatively affects their health (49)</li></ul></li><li>• Note: Page numbers are included in the Cascading Consequences charts so students can refer to the evidence in the book when they need it to support the claim they make at the end of Unit 2 and in Unit 3.</li></ul>	<ul style="list-style-type: none"><li>• Some students may benefit from having the consequences (or a few of the possible consequences) pre-highlighted in their texts.</li><li>• Some students may benefit from having a partially completed chart to work on.</li><li>• Providing models of expected work supports all students, especially supports challenged learners.</li><li>• Strategic pairing of partners can support all students. In this case, you may want heterogeneous partnerships. Or you might create homogeneous partnerships and provide direct teacher support to the most challenged learners.</li></ul>



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> <li>• Begin to think aloud about how to turn this list of consequences into a class <b>Industrial Food Chain Cascading Consequences chart</b> on chart paper. Direct students to create their own Cascading Consequences chart on <b>blank 8" x 11" paper</b> as you create one on the board. See the <b>Industrial Food Chain Cascading Consequences chart using pages 48 and 49 (for teacher reference)</b> in supporting materials.</li> <li>• Note: The purpose of building the Cascading Consequences chart on the board is so that it is large enough for all students to see. After creating the chart on the board, use the capture feature on your interactive white board, or take a photograph of it, in case you need to recreate it before the next class. You may also want to recreate it on chart paper so you can keep it posted in the room.</li> <li>• Your think-aloud should sound like:             <ul style="list-style-type: none"> <li>* “One direct impact of the industrial food chain is that family farmers grow mostly corn, so I am going to put that in a box coming directly from the center box.”</li> <li>* “Because they grow so much corn, farmers don’t raise the variety of things they used to, like cows and other animals. That is a consequence of corn. It is a cascading consequence, a consequence of a consequence, so I am going to put that coming from ‘family farmers grow mostly corn.’”</li> <li>* “Another direct consequence of the industrial food chain is that cows are raised on CAFOs. I am going to put that in a box coming directly from the center box.”</li> <li>* “Because cattle are raised on CAFOs, meat is cheap. So that will go in a box that comes from ‘cows are raised on CAFOs.’ It is a cascading consequence.”</li> </ul> </li> <li>• Ask students to discuss with an elbow partner:             <ul style="list-style-type: none"> <li>* “What words in the text tell you that cheap meat is a consequence of CAFOs?”</li> </ul> </li> <li>• Cold call students to share their responses with the whole group. Listen for: “thanks to CAFOs.”</li> <li>• Explain that the text often gives clues, like “thanks to CAFOs,” about where a consequence should go on the chart.</li> </ul>	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"><li>• Continue your think-aloud:<ul style="list-style-type: none"><li>* "Because meat is cheap, people eat a lot of meat. That consequence will go in a box coming from 'meat is cheap.'"</li></ul></li><li>• Pair students. Ask students to work with their partner to place the last four consequences from the list on the chart (manure waste from CAFOs causes toxic pollution, CAFOs increase bacteria in our food, cows are forced to eat corn, and eating so much corn negatively affects their health). Encourage students to talk about why they are placing each consequence in a particular place on the chart.</li><li>• After about 3 minutes, cold call students to share out where they placed each consequence and why.</li><li>• Using students' answers and the Industrial Food Chain Cascading Consequences chart using pages 48 and 49 (for teacher reference), add these four consequences to the class Industrial Food Chain Cascading Consequences chart on the board.</li><li>• Point out that there is not only one way to create a Cascading Consequences chart from a text. People may disagree as to the exact location of a consequence and whether it is direct or indirect. It's important to pay attention to textual clues. But it is OK if students' charts are slightly different if they can argue why they placed things where they did.</li><li>• Direct students to make changes to their own chart that they think are necessary based on what you added to the class chart.</li></ul>	



Work Time (continued)	Meeting Students' Needs
<p><b>B. Guided Practice: Partner Work to Add to the Cascading Consequences Chart Using Pages 55 and 56 (10 minutes)</b></p> <ul style="list-style-type: none"> <li>Remind students of the steps you took to build the Cascading Consequences chart:               <ol style="list-style-type: none"> <li>Reread the section of the text, looking for consequences of the industrial food chain.</li> <li>Use the text to create a list of consequences of the industrial food chain, including page numbers.</li> <li>Add each consequence to the Cascading Consequences chart, deciding what it is a direct consequence and what is an indirect or “cascading” consequence.</li> </ol> </li> <li>Invite students to work with their partner to add to their charts using the section of <i>The Omnivore's Dilemma</i> titled “Cattle Eating Cattle,” pages 55 and 56.</li> <li>As students work, circulate to observe and assist them. Ask:               <ul style="list-style-type: none"> <li>* “Why did you place this consequence where you did?”</li> <li>* “How do you know this is a consequence of this?”</li> </ul> </li> <li>See the <b>Industrial Food Chain Cascading Consequences Chart with additions from pages 55 and 56 (for teacher reference)</b> in supporting materials for guidance on how the charts could look.</li> <li>Invite one partnership to explain what they added to the Industrial Food Chain Cascading Consequences chart. Add these additions to the class chart on the board as they speak. During the explanation, cold call other students to answer the following questions:               <ul style="list-style-type: none"> <li>* “Did you identify the same consequence as the presenting partnership? Why or why not?”</li> <li>* “Would you make any changes to this? What would you change? Why?”</li> </ul> </li> <li>After discussing the presenting partnership's additions to the chart, ask students to work with their own partner to revise their Cascading Consequences chart.</li> <li>Cold call two or three students to explain how they revised their chart and why.</li> </ul>	<ul style="list-style-type: none"> <li>Some students may benefit from having their texts pre-highlighted to help them focus on the specifics they need.</li> <li>Students will benefit from wait time, and maybe even making some notes, before you cold call on specific students to answer. This allows all students the thinking time they need to participate.</li> </ul>



Work Time (continued)	Meeting Students' Needs
<p><b>C. Application: Partner Work to Add to the Cascading Consequences Chart Using a New Excerpt (6 minutes)</b></p> <ul style="list-style-type: none"><li>Each partnership should be assigned one text excerpt to use to add to the Industrial Food Chain Cascading Consequences chart during this work time and for homework. Excerpt 1: pages 20–28 Excerpt 2: pages 31–39 Excerpt 3: pages 56–63 Excerpt 4: pages 76–84</li><li>Explain that they will share their additions to the chart in the beginning of the next lesson to add to the class chart.</li><li>Remind students again that the steps they should follow are:<ol style="list-style-type: none"><li>Read to look for consequences</li><li>Create a list of consequences including page numbers.</li><li>Add the consequences to the Cascading Consequences chart.</li></ol></li><li>Remind them that they also have their <b>Industrial Food Chain graphic organizer</b> from Unit 1 that they may want to use to add consequences to the chart.</li><li>Invite students to take the consequences they have listed so far and add them to their cascading consequences chart. They will share these additions during the Debrief in a few minutes.</li></ul>	<ul style="list-style-type: none"><li>Look carefully at the excerpts to match them to specific partnerships.</li></ul>



Closing and Assessment	Meeting Students' Needs
<p><b>A. Debrief (5 minutes)</b></p> <ul style="list-style-type: none"><li>• Invite students to find a new partner who was assigned the same text excerpt and follow these steps:<ol style="list-style-type: none"><li>1. Show your Cascading Consequences chart to your partner, pointing out the parts you just added.</li><li>2. Share with your partner one box you feel very sure of. Explain why you are confident in this.</li><li>3. Share with your partner one box you are unsure of. Explain why you are unsure.</li><li>4. Ask your partner for any guidance with the answer you are unsure of.</li></ol></li><li>• Invite students to return to their original partners, share new insights, and revise their Cascading Consequences chart if they think it's necessary.</li></ul>	
Homework	Meeting Students' Needs
<ul style="list-style-type: none"><li>• Finish adding to your Industrial Food Chain Cascading Consequences chart using your text excerpt.</li></ul>	





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# Grade 8: Module 4: Unit 2: Lesson 1

## Supporting Materials



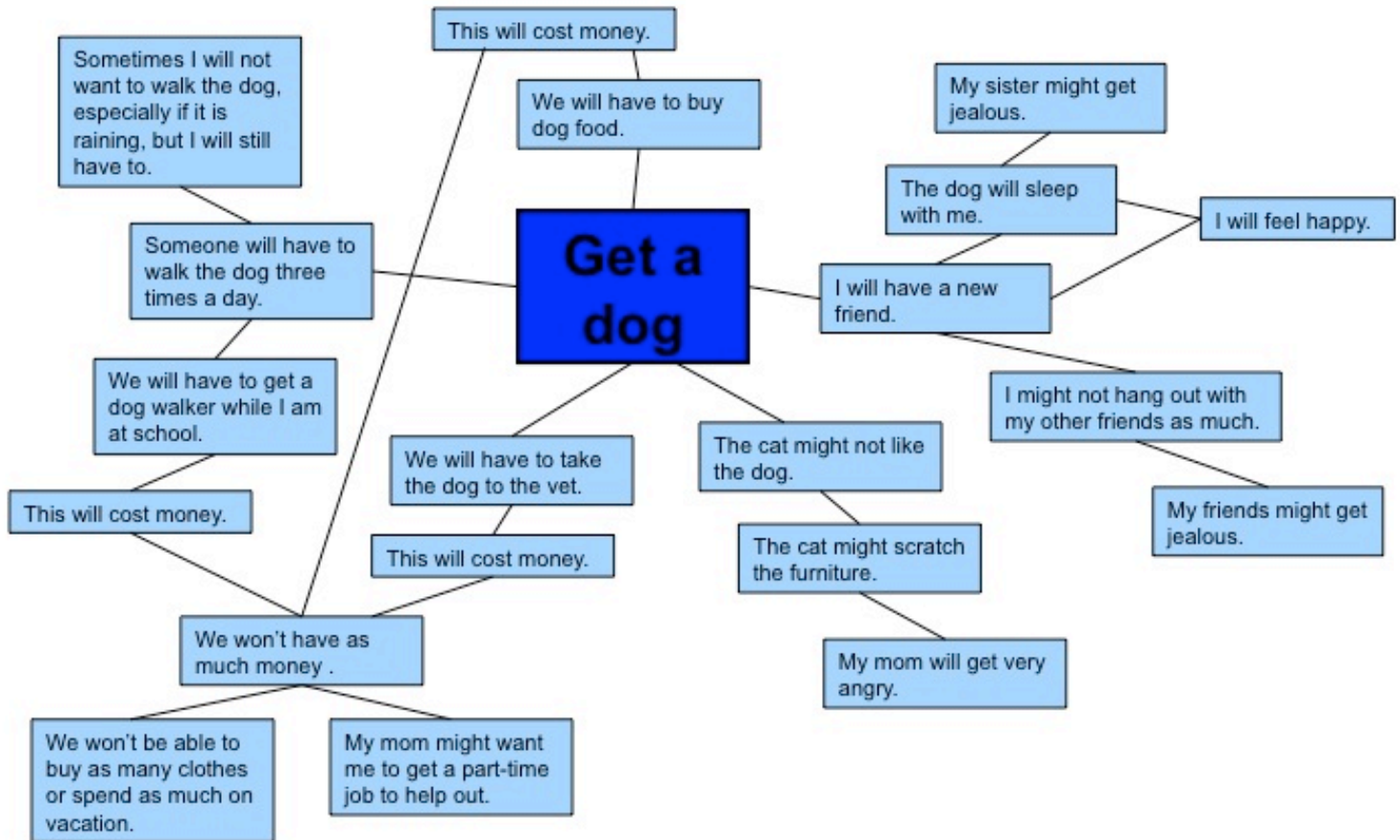
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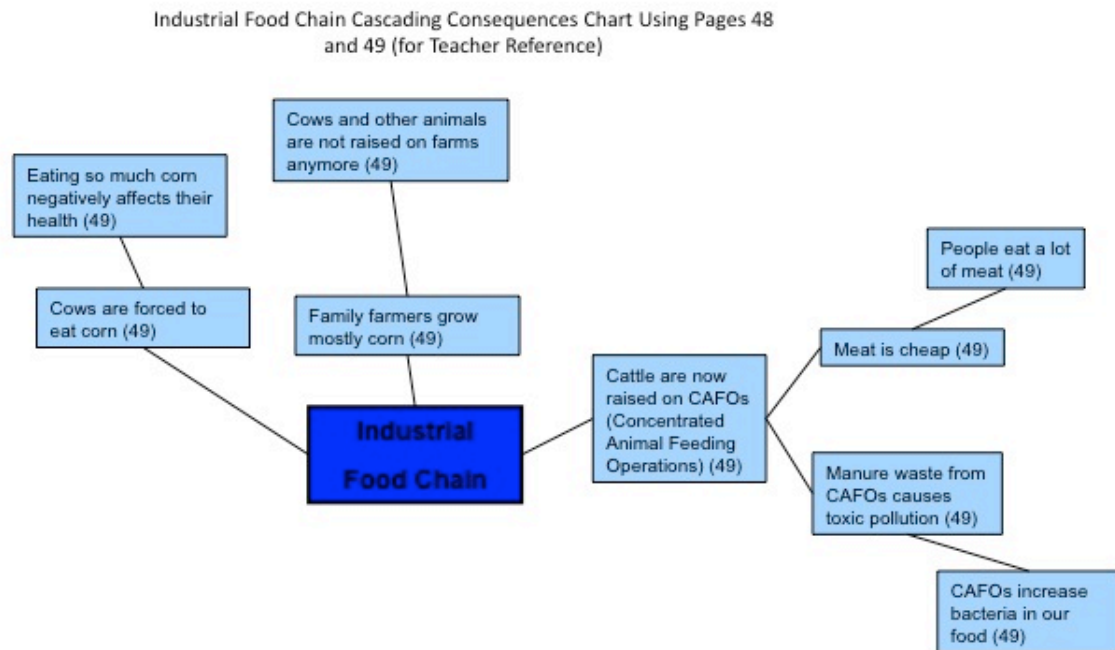
## Sample Cascading Consequences Chart for Getting a Dog

### Getting a Dog Sample Cascading Consequences Chart





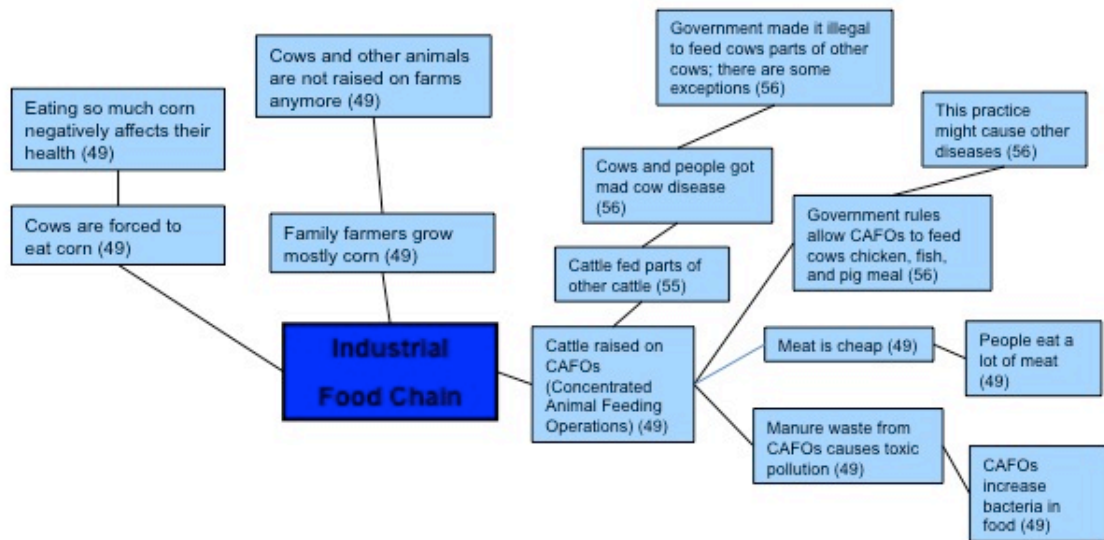
## Industrial Food Chain Cascading Consequences Chart Using Pages 48 and 49 (For Teacher Reference)





Industrial Food Chain Cascading Consequences Chart with  
Additions from Pages 55 and 56  
(For Teacher Reference)

Industrial Food Chain Cascading Consequences Chart with Additions  
from Pages 55 and 56 (for Teacher Reference)





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# **Grade 8: Module 4: Unit 2: Lesson 2**

## **Preparing for Further Research: Industrial Food Chain**



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can conduct short research projects to answer a question (including a self-generated question). (W.8.7) I can generate additional research questions for further exploration. (W.8.7)	
Supporting Learning Targets	Ongoing Assessment
<ul style="list-style-type: none"><li>• I can develop a supporting research question to help me focus my research.</li><li>• I can evaluate research sources to choose the most appropriate one to answer my supporting research question.</li></ul>	



Agenda	Teaching Notes
<ol style="list-style-type: none"> <li>1. Opening               <ol style="list-style-type: none"> <li>A. Whole Group Share (10 minutes)</li> <li>B. Unpacking the Learning Targets (5 minutes)</li> </ol> </li> <li>2. Work Time               <ol style="list-style-type: none"> <li>A. Mini Lesson: Criteria of a Supporting Research Question (10 minutes)</li> <li>B. Guided Practice: Developing a Supporting Research Question (8 minutes)</li> <li>C. Evaluate Resources in Research Folders (8 minutes)</li> </ol> </li> <li>3. Closing and Assessment               <ol style="list-style-type: none"> <li>A. Debrief (4 minutes)</li> </ol> </li> <li>4. Homework               <ol style="list-style-type: none"> <li>A. Read your resource for the gist in preparation for the next lesson.</li> </ol> </li> </ol>	<ul style="list-style-type: none"> <li>• This lesson gives students an introduction to the research process they will use throughout the unit. Once students have an overall picture of the research process, the lesson focuses on the skill of writing supporting research questions. Students are given a chance to think about what makes a good supporting research question before seeing the criteria. They also have a chance to practice writing a question and to decide whether questions meet the criteria.</li> <li>• For this food chain (industrial), students are given research folders containing research resources to choose from. There are two reasons for this. First, it allows students to work with high-quality supporting research questions before they write their own to use with the next food chain. And secondly, it ensures that the supporting research questions match the resources provided in the research folders. In the three other food chains, students will find their own resources on the internet to answer their own supporting research question.</li> <li>• There are a lot of supporting materials for this lesson. Many of the materials are for the research folders. Separate the materials for the research folders from the other resources to make this more manageable.</li> <li>• Note the difference in terms. The focus question is the question students answer in a position speech at the end of the unit and in a position paper in Unit 3. The research question (What are the consequences of each of Michael Pollan's four food chains?) sets the purpose for the research and thinking students do throughout the unit. The supporting research questions are different for each student and each food chain. These questions provide students with a focus to both find a source and guide their reading.</li> <li>• The researcher's roadmap (see supporting materials) is a tool that will be referred to throughout the unit to help students understand how the steps they take are part of a larger research process. Consider posting a large version of the researcher's roadmap on your classroom wall, either by using a large-scale printer/copier or by hand-writing on large paper.</li> <li>• In advance:               <ul style="list-style-type: none"> <li>– On a classroom wall, near the focus question (posted in Lesson 1), post the research question: What are the consequences of each of Michael Pollan's four food chains?</li> <li>– Group students into research teams made up of four students per team and post the teams list somewhere in the classroom. Students will work with these research teams throughout Unit 2. Considering using mixed-ability grouping to support all students.</li> </ul> </li> </ul>



Agenda	Teaching Notes (continued)
	<ul style="list-style-type: none"><li>– Consider putting Question Set A on paper that is a different color from that used for Question Set B. This will help students find a partner more easily.</li><li>– Prepare the research folders (one per research team) by placing one copy of each article (see research folder table of contents), one copy of the table of contents, and one glossary in each folder. All items can be found in supporting materials.</li><li>– Prepare the Good Supporting Research Questions Are ... anchor chart (see supporting materials).</li></ul>

Lesson Vocabulary	Materials
	<ul style="list-style-type: none"><li>• Industrial Food Chain Cascading Consequences charts (students' own developed on blank paper, and one developed on chart paper with the whole group; from Lesson 1)</li><li>• Industrial Food Chain Cascading Consequences chart with additional text excerpts (for teacher reference)</li><li>• <i>The Omnivore's Dilemma</i> (book; distributed to each student in Unit 1)</li><li>• Researcher's roadmap (one per student and a larger version to display)</li><li>• Question Set A (one for half of the students)</li><li>• Question Set B (one for the other half of the students)</li><li>• Good Supporting Research Questions Are ... anchor chart (one for display; see supporting materials)</li><li>• List of supporting research questions (one per student)</li><li>• Research folder (one per research team and one for display; put together by teacher) containing:<ul style="list-style-type: none"><li>– Table of contents (one per research folder)</li><li>– Glossary of terms for research articles (one set per research folder)</li><li>– Articles (enough of each article for one per <i>student</i>)</li></ul></li></ul>





Opening	Meeting Students' Needs
<p><b>A. Whole Group Share (10 minutes)</b></p> <ul style="list-style-type: none"> <li>• Tell students to take out the <b>Industrial Food Chain Cascading Consequences charts</b> (that they started on blank paper in Lesson 1), to which they added for homework.</li> <li>• Remind students that a consequence is an effect, result, impact, or outcome of something occurring earlier.</li> <li>• Invite four students (one from each text excerpt) to share out one branch that they added to the Cascading Consequences chart for homework with an explanation of why they connected the boxes the way they did.</li> <li>• Give students an example of how you want their share-out to sound. For example, you might say: <ul style="list-style-type: none"> <li>* “I read Excerpt 2, pages 31–39. One branch I added started with the box ‘Depends highly on fossil fuels,’ from page 31. I put it coming directly from the Industrial Food Chain box because it means that the entire food chain depends on fossil fuels. I added just one other box to the branch: ‘Industrial farms are not efficient in terms of calories in vs. calories out,’ from page 32. This is a direct effect of the use of fossil fuels, so it comes from that box.”</li> </ul> </li> <li>• As they share, add the boxes to the class chart. Invite all students to add the same boxes to their own Cascading Consequences charts. The <b>Industrial Food Chain Cascading Consequences chart with additional text excerpts (for teacher reference)</b> gives an idea of what students might have added for homework. When you ask students to share out, they should NOT report every box they added, because this will take too long. They will report just one branch of their chart, and you will add those boxes to the class chart you have displayed. Remind students that the consequences should be cascading—one main consequence, which then causes another consequence, and another, and so on and so forth. Note: The class version will not be as detailed as the Industrial Food Chain Cascading Consequences chart with additional text excerpts (for teacher reference).</li> <li>• The following consequences should definitely be added to the class chart because they are the topics that students will research later in the lesson using their research folders. In the Cascading Consequences Chart with additional text excerpts (for teacher reference), they are outlined with a thick black border. If these boxes are not added by the four students who share out, add them now and direct students to refer to the appropriate pages of <i>The Omnivore’s Dilemma</i> and guide students carefully in adding to the Cascading Consequences chart: <ul style="list-style-type: none"> <li>– Cattle raised on CAFOs (Concentrated Animal Feeding Operations)</li> <li>– Companies create genetically modified seed (GMO) to increase yields</li> <li>– Government policies keep prices of corn low</li> <li>– Antibiotics are given</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Mixed-ability grouping of students for discussion about research, cascading consequences, and stakeholders will provide a collaborative and supportive structure. Determine these groups ahead of time.</li> <li>• You might also decide to create homogeneous groups, which allows advanced learners to interact with similar peers while the teacher works directly with those who need it most.</li> </ul>



Opening (continued)	Meeting Students' Needs
<p><b>B. Unpacking the Learning Targets (5 minutes)</b></p> <ul style="list-style-type: none"> <li>• Direct students to the focus question posted in the classroom—the question they will be answering at the end of this unit in a speech and in the next unit in a position paper—and read it aloud:             <ul style="list-style-type: none"> <li>* “Which of Michael Pollan’s four food chains would best feed all the people in the United States?”</li> </ul> </li> <li>• Remind students that the purpose of the Cascading Consequences charts and the research they are doing is to gather evidence to be able to answer this question orally at the end of Unit 2 and in writing in Unit 3. Explain that to help them answer this focus question through research in this unit, they are going to answer the following research question. Direct students’ attention to the research question now posted in the classroom, and read it aloud:             <ul style="list-style-type: none"> <li>* “What are the consequences of each of Michael Pollan’s four food chains?”</li> </ul> </li> <li>• Distribute the <b>researcher’s roadmap</b> and direct students’ attention to the large researcher’s roadmap posted on the wall. Invite students to read the researcher’s roadmap silently to themselves and answer the questions:             <ul style="list-style-type: none"> <li>* “What do you notice? What do you wonder?”</li> </ul> </li> <li>• Cold call several students to share their responses.</li> <li>• Ask students to Think-Pair-Share with an elbow partner:             <ul style="list-style-type: none"> <li>* “What steps have we already accomplished? Where do you think we need to go next?”</li> </ul> </li> <li>• Listen for students to say that the class has set a purpose for their research with the research question that they used with <i>The Omnivore’s Dilemma</i> in the last lesson to gather background information on their Cascading Consequences charts, and that they now need to generate supporting research questions.</li> <li>• Read the learning targets out loud:             <ul style="list-style-type: none"> <li>* “I can develop a supporting research question to help me focus my research.”</li> <li>* “I can evaluate research sources to choose the most appropriate one to answer my supporting research question.”</li> </ul> </li> </ul> <p>Explain to students that they will spend the first half of today’s lesson thinking about how to create good supporting research questions and the second half of the class using a supporting research question to choose an article for further research on one of the topics in the Cascading Consequences chart.</p>	<ul style="list-style-type: none"> <li>• ELLs might benefit from seeing a graphic representation of each of the four food chains. If you create these, keep them visible throughout the unit.</li> <li>• You might focus students who need additional support on one section of the researcher’s roadmap at a time.</li> </ul>



Work Time	Meeting Students' Needs
<p><b>A. Mini Lesson: Criteria of a Supporting Research Question (10 minutes)</b></p> <ul style="list-style-type: none"><li>• Explain that coming up with more specific questions to focus your research can help you find the right sources to use. It also helps you know exactly what you are looking for as you read a source.</li><li>• Explain that the purpose of the next activity—Which Question Is Best?—is to start thinking about the criteria of a good supporting research question.</li><li>• Distribute <b>Question Set A</b> to half of the class and <b>Question Set B</b> to the other half of the class.</li><li>• Invite students to read the directions listed beneath their questions with you.</li><li>• Invite students to return to their seats and Think-Pair-Share with an elbow partner:<ul style="list-style-type: none"><li>* “What makes a good supporting research question and why?”</li></ul></li><li>• Cold call several partnerships to share their thinking.</li><li>• Display the <b>Good Supporting Research Questions Are ... anchor chart</b>. Use student answers and this criteria list to explain the three key criteria for good supporting research questions.</li><li>• Post research teams and invite students to quickly move to sit with their new research teams.</li></ul>	<ul style="list-style-type: none"><li>• Some students may benefit from having sentence stems or a word bank during this conversation.</li></ul>



Work Time (continued)	Meeting Students' Needs
<p><b>B. Guided Practice: Developing a Supporting Research Question (8 minutes)</b></p> <ul style="list-style-type: none"><li>• Direct students to consult with their research teams to decide who will be responsible for researching each of the four topics: CAFOs (Concentrated Animal Feeding Operations), Genetically Modified Seed, Cheap Food and Farm Subsidies, and Antibiotics and the Meat Industry.<ul style="list-style-type: none"><li>– Note: Consider using the Numbered Heads checking for understanding technique to help teams decide which topic to research. Research teams assign each of the students a number, 1 through 4. Then the teacher calls out one of those numbers. The person with that number gets to make the choice first. The teacher then calls out the other numbers one at a time so each student can make his or her choice. This is a fair way of choosing topics within the research teams and can be repeated for the other three food chains.</li></ul></li><li>• Invite students to draft a supporting research question for the topic they have been assigned by their research team, keeping in mind the displayed Good Supporting Research Questions Are ... anchor chart.</li><li>• Invite two or three students to share the question they drafted. For each question, ask the whole group:<ul style="list-style-type: none"><li>* “Does this supporting research question meet the criteria on the criteria list?”</li></ul></li><li>• Cold call one or two students to explain their thinking. Add any explanation you think is necessary.</li><li>• Distribute the <b>list of supporting research questions</b>, organized by topic.</li><li>• Invite students to choose the question for their assigned topic that is closest to the one they created or that is the most interesting to them. Direct them to circle the question they choose.</li><li>• Once they have chosen their question, invite students to Think-Pair-Share with an elbow partner about the following question:<ul style="list-style-type: none"><li>* “How does this question meet the criteria for a good supporting research question in our anchor chart?”</li></ul></li></ul>	<p>Invite any students who need support drafting their research question to the “help desk”—a place in the classroom where the teacher or supporting adult is available to talk over students’ ideas with them.</p>



Work Time (continued)	Meeting Students' Needs
<p><b>C. Evaluate Resources in Research Folders (8 minutes)</b></p> <ul style="list-style-type: none"><li>• Using one <b>research folder</b> as a model, show students how they are organized. Consider displaying the research folder <b>table of contents</b>.</li><li>• Explain that each topic has two articles and that it is up to the students to carefully choose which article of the two will best answer their supporting research question.</li><li>• Post these steps for choosing a research article from the folder and invite students to read them with you:<ul style="list-style-type: none"><li>– Step 1: Find the two articles in the research folder for your topic.</li><li>– Step 2: Scan the title, headings, picture (if any), and general structure of the article.</li><li>– Step 3: Based on the text features, choose the article that seems like it will best answer your supporting research question.</li><li>– Step 4: Read the first couple of paragraphs for the gist. If the first couple of paragraphs suggest that it contains possible answers to your supporting research question, keep this article. If the first paragraph makes you think that the article may not answer your question, choose the other article.</li></ul></li></ul>	<ul style="list-style-type: none"><li>• During this time, you might allow students to read aloud to one another as needed. In addition, if articles are available in electronic form, some students might use technology to hear them for the gist.</li></ul>



Closing and Assessment	Meeting Students' Needs
<p><b>A. Debrief (4 minutes)</b></p> <ul style="list-style-type: none"><li>• Once again, direct students to the large researcher's roadmap posted on the wall. Explain that throughout the unit, anchor charts for specific research skills will be posted next to the roadmap. These are the skills they will be assessed on in the mid-unit assessment. In this debrief, they will add to the Good Supporting Research Questions Are ... anchor chart.</li><li>• Review today's learning targets.</li><li>• Invite students to Think-Pair-Share:<ul style="list-style-type: none"><li>* "Why do we use supporting research questions in our research?"</li><li>* "What makes a good supporting research question?"</li></ul></li><li>• As students share out the answer to the second question, add to the Good Supporting Research Questions Are ... anchor chart. On the chart write:<ul style="list-style-type: none"><li>* "Focused on a particular aspect of your topic (consequences)"</li><li>* "Answerable"</li><li>* "Relevant to the topic"</li></ul></li><li>• Preview the homework with students.</li></ul>	
Homework	Meeting Students' Needs
<ul style="list-style-type: none"><li>• Read your resource for the gist in preparation for the next lesson.</li></ul>	<ul style="list-style-type: none"><li>• Some students may need to hear their articles for the gist.</li></ul>



EXPEDITIONARY  
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# Grade 8: Module 4: Unit 2: Lesson 2

## Supporting Materials

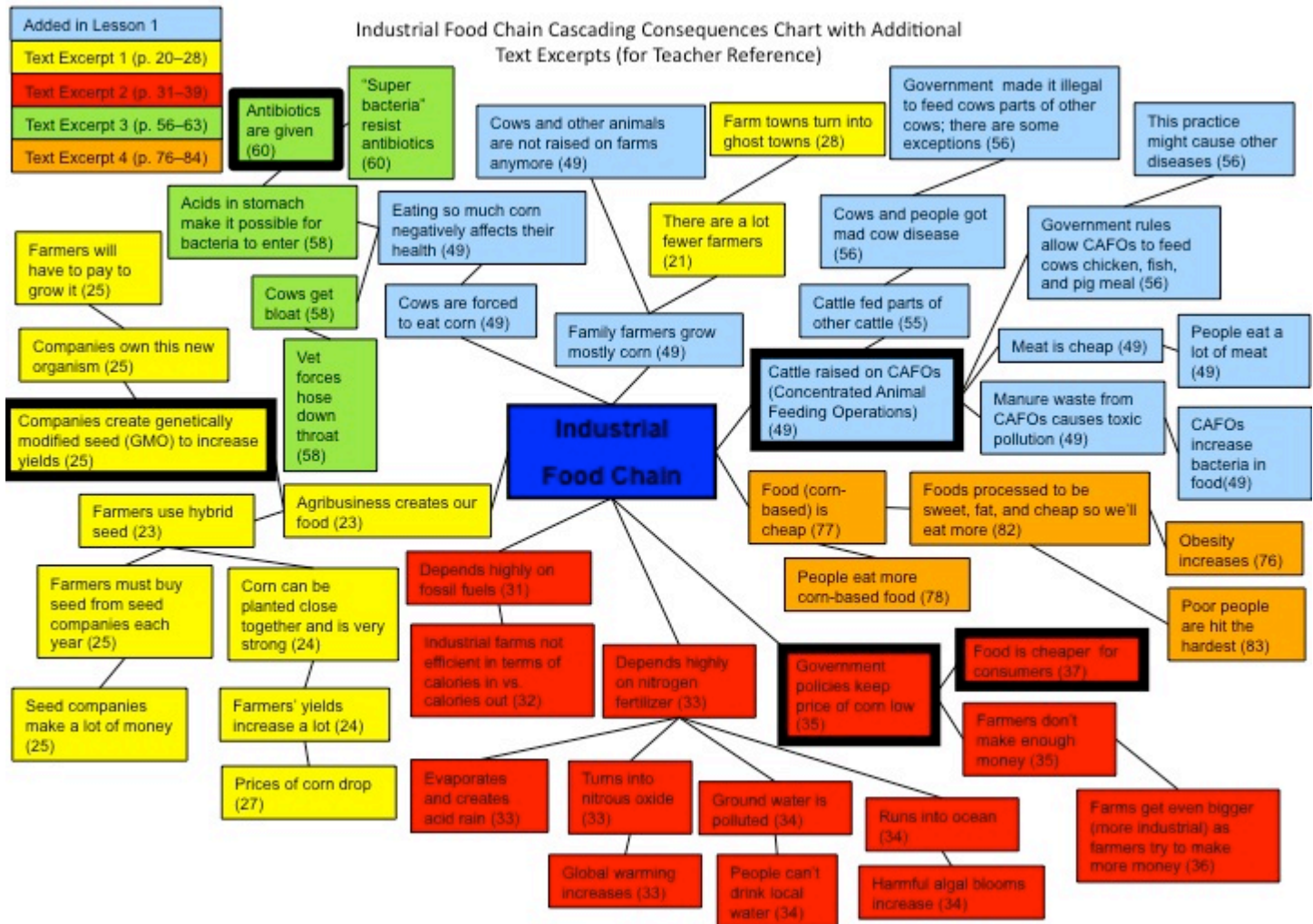


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## Industrial Food Chain Cascading Consequences Chart with Additional Text Excerpts For Teacher Reference

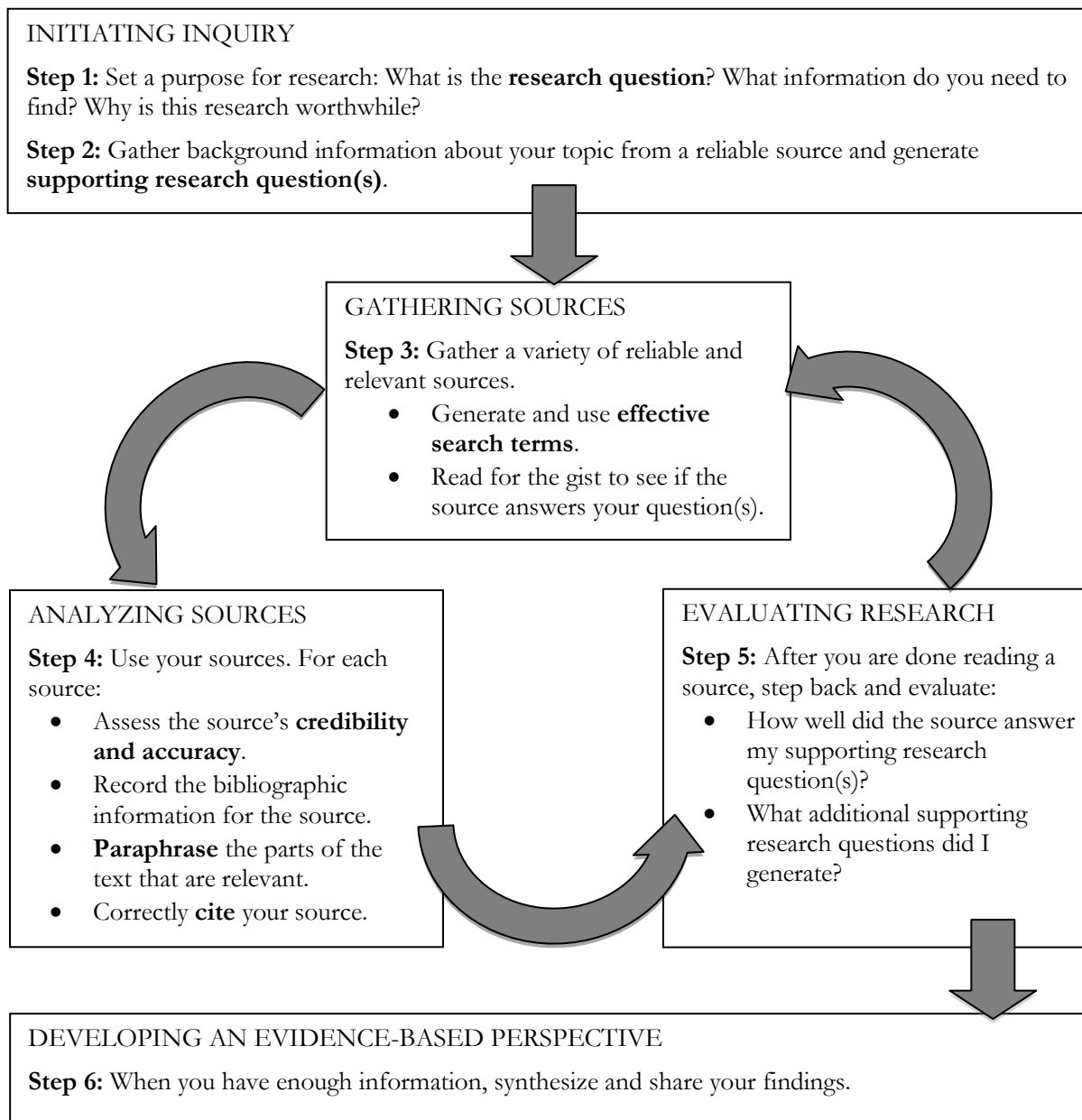






## Researcher's Roadmap

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.





Question Set A

**Question 1:**

How is nitrogen fertilizer made?

**Question 2:**

Do we have genetically modified organisms in the food we eat now?

**Question 3:**

What are conditions like for animals on CAFOs?

**Steps for Which Question Is Best?**

**Step 1:** Move around the room to find a partner who has a different question set from yours. (If you have Question Set A, your partner should have Question Set B.)

**Step 2:** With your partner, take turns reading Question 1 aloud.

**Step 3:** Discuss which question is the better supporting research question for your work and why.



Question Set B

**Question 1:**

How does nitrogen fertilizer affect oceans?

**Question 2:**

Will we have genetically modified organisms in the food we eat in the future?

**Question 3:**

Are there other countries that have Concentrated Animal Feeding Operations (CAFOs)?

**Steps for Which Question Is Best?**

Step 1: Move around the room to find a partner who has a different question set from yours. (If you have Question Set A, your partner should have Question Set B.)

Step 2: With your partner, take turns reading Question 1 aloud.

Step 3: Discuss which question is the better supporting research question for your work and why.



## Good Supporting Research Questions Are...

### Focused on a particular aspect of your topic

No: How is nitrogen fertilizer made?

Yes: How does nitrogen fertilizer affect oceans?

Ask yourself: “Is my question going to help me get more information about the CONSEQUENCES of a particular topic from the Cascading Consequences chart?”

### Answerable

No: Will our food come from genetically modified seed in the future?

Yes: Does the food we eat now come from genetically modified seed?

Ask yourself: “Can I realistically find information to answer this question?”

### Relevant to the topic

No: Are there other countries that have Concentrated Animal Feeding Operations (CAFOs)?

Yes: What are conditions like for animals on CAFOs?

Ask yourself: “Will my question help me answer our research question and our focus question?”



### List of Supporting Research Questions

#### **CAFOs (Concentrated Animal Feeding Operations)**

- What pollution comes from CAFOs?
- How do CAFOs affect the communities around them?
- What are the benefits of CAFOs?
- What are the negative effects of CAFOs?

#### **Genetically Modified Seed**

- What have studies shown about the safety of genetically modified crops for our health?
- What are the positive effects of genetically modified crops?
- What are problems with genetically modified crops?

#### **Cheap Food and Farm Subsidies**

- Why is unhealthy food cheaper?
- What are the positive effects of farm subsidies?
- What are the problems with farm subsidies?

#### **Antibiotics and the Meat Industry**

- What are the positive effects of using antibiotics in the meat industry?
- What are the negative effects of using antibiotics in the meat industry?
- What have studies shown about the connection between antibiotics given to animals in feedlots and human health?



Research Folder  
Table of Contents

Topic	Articles
<b>CAFOs (Concentrated Animal Feeding Operations)</b>	Article 1: Understanding Concentrated Animal Feeding Operations and Their Impact on Communities (pages 2–3: Benefits and Environmental Health Effects of CAFOs)
	Article 2: The Economic Impact of the Indiana Livestock Industry
<b>Genetically Modified Seed</b>	Article 1: Genetically Engineered Crops—What, How, and Why
	Article 2: Drought and Superbugs Devastate U.S. Corn Crop
<b>Cheap Food and Farm Subsidies</b>	Article 1: The Cultivation of Agricultural Subsidies (pages 8–9: Instant Expert: Subsidies Edition)
<b>Antibiotics and the Meat Industry</b>	Article 1: Antibiotic Debate Overview
	Article 2: The Meat Industry’s Argument

## CAFOs (Concentrated Animal Feeding Operations)

### Article 1:

#### UNDERSTANDING CONCENTRATED ANIMAL FEEDING OPERATIONS

The 2003 CAFO rule was subsequently challenged in court. A Second Circuit Court of Appeals decision required alteration to the CAFO permitting system. In *Water Keeper et al. vs. the EPA*, the court directed the EPA to remove the requirement for all CAFOs to apply for NPDES. Instead, the court required that nutrient management plans be submitted with the permit application, reviewed by officials and the public, and the terms of the plan be incorporated into the permit.

As a result of this court decision, the CAFO rule was again updated. The current final CAFO rule, which was revised in 2008, requires that only CAFOs which discharge or propose to discharge waste apply for permits. The EPA has also provided clarification in the discussion surrounding the rule on how CAFOs should assess whether they discharge or propose to discharge. There is also the opportunity to receive a no discharge certification for CAFOs that do not discharge or propose to discharge. This certification demonstrates that the CAFO is not required to acquire a permit. And while CAFOs were required to create nutrient management plans under the 2003 rule, these plans were now included with permit applications, and had a built-in time period for public review and comment.

#### Benefits of CAFOs

When properly managed, located, and monitored, CAFOs can provide a low-cost source of meat, milk, and eggs, due to efficient feeding and housing of animals, increased facility size, and animal specialization. When CAFOs are proposed in a local area, it is usually argued that they will enhance the local economy and increase employment. The effects of using local materials, feed, and livestock are argued to ripple throughout the economy, and increased tax expenditures will lead to increase funds for schools and infrastructure.

#### Environmental Health Effects

The most pressing public health issue associated with CAFOs stems from the amount of manure they produce. CAFO manure contains a variety of potential contaminants. It can contain plant nutrients such as nitrogen and phosphorus, pathogens such as *E. coli*, growth hormones, antibiotics, chemicals used as additives to the manure or to clean equipment, animal blood, silage leachate from corn feed, or copper sulfate used in footbaths for cows.

Depending on the type and number of animals in the farm, manure production can range between 2,800 tons and 1.6 million tons a year (Government Accountability Office [GAO], 2008). Large farms can produce more waste than some U.S. cities—a feeding operation with 800,000 pigs could produce over 1.6 million tons of waste a year. That amount is one and a half times more than the annual sanitary waste produced by the city of Philadelphia, Pennsylvania (GAO, 2008). Annually, it is estimated that livestock animals in the U.S. produce each year somewhere between 3 and 20 times more manure than people in the U.S. produce, or as much as 1.2–1.37 billion tons of waste (EPA, 2005). Though sewage treatment plants are required for human waste, no such treatment facility exists for livestock waste.

While manure is valuable to the farming industry, in quantities this large it becomes problematic. Many farms no longer grow their own feed, so they cannot use all the manure they produce as fertilizer. CAFOs must find a way to manage the amount of manure produced by their animals. Ground application of untreated manure is one of the most common disposal methods due to its low cost. It has limitations, however, such as the inability to apply manure while the ground is frozen. There are also limits as to how many nutrients from manure a land area can handle. Over application of livestock wastes can overload





## CAFOs (Concentrated Animal Feeding Operations)

### Article 1:



soil with macronutrients like nitrogen and phosphorous and micronutrients that have been added to animal feed like heavy metals (Burkholder et al., 2007). Other manure management strategies include pumping liquefied manure onto spray fields, trucking it off-site, or storing it until it can be used or treated. Manure can be stored in deep pits under the buildings that hold animals, in clay or concrete pits, treatment lagoons, or holding ponds.

Animal feeding operations are developing in close proximity in some states, and fields where manure is applied have become clustered. When manure is applied too frequently or in too large a quantity to an area, nutrients overwhelm the absorptive capacity of the soil, and either run off or are leached into the groundwater. Storage units can break or become faulty, or rainwater can cause holding lagoons to overflow. While CAFOs are required to have permits that limit the levels of manure discharge, handling the large amounts of manure inevitably causes accidental releases which have the ability to potentially impact humans.

The increased clustering and growth of CAFOs has led to growing environmental problems in many communities. The excess production of manure and problems with storage or manure management can affect ground and surface water quality. Emissions from degrading manure and livestock digestive processes produce air pollutants that often affect ambient air quality in communities surrounding CAFOs. CAFOs can also be the source of greenhouse gases, which contribute to global climate change.

All of the environmental problems with CAFOs have direct impact on human health and welfare for communities that contain large industrial farms. As the following sections demonstrate, human health can suffer because of contaminated air and degraded water quality, or from diseases spread from farms. Quality of life can suffer because of odors or insect vectors surrounding farms, and property values can drop, affecting the financial stability of a community. One study found that 82.8% of those living near and 89.5% of those living far from CAFOs believed that their property values decreased, and 92.2% of those living near and 78.9% of those living far from CAFOs believed the odor from manure was a problem. The study found that real estate values had not dropped and odor infestations were not validated by local governmental staff in the areas. However, the concerns show that CAFOs remain contentious in communities (Schmalzried and Fallon, 2007). CAFOs are an excellent example of how environmental problems can directly impact human and community well-being.

### Groundwater

Groundwater can be contaminated by CAFOs through runoff from land application of manure, leaching from manure that has been improperly spread on land, or through leaks or breaks in storage or containment units. The EPA's 2000 National Water Quality Inventory found that 29 states specifically identified animal feeding operations, not just concentrated animal feeding operations, as contributing to water quality impairment (Congressional Research Service, 2008). A study of private water wells in Idaho detected levels of veterinary antibiotics, as well as elevated levels of nitrates (Batt, Snow, & Alga, 2006). Groundwater is a major source of drinking water in the United States. The EPA estimates that 53% of the population relies on groundwater for drinking water, often at much higher rates in rural areas (EPA, 2004). Unlike surface water, groundwater contamination sources are more difficult to monitor. The extent and source of contamination are often harder to pinpoint in groundwater than surface water contamination. Regular testing of household water wells for total and fecal coliform bacteria is a crucial element in monitoring groundwater quality, and can be the first step in discovering contamination issues related to CAFO discharge. Groundwater contamination can also affect surface water (Spellman &



**Glossary of Terms for Research Articles**  
(One set for each Research Folder)

<b>CAFOs (Concentrated Animal Feeding Operations)</b>	
Article 1: Understanding Concentrated Animal Feeding Operations and Their Impact on Communities (pages 2-3: Benefits and Environmental Health Effects of CAFOs)	
<b>CAFO</b>	Concentrated Animal Feeding Operation
<b>efficient</b>	operating in an effective and competent manner, with little wasted effort
<b>livestock</b>	the horses, cattle, sheep, and other useful animals kept or raised on a farm or ranch
<b>infrastructure</b>	the fundamental facilities and systems serving a country, city, or area, as transportation and communication systems, power plants, and schools
<b>contaminant</b>	something that makes impure, esp by touching or mixing; something that pollutes
<b>nutrient</b>	any of the mineral substances that are absorbed by the roots of plants for nourishment
<b>pathogen</b>	any disease-producing agent, especially a virus, bacterium, or other microorganism
<b>absorptive capacity</b>	the ability to absorb
<b>degraded</b>	lowered in quality or value
<b>odor</b>	a disagreeable smell
<b>vector</b>	an insect or other organism that transmits a pathogenic fungus, virus, bacterium, etc.
<b>validate</b>	to confirm
<b>contentious</b>	causing, involving, or characterized by argument or controversy



CAFOs (Concentrated Animal Feeding Operations)

Article 2:

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**Glossary of Terms for Research Articles**  
(One set for each Research Folder)

**CAFOs (Concentrated Animal Feeding Operations)**

**Article 2: The Economic Impact of the Indiana Livestock Industry**

<b>livestock</b>	the horses, cattle, sheep, and other useful animals kept or raised on a farm or ranch
<b>direct impact</b>	all spending by the [livestock] industry
<b>indirect impact</b>	all spending by the firms that sell goods or services to the [livestock] industry
<b>induced impact</b>	spending done by the people earning income because of the [livestock] industry
<b>wage</b>	money that is paid or received for work or services
<b>output</b>	sales
<b>salary</b>	a fixed compensation periodically paid to a person for regular work or services
<b>attributable</b>	resulting from
<b>broiler</b>	a chicken raised for food

## Genetically Modified Seed

Article 1

### Genetically Engineered Crops—What, How and Why

By Pamela Ronald | August 11, 2011

By the turn of the century, the number of people on Earth is expected to increase from the current 6.7 billion to 10 billion. How can we feed the growing population without further degrading the environment?

Because the amount of land and water is limited, it is no longer possible to simply expand farmland to produce more food. Instead, increased food production must largely take place on the same land area, while using less water. Compounding the challenges facing agricultural production are the predicted effects of climate change: flooding in some places, droughts in others and new pests and disease outbreaks.

Thus, an important goal for the US and other countries is to develop more effective land and water use policies, improved integrated pest management approaches, reduce harmful inputs, and create new crop varieties tolerant of diverse stresses.

These strategies must be evaluated in light of their environmental, economic, and social impacts—the three pillars of sustainable agriculture (Committee on the Impact of Biotechnology on Farm-Level Economics and Sustainability and National Research Council 2010).

### WHAT ARE GENETICALLY ENGINEERED CROPS?

Genetic engineering differs from conventional methods of genetic modification in two major ways: (1) genetic engineering introduces one or a few well-characterized genes into a plant species and (2) genetic engineering can introduce genes from any species into a plant. In contrast, most conventional methods of genetic modification used to create new varieties (e.g., artificial selection, forced interspecific transfer, random mutagenesis, marker-assisted selection, and grafting of two species, etc.) introduce many uncharacterized genes into the same species. Conventional modification can in some cases transfer genes between species, such as wheat and rye or barley and rye.

In 2008, the most recent year for which statistics are available, 30 genetically engineered crops were grown on almost 300 million acres in 25 countries (nearly the size of the state of Alaska), 15 of which were developing countries (James 2009). By 2015, 120 genetically engineered crops (including potato and rice) are expected to be cultivated worldwide (Stein and Rodriguez-Cerezo 2009). Half of the increase will be crops designed for domestic markets from national technology providers in Asia and Latin America.

Genetically Modified Seed

Article 1

**SAFETY ASSESSMENT OF GENETICALLY ENGINEERED CROPS**

There is broad scientific consensus that genetically engineered crops currently on the market are safe to eat. After 14 years of cultivation and a cumulative total of 2 billion acres planted, no adverse health or environmental effects have resulted from commercialization of genetically engineered crops (Board on Agriculture and Natural Resources, Committee on Environmental Impacts Associated with Commercialization of Transgenic Plants, National Research Council and Division on Earth and Life Studies 2002). Both the U.S. National Research Council and the Joint Research Centre (the European Union's scientific and technical research laboratory and an integral part of the European Commission) have concluded that there is a comprehensive body of knowledge that adequately addresses the food safety issue of genetically engineered crops (Committee on Identifying and Assessing Unintended Effects of Genetically Engineered Foods on Human Health and National Research Council 2004; European Commission Joint Research Centre 2008).

These and other recent reports conclude that the processes of genetic engineering and conventional breeding are no different in terms of unintended consequences to human health and the environment (European Commission Directorate-General for Research and Innovation 2010). This is not to say that every new variety will be as benign as the crops currently on the market. This is because each new plant variety (whether it is developed through genetic engineering or conventional approaches of genetic modification) carries a risk of unintended consequences. Whereas each new genetically engineered crop variety is assessed on a case-by-case basis by three governmental agencies, conventional crops are not regulated by these agencies.

Still, to date, compounds with harmful effects on humans or animals have been documented only in foods developed through conventional breeding approaches. For example, conventional breeders selected a celery variety with relatively high amounts of psoralens to deter insect predators that damage the plant. Some farm workers who harvested such celery developed a severe skin rash—an unintended consequence of this breeding strategy (Committee on Identifying and Assessing Unintended Effects of Genetically Engineered Foods on Human Health and National Research Council 2004).

Genetically Modified Seed

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**INSECT-RESISTANT CROPS**

“A truly extraordinary variety of alternatives to the chemical control of insects is available. Some are already in use and have achieved brilliant success. Others are in the stage of laboratory testing. Still others are little more than ideas in the minds of imaginative scientists, waiting for the opportunity to put them to the test. All have this in common: they are biological solutions, based on the understanding of the living organisms they seek to control and of the whole fabric of life to which these organisms belong. Specialists representing various areas of the vast field of biology are contributing—entomologists, pathologists, geneticists, physiologists, biochemists, ecologists—all pouring their knowledge and their creative inspirations into the formation of a new science of biotic controls.” (Carson 1962, p. 278)

In the 1960s, the biologist Rachel Carson brought the harmful environmental and human health impacts resulting from overuse or misuse of some insecticides to the attention of the wider public. Even today, thousands of pesticide poisonings are reported each year (1200 illnesses related to pesticide poisoning in California, 300,000 pesticide-related deaths globally).

This is one reason some of the first genetically engineered crops were designed to reduce reliance on sprays of broad-spectrum insecticides for pest control. Corn and cotton have been genetically engineered to produce proteins from the soil bacteria *Bacillus thuringiensis* (Bt) that kill some key caterpillar and beetle pests of these crops. Bt toxins cause little or no harm to most beneficial insects, wildlife, and people (Mendelsohn et al. 2003).

Bt toxins kill susceptible insects when they eat Bt crops. This means that Bt crops are especially useful for controlling pests that feed inside plants and that cannot be killed readily by sprays, such as the European corn borer (*Ostrinia nubilalis*), which bores into stems, and the pink bollworm (*Pectinophora gossypiella*), which bores into bolls of cotton.

First commercialized in 1996, Bt crops are the second most widely planted type of transgenic crop. Bt toxins in sprayable formulations were used for insect control long before Bt crops were developed and are still used extensively by organic growers and others. The long-term history of the use of Bt sprays allowed the Environmental Protection Agency and the Food and Drug Administration to consider decades of human exposure in assessing human safety before approving Bt crops for commercial use. In addition, numerous toxicity and allergenicity tests were conducted on many different kinds of naturally occurring Bt toxins. These tests and the history of spraying Bt toxins on food crops led to the conclusion that Bt corn is as safe as its conventional counterpart and therefore would not adversely affect human and animal health or the environment (European Food Safety Authority 2004).

Genetically Modified Seed

Article 1

Planting of Bt crops has resulted in the application of fewer pounds of chemical insecticides and thereby has provided environmental and economic benefits that are key to sustainable agricultural production. In Arizona, where an integrated pest management program for Bt cotton continues to be effective, growers reduced insecticide use by 70% and saved \$.200 million from 1996 to 2008 (Naranjo and Ellsworth 2009).

A recent study indicates that the economic benefits resulting from Bt corn are not limited to growers of the genetically engineered crop (Hutchison et al. 2010). In 2009, Bt corn was planted on .22.2 million hectares, constituting 63% of the U.S. crop. For growers of corn in Illinois, Minnesota, and Wisconsin, cumulative benefits over 14 years are an estimated \$3.2 billion. Importantly, \$2.4 billion of this total benefit accrued to non-Bt corn (Hutchison et al. 2010). This is because area-wide suppression of the primary pest, *O. nubilalis*, reduced damage to non-Bt corn. Comparable estimates for Iowa and Nebraska are \$3.6 billion in total, with \$1.9 billion for non-Bt corn. These data confirm the trend seen in some earlier studies indicating that communal benefits are sometimes associated with planting of Bt crops (Carriere et al. 2003; Wu et al. 2008; Tabashnik 2010).

Planting of Bt crops has also supported another important goal of sustainable agriculture: increased biological diversity. An analysis of 42 field experiments indicates that nontarget invertebrates (i.e., insects, spiders, mites, and related species that are not pests targeted by Bt crops) were more abundant in Bt cotton and Bt corn fields than in conventional fields managed with insecticides (Marvier et al. 2007). The conclusion that growing Bt crops promotes biodiversity assumes a baseline condition of insecticide treatments, which applies to 23% of corn acreage and 71% of cotton acreage in the United States in 2005 (Marvier et al. 2007).

Benefits of Bt crops have also been well-documented in less-developed countries. For example, Chinese and Indian farmers growing genetically engineered cotton or rice were able to dramatically reduce their use of insecticides (Huang et al. 2002, 2005; Qaim and Zilberman 2003; Bennett et al. 2006). In a study of precommercialization use of genetically engineered rice in China, these reductions were accompanied by a decrease in insecticide-related injuries (Huang et al. 2005).

Genetically Modified Seed

Article 1

Although Bt cotton is effective in reducing cotton bollworm outbreaks in China other pests that are not killed by Bt cotton are increasingly problematic (Wu Review 13 et al. 2008; Lu et al. 2010). These results confirm the need to integrate Bt crops with other pest control tactics (Tabashnik et al. 2010). In Arizona, such an integrated pest management (IPM) approach has been implemented (Naranjo and Ellsworth 2009). In Arizona's cotton IPM system, key pests not controlled by Bt cotton are managed with limited use of narrow-spectrum insecticides that promote conservation of beneficial insects (Naranjo and Ellsworth 2009). Mirids such as the Lygus bug (*Lygus hesperus*) are controlled with a feeding inhibitor, and the sweet potato whitefly (*Bemisia tabaci*) is controlled with insect growth regulators (Naranjo and Ellsworth 2009).

One limitation of using any insecticide, whether it is organic, synthetic, or genetically engineered, is that insects can evolve resistance to it. For example, one crop pest, the diamondback moth (*Plutella xylostella*), has evolved resistance to Bt toxins. This resistance occurred in response to repeated sprays of Bt toxins to control this pest on conventional (nongenetically engineered) vegetable crops (Tabashnik 1994).

These results underscore a well-known paradigm in agriculture: pest resistance will evolve if the selection pressure is high. Why then, have most Bt crops remained effective against most pests for more than a decade (Tabashnik et al. 2008; Carriere et al. 2010)? The answer is genetic diversity. The inclusion in farmers' fields of crop plants that do not make Bt toxins has helped to delay evolution of pest resistance to Bt crops (Carriere et al. 2010).

In cases where insect resistance to Bt crops has evolved, one or more conditions of this crop diversity strategy have not been met. For example, failure to provide adequate refuges of non-Bt cotton appears to have hastened resistance of pink bollworm in India (Bagla 2010). In contrast, Arizona cotton growers complied with this strategy from 1996 to 2005, and no increase in pink bollworm resistance occurred (Tabashnik et al. 2010).

In the United States, Bt cotton producing only Cry1Ac is no longer registered and has been replaced primarily by Bt cotton that produces two toxins (Carriere et al. 2010). More generally, most newer cultivars of Bt cotton and Bt corn produce two or more toxins. These multitoxin Bt crops are designed to help delay resistance and to kill a broader spectrum of insect pests (Carriere et al. 2010). For example, a new type of Bt corn produces five Bt toxins—three that kill caterpillars and two that kill beetles (Dow Agrosciences 2009).





**Genetically Modified Seed**

Article 1

Despite the success of the crop diversity strategy in delaying insect resistance to Bt crops, this approach has limitations, including the fact that not all farmers will comply. An alternative strategy entails release of sterile insects to mate with resistant insects (Tabashnik et al. 2010). Incorporation of this strategy in a multi-tactic eradication program in Arizona from 2006 to 2009 reduced pink bollworm abundance by 99%, while eliminating insecticide sprays against this pest. The success of such creative multidisciplinary integrated approaches, involving entomologists, geneticists, physiologists, biochemists, and ecologists, provides a roadmap for the future of agricultural production and attests to the foresight of Rachel Carson.

Ronald, Pamela. "Genetically Engineered Crops-What, How and Why." Scientific American. 11 Aug 2011. <http://blogs.scientificamerican.com/guest-blog/2011/08/11/genetically-engineered-crops/>

## Glossary of Terms for Research Articles

Genetically Modified Seed	
Article 1: Genetically Engineered Crops—What, How and Why	
<b>integrated pest management</b>	an ecological approach to pest management that combines understanding the causes of pest outbreaks, manipulating the crop ecosystem for pest control, and monitoring pest populations and their life cycles to determine if and when the use of pesticides is indicated
<b>tolerant</b>	able to accept or withstand unfavorable conditions or effects
<b>diverse</b>	of various kinds
<b>gene</b>	a section of a chromosome that determines the structure of a single protein or part of one, thereby influencing a particular hereditary characteristic, such as eye color, or a particular biochemical reaction
<b>conventional</b>	commonplace, ordinary
<b>consensus</b>	agreement
<b>cultivation</b>	growing
<b>adverse</b>	harmful
<b>commercialization</b>	offering for sale; making available as a commodity
<b>unintended</b>	accidental, unplanned
<b>reliance</b>	dependence
<b>transgenic</b>	of, pertaining to, or containing a gene or genes transferred from another species:



**Genetically Modified Seed**

Article 2:

*Expeditionary Learning is seeking permission for this material. We will post an updated version of the lesson once permission is granted.*



Glossary of Terms for Research Articles  
(One set for each Research Folder)

Genetically Modified Seed	
Article 2: Drought and Superbugs Devastate U.S. Corn Crop	
<b>unintended</b>	accidental, unplanned
<b>Bt corn</b>	corn that has been genetically engineered to produce proteins from the soil bacteria <i>Bacillus thuringiensis</i> (Bt) that kill some key caterpillar and beetle pests
<b>resistant</b>	able to withstand something; not affected by
<b>recourse</b>	that which may be turned to for assistance, protection, or a way out of a difficult situation
<b>infestation</b>	a harassing or troublesome invasion [of pests]
<b>cronyism</b>	the practice of favoring one's close friends
<b>dismantle</b>	to take apart; to take down



## Cheap Food and Farm Subsidies

Article 1:

*Expeditionary Learning is seeking permission for this material. We will post an updated version of the lesson once permission is granted.*

Source: <http://www-tc.pbs.org/teachers/media/pdf/access-analyze-act-economy/lesson-plans/the-cultivation-of-agricultural-subsidies/the-cultivation-of-agricultural-subsidies.pdf>

**Glossary of Terms for Research Articles**  
(One set for each Research Folder)

Cheap Food and Farm Subsidies	
Article 1: The Cultivation of Agricultural Subsidies (pages 8-9: Instant Expert: Subsidies Edition)	
<b>legislation</b>	a bill enacted into law by a governing body
<b>yield</b>	thing or amount produced
<b>revenue</b>	income; profits
<b>fluctuate</b>	to vary or change irregularly; rise and fall
<b>proponent</b>	supporter
<b>lean</b>	lacking in richness or quantity; poor
<b>guarantee</b>	a promise or assurance, especially one in writing, that something is of specified quality, content, benefit, etc
<b>domestic</b>	produced or made in one's own country
<b>fluctuation</b>	continual change from one point or condition to another
<b>stifle</b>	to hold back, end, or kill
<b>feasible</b>	possible

## Antibiotics and the Meat Industry

### Article 1:

#### Antibiotic Debate Overview

Ranchers and farmers have been feeding antibiotics to the animals we eat since they discovered decades ago that small doses of antibiotics administered daily would make most animals gain as much as 3 percent more weight than they otherwise would. In an industry where profits are measured in pennies per animal, such weight gain was revolutionary.

Although it is still unclear exactly why feeding small "sub-therapeutic" doses of antibiotics, like tetracycline, to animals makes them gain weight, there is some evidence to indicate that the antibiotics kill the flora that would normally thrive in the animals' intestines, thereby allowing the animals to utilize their food more effectively.

The meat industry doesn't publicize its use of antibiotics, so accurate information on the amount of antibiotics given to food animals is hard to come by. Stuart B. Levy, M.D., who has studied the subject for years, estimates that there are 15-17 million pounds of antibiotics used sub-therapeutically in the United States each year. Antibiotics are given to animals for therapeutic reasons, but that use isn't as controversial because few argue that sick animals should not be treated.

The biggest controversy centers around taking antibiotics that are used to treat human illnesses and administering them to food animals. There is an increasing amount of evidence suggesting that the sub-therapeutic use of antibiotics in food animals can pose a health risk to humans. If a group of animals is treated with a certain antibiotic over time, the bacteria living in those animals will become resistant to that drug. According to microbiologist Dr. Glenn Morris, the problem for humans is that if a person ingests the resistant bacteria via improperly cooked meat and becomes ill, he or she may not respond to antibiotic treatment.

Concern about the growing level of drug-resistant bacteria has led to the banning of sub-therapeutic use of antibiotics in meat animals in many countries in the European Union and Canada. In the United States, however, such use is still legal. The World Health Organization is concerned enough about antibiotic resistance to suggest significantly curbing the use of antibiotics in the animals we eat. In a recent report, the WHO declared its intention to "reduce the overuse and misuse of antimicrobials in food animals for the protection of human health." Specifically, the WHO recommended that prescriptions be required for all antibiotics used to treat sick food animals, and urged efforts to "terminate or rapidly phase out antimicrobials for growth promotion if they are used for human treatment."

## Antibiotics and the Meat Industry

### Article 1:

Although conclusive evidence directly linking the use of drugs in food animals to an increase in drug-resistant bacteria that make people sick has not been uncovered, a number of recent studies suggesting such a link concern many scientists. "There is no evidence that antibiotic resistance is not a problem, but there is insufficient evidence as to how big a problem it is," says Dr. Margaret Mellon, with the Union of Concerned Scientists.

In one study published in the New England Journal of Medicine on February 6, 2002, researchers found links that strongly suggested that the people who developed Cipro-resistant bacteria had acquired them by eating pork that were contaminated with salmonella. The report concluded that salmonella resistant to the antibiotic flouroquinone can be spread from swine to humans, and, therefore, the use of flouroquinolones in food animals should be prohibited.

Another New England Journal of Medicine study from Oct. 18, 2001, found that 20 percent of ground meat obtained in supermarkets contained salmonella. Of that 20 percent that was contaminated with salmonella, 84 percent was resistant to at least one form of antibiotic.

### **CIPRO AND BAYTRIL**

Some, including the FDA, believe the overuse of Baytril, an antibiotic used to treat sick birds, led to an increase in treatment-resistant bacterial infections in humans. Baytril is used by poultry growers to protect chickens and turkeys from E. coli infection. The size of commercial chicken flocks precludes testing and treating individual birds, so when a veterinarian diagnoses one infected bird, farmers treat the whole flock by adding the drug to its drinking water. General use of Baytril, therefore, falls in the gray area between therapeutic and sub-therapeutic.

Baytril is the sister drug to Cipro, which is used to treat and prevent anthrax as well as campylobacteriosis and salmonellosis in people. The Food and Drug Administration, doctors, and consumer groups have all urged that Baytril be removed from the market on the grounds that its use in animals may eventually compromise the power of Cipro and similar antibiotics to fight disease in humans. Cipro and Baytril belong to a class of drugs known as fluoroquinolone, among the most powerful antibiotics currently available.



Antibiotics and the Meat Industry

Article 1:

Baytril first came up for approval for use in chickens six years ago. Physicians have used fluoroquinolones to treat food-borne illness since 1986, but fluoroquinolone-resistant bacteria were rare until 1995, when the FDA approved the use of these drugs in drinking water for poultry. The FDA's rough estimate, using 1999 data, is that use of fluoroquinolones in chickens resulted in over 11,000 people that year contracting a strain of the campylobacter illness that was resistant to fluoroquinolones, contributing to unnecessarily severe disease.

When the FDA proposed pulling Baytril use in chickens a year ago due to sharp increases in resistance to fluoroquinolones in campylobacter bacteria, one of the two manufacturers voluntarily withdrew its product. The other, Bayer, did not.

Bayer officials continue to offer the human drug Cipro at reduced rates to the American public, saying that they are not convinced that the use of fluoroquinolones in animals can be blamed for increased resistance in people. Until more proof is found of the specific danger to humans, they will not withdraw their product from the chicken market.

"Antibiotic Debate Overview," from the FRONTLINE website, Modern Meat (<http://www.pbs.org/wgbh/pages/frontline/shows/meat/safe/overview.html>) © 1995 - 2013 WGBH Educational Foundation"



**Glossary of Terms for Research Articles**  
(One set for each Research Folder)

<b>Antibiotics and the Meat Industry</b> Article 1: Antibiotic Debate Overview	
<b>flora</b>	the collection of bacteria, fungi, and other microorganisms normally occurring on or in the bodies of humans and other animals: intestinal flora
<b>therapeutic</b>	of, pertaining to, or capable of healing
<b>resistant</b>	able to withstand something; not affected by
<b>terminate</b>	to end
<b>salmonella</b>	a type of bacteria that may enter the digestive tract of humans and other mammals in contaminated food and cause abdominal pains and violent diarrhea
<b>prohibit</b>	to forbid by authority or law

## Antibiotics and the Meat Industry

### Article 2:

#### THE MEAT INDUSTRY'S ARGUMENT

For its part, the meat-production industry contends that there is not enough conclusive evidence to support measures like the FDA's proposed ban against fluoroquinolones. Although none deny that the spread of antibacterial resistance is a real problem, proponents of sub-therapeutic antibiotic use in animals point out that the problem stems from overuse of all antibiotics, including therapeutic and preventative use in both animals and humans. Agricultural use may contribute to the problem, but it is impossible to determine to what extent.

In its recent report, the World Health Organization blamed the worldwide upswing in resistance to antibiotics on a combination of factors that included "overuse in many parts of the world, particularly for minor infections," and "misuse due to lack of access to appropriate treatment." The factors involved in the problem are clearly not limited to antibiotic use in animal feed.

"When someone's sick and goes to the doctor, they still expect to get a prescription," said National Chicken Council spokesman Richard Lobb. He said that people should look to themselves for the causes of antibiotic resistance, referring to the American practice of prescribing antibiotics for even the most minor of illnesses.

Increased use in hospitals may also contribute to the resistance problem. "Today, especially in intensive care wards, the amount of antibiotics in the environment can become high enough that people in the vicinity of patients receiving antibiotics are exposed continuously to low levels of antibiotics," microbiologist Abigail Salvers of University of Illinois told Scientific American. This low level of exposure, she contends, is one reason why highly resistant bacteria are developing in hospitals. She says that a similar phenomenon may be taking place in agriculture.

According to Alexander S. Matthews, president and CEO of the Animal Health Institute (AHI), removal of antibiotics from animals' feed and water "would lead to increased animal disease, a reduction in food safety and gain little, if anything, in the effort to control resistance." He suggests developing "prudent use principles."

Lowering or halting sub-therapeutic antibiotic use in animal production could have serious economic effects on the meat and poultry industry. According to a report released in May 2001 by USDA's Economic Research Service, discontinuing the use of antimicrobial drugs in hog production would initially decrease feed efficiency, raise food costs, reduce production and raise prices to consumers. According to the same report, U.S. hog producers saved about \$63 million in feed costs in 1999 due to



## Antibiotics and the Meat Industry

### Article 2:

their use of low levels of sub-therapeutic drugs; they would have suffered an estimated loss of \$45.5 million in 1999 if the drug use was banned.

Even within the industry, however, there is a growing movement to reduce at least the sub-therapeutic use of antibiotics in animals raised for food. Tyson Foods, Perdue Farms and Foster Farms, which collectively produce a third of the chicken Americans eat, recently declared their intention to greatly reduce the amount of antibiotics fed to healthy chicken. There is still no way for consumers to know whether one of these companies' chickens has been treated with antibiotics, although some corporate consumers, McDonald's, Wendy's and Popeye's among them, are refusing to buy chicken that has been treated with fluoroquinolones. Increased public pressure may cause the companies who grow animals for food to collectively decide that putting extra weight on feed animals isn't worth the possibility that they are putting consumers' health at risk.

"Antibiotic Debate Overview," from the FRONTLINE website, Modern Meat (<http://www.pbs.org/wgbh/pages/frontline/shows/meat/safe/overview.html>) © 1995 - 2013 WGBH Educational Foundation"



**Glossary of Terms for Research Articles**  
(One set for each Research Folder)

<b>Antibiotics and the Meat Industry</b>	
<b>Article 2: The Meat Industry's Argument</b>	
<b>FDA</b>	The Food and Drug Administration (a federal agency that protects the public against impure and unsafe foods, drugs, and cosmetics)
<b>resistant</b>	able to withstand something; not affected by
<b>therapeutic</b>	of, pertaining to, or capable of healing
<b>compromise</b>	to endanger the reputation or character of; jeopardize
<b>contract</b>	to get or acquire, as by exposure to something contagious



EXPEDITIONARY  
LEARNING

# **Grade 8: Module 4: Unit 2: Lesson 3**

## **Further Research: Industrial Food Chain**



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

I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)  
I can use several sources in my research. (W.8.7)  
I can gather relevant information from a variety of sources. (W.8.8)  
I can use search terms effectively. (W.8.8)  
I can evaluate the credibility and accuracy of each source. (W.8.8)  
I can quote and paraphrase others' work while avoiding plagiarism. (W.8.8)  
I can use a standard format for citation. (W.8.8)

**Supporting Learning Targets**

- I can use research skills to determine the consequences of the industrial organic food chain.
- I can devise a supporting research question to help me focus my research.
- I can identify the relevant information in a research source to answer my supporting research question.
- I can evaluate the credibility and accuracy of a source.
- I can quote and paraphrase others' work while avoiding plagiarism.

**Ongoing Assessment**

- Researcher's notebook



Agenda	Teaching Notes
<ol style="list-style-type: none"> <li>1. Opening               <ol style="list-style-type: none"> <li>A. Share the Gist in Research Teams (6 minutes)</li> <li>B. Unpacking Learning Targets (2 minutes)</li> </ol> </li> <li>2. Work Time               <ol style="list-style-type: none"> <li>A. Determine Consequences in Research Article (15 minutes)</li> <li>B. Mini Research Lesson: Review Paraphrasing (18 minutes)</li> </ol> </li> <li>3. Closing and Assessment               <ol style="list-style-type: none"> <li>A. Filling Out the Rest of the Researcher's Notebook (4 minutes)</li> </ol> </li> <li>4. Homework               <ol style="list-style-type: none"> <li>A. Finish filling out the researcher's notebook for your article, including the bibliographic information under Gathering Sources.</li> </ol> </li> </ol>	<ul style="list-style-type: none"> <li>• In this lesson, students extend their research on Pollan's industrial food chain and review paraphrasing. Students will use the article selected in Lesson 2 in their research groups (read for homework) to determine additional consequences of the food chain. These additional consequences, tracked through text coding, will help students add to the Industrial Food Chain Cascading Consequences chart in Lesson 4. The addition of other perspectives on Pollan's food chains will round out students' research and prepare them to craft their own arguments for the end of unit assessment, as well as in Unit 3.</li> <li>• Familiarize yourself with each of the research articles. This will help you guide students toward the most important consequences as they text code and paraphrase. In addition, it will allow you to take a look at students' exit slips and/or researcher's notebooks to briefly assess whether they captured the most relevant and important information from their chosen articles.</li> <li>• This lesson marks the beginning of a gradual release process; scaffolding of research in Lessons 3, 6, and 9 helps students achieve independence as they research the consequences of each of Michael Pollan's food chains. This lesson is the only time students will use research articles given to them. In Lessons 6, 9, and 13, students will conduct internet searches on their own to find articles for research. Students should be proficient in the key research skills inherent in the standards by Lesson 11, the mid-unit assessment. By Lesson 13, students will research the final food chain completely independently.</li> <li>• Since this lesson is the first time students use the researcher's notebook, take time to review and/or model the steps of the notebook as much as necessary. The researcher's notebook will be used in Lessons 3, 6, 9, and 13 to help track students' research skills and allow them the space to record important information about each food chain. The notebook follows the flow of the researcher's roadmap, with each heading matching one major step in the research process for each food chain. Questions and entries in the notebook echo the research skills anchor charts (posted alongside the researcher's roadmap), and are designed to prepare students for the mid-unit assessment.</li> <li>• Note that students will not fill out the MLA citation in their researcher's notebooks until this process has been reviewed in Lesson 7.</li> <li>• The homework in this lesson requires that students complete the researcher's notebook using the articles they read in class (if they have not done so by the end of class). This would require the students to print the articles, save them, or access them at home. Consider which option(s) would work best for your students and prepare accordingly.</li> </ul>





Agenda		Teaching Notes (continued)
		<ul style="list-style-type: none"><li>• In advance: Prepare the Paraphrasing anchor chart (see the sample chart in supporting materials); leave the “Paraphrasing Helps Us” section blank so students can contribute their answers.</li><li>• Post: Learning targets; Paraphrasing anchor chart (next to researcher’s roadmap).</li></ul>
Lesson Vocabulary	Materials	
paraphrase, consequence	<ul style="list-style-type: none"><li>• Research article on the industrial food chain (selected by students from research folders in Lesson 2, one per student)</li><li>• Article: “Nitrogen Fertilizer Is Bad Stuff—and Not Just Because It Could Blow Up Your Town” (one for display)</li><li>• Paraphrasing anchor chart (new; teacher-created; see supporting materials)</li><li>• Researcher’s notebook (one per student and one for display)</li></ul>	



Opening	Meeting Students' Needs
<p><b>A. Share the Gist in Research Teams (6 minutes)</b></p> <ul style="list-style-type: none"><li>• Ask students to take out their <b>research article on the industrial food chain</b>.</li><li>• Remind students that they read the research article they selected for homework last night. Explain that throughout today's lesson they will gain expertise on their article and present their findings to their research teams. Ask students to first share the gist of the article with their research teams one at a time. Remind students that only one group member should speak at a time, and that other members should listen respectfully. Each group member should take one minute or less to share the gist.</li><li>• Tell students that they will continue to work with the same article throughout this lesson, and that the next step will be digging deeper into the article to find some answers to the overarching research question: What are the consequences of each of Michael Pollan's food chains? Today, students will focus on the industrial food chain.</li></ul>	
<p><b>B. Unpacking Learning Targets (2 minutes)</b></p> <ul style="list-style-type: none"><li>• Refocus students on the learning targets. Read the targets aloud:<ul style="list-style-type: none"><li>* "I can use research skills to determine the consequences of the industrial organic food chain."</li><li>* "I can devise a supporting research question to help me focus my research."</li><li>* "I can identify the relevant information in a research source to answer my supporting research question."</li><li>* "I can evaluate the credibility and accuracy of a source."</li><li>* "I can quote and paraphrase others' work while avoiding plagiarism."</li></ul></li><li>• Remind students that a consequence is an effect, result, or outcome of something occurring earlier.</li><li>• Focus students on the focus question and the overarching research question, and remind students that the overarching research question requires them to research the consequences of each food chain. Explain that today they will determine some consequences of the industrial food chain by closely reading their research articles.</li><li>• Inform students that they will review paraphrasing in this lesson in order to summarize what the authors of their research articles have to say about the industrial food chain.</li></ul>	



Work Time	Meeting Students' Needs
<p><b>A. Determine Consequences in Research Article (15 minutes)</b></p> <ul style="list-style-type: none"> <li>Remind students that text coding is a process used when performing close reading to mark the parts of the text that are the most relevant to their research purposes. Tell students that they will use text coding to help them track consequences of the industrial food chain in their research article.</li> <li>Tell students you will now model text coding using an article about nitrogen fertilizer, which is used in the United States to grow big crops like corn. Explain that the article will reveal some of the consequences of using nitrogen fertilizers as part of the industrial food chain. Tell students you will capture these consequences through text coding.</li> <li>Begin by reading the title and then Paragraph 1 of the article <b>“Nitrogen Fertilizer Is Bad Stuff—and Not Just Because It Could Blow Up Your Town.”</b> Pause at the end of Paragraph 1 and think aloud for the students: <ul style="list-style-type: none"> <li>* “This seems like a consequence of the industrial food chain because the explosion happened as a result of the fertilizer, which is manufactured to grow crops at big industrial farms.”</li> </ul> </li> <li>Underline the word “explosion” and the phrases “killed 15 people and injured 200” and “obliterated the facility and destroyed houses.” Explain that you are underlining only the most important parts of the text that reveal the consequences.</li> <li>Read Paragraph 2 aloud. Pause at the end of the paragraph and think aloud for the students: <ul style="list-style-type: none"> <li>* “This paragraph says that explosion was ‘tragic,’ but I don’t think that’s a consequence or an important detail about the consequences because it is more about emotions than facts. I should be careful about including emotions in this kind of research. However, at the end of the paragraph I see a consequence of the industrial food chain: overuse of nitrogen fertilizer. Fertilizer factories have to make tons of this stuff, even though it’s risky, because industrial farms need it.”</li> </ul> </li> <li>Underline the phrase “overuse of nitrogen fertilizers on American farmland.”</li> <li>Read Paragraph 3 aloud and pause. Invite students to tell you if they see any additional consequences in this paragraph. Inform students that there are no additional consequences here. Explain that this paragraph provides background information on the origin of nitrogen fertilizer. It is important information for understanding what nitrogen fertilizer is, but it is not a consequence. Emphasize that it is normal to be tempted to underline other important information, but that they should stick to information about consequences only, as that is the information relevant to answering the research question.</li> </ul>	<ul style="list-style-type: none"> <li>During this work time, you may want to pull a small group of students to support in previously learned research skills they may struggle with.</li> <li>If many students seem less than confident about text coding after the modeling, consider modeling Paragraphs 3, 4, and 5 of the article as well, continuing to think aloud for students.</li> </ul>



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> <li>• Ask students to give a thumbs-up if they understand how to text code for consequences, a thumbs-sideways if they need clarification, or a thumbs-down if they need clarification on how to text code for consequences. Clarify and answer questions for individual students as needed.</li> <li>• Invite students to begin silently rereading and text coding their research articles for consequences of the industrial food chain. Advise students that they may need to reread their articles more than once to catch as many consequences as they can.</li> </ul>	
<p><b>B. Mini Research Lesson: Review Paraphrasing (18 minutes)</b></p> <ul style="list-style-type: none"> <li>• Ask students to discuss in teams:             <ul style="list-style-type: none"> <li>* “What does it mean to paraphrase?”</li> </ul> </li> <li>• Choose one or two volunteers to answer the question. Remind students that paraphrasing means to rewrite an author’s main points in your own words, transforming the author’s words, not simply copying them, which would be considered plagiarism.</li> <li>• Focus students on the <b>Paraphrasing anchor chart</b> and invite them to read it with you.</li> <li>• Explain that when paraphrasing in this lesson, students will paraphrase the main consequences that they have text coded in their research text, as this is the information that is most relevant to the overarching research question. Call students’ attention to the paraphrasing sentence starters on the anchor chart and invite them to read through the sentence starters with you.</li> <li>• Tell students that you will now use the criteria on the anchor chart to model how to paraphrase the text you coded earlier.</li> <li>• Display and distribute the <b>researcher’s notebooks</b> and tell students that this is where they will collect all of their research throughout this unit.</li> <li>• Invite students to read the instructions for paraphrasing underneath Analyzing the Source on Page 2 of the researcher’s notebook with you. Invite students to spend a couple of minutes looking at the first part of the researcher’s notebook, where they will record research about the industrial food chain</li> <li>• Refocus students on the “Nitrogen Fertilizer Is Bad Stuff—and Not Just Because It Could Blow Up Your Town” article. Invite student volunteers to reread Paragraphs 1 and 2 aloud. Think aloud for students:</li> </ul>	<ul style="list-style-type: none"> <li>• During this work time, you may want to pull a small group of students to support in previously learned research skills they may struggle with.</li> </ul>



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"><li>* "I already identified the consequences in these paragraphs so now I just have to write them in my own words. I think the author means that industrial farmers need fertilizer to keep growing as much food as they can. This leads to the overuse of harmful fertilizers. The fertilizers are risky to make because of the chemicals used, and in some cases the manufacturing plants can explode, injuring people and destroying property."</li><li>• Write on the displayed researcher's notebook: <i>According to Tom Laskawy, industrial farms use too much nitrogen fertilizer. Because the fertilizer is risky to make, the manufacturing plants sometimes explode, killing and injuring people and destroying property.</i></li><li>• Ask students to turn and talk to a partner about what they noticed about how you paraphrased. Listen for students to discuss which sentence starter you used, how you translated the author's words into your own, etc. Cold call on two or three volunteers to share what they or their partner noticed.</li><li>• Ask students to discuss in research teams:<ul style="list-style-type: none"><li>* "How does paraphrasing help us in our research?"</li></ul>Call on a few volunteers to share their responses and add anything new to the Paraphrasing anchor chart.</li><li>• Instruct students to begin rereading and paraphrasing the consequences that they coded in their research text and listed in their researcher's notebooks. Remind students that their text coding should guide them to the sections they should reread and paraphrase. Their paraphrasing should always be relevant to the consequences of the industrial food chain. Instruct students to aim for three paraphrased consequences.</li><li>• Circulate to assist students. Ask students questions to guide them in paraphrasing:<ul style="list-style-type: none"><li>* "Which sentence starter are you choosing? Why?"</li><li>* "What is the consequence you are paraphrasing? Why?"</li></ul></li></ul>	<ul style="list-style-type: none"><li>• During this work time, you may want to pull a small group of students to support in previously learned research skills they may struggle with.</li><li>• Some students may benefit from working with partially paraphrased information from their articles.</li></ul>



Closing and Assessment	Meeting Students' Needs
<p><b>A. Filling Out the Rest of the Researcher's Notebook (4 minutes)</b></p> <ul style="list-style-type: none"><li>• Model how to fill out the bibliographic information under the Gathering Sources section in the displayed researcher's notebook. Tell students to ignore the question that asks them to provide an MLA citation for now—this will be addressed in a later lesson.</li><li>• Invite students to begin filling out their bibliographic information in their researcher's notebooks.</li></ul>	<ul style="list-style-type: none"><li>• Consider collecting the researcher's notebooks to verify students' understanding of the articles they read.</li></ul>
Homework	Meeting Students' Needs
<ul style="list-style-type: none"><li>• Finish filling out the researcher's notebook for your article, including the bibliographic information under Gathering Sources.</li><li>• Use the consequences you recorded from your research article to add to your personal Cascading Consequences chart for the industrial food chain. Use a different color pen or pencil so that the new information you have added is clear.</li></ul>	<ul style="list-style-type: none"><li>• This homework requires the student to print the article, save it, or access it at home. Consider which option(s) would work best for your students and prepare accordingly.</li></ul>



EXPEDITIONARY  
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# Grade 8: Module 4: Unit 2: Lesson 3

## Supporting Materials



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**Article: “Nitrogen Fertilizer Is Bad Stuff—  
and Not Just Because It Could Blow Up Your Town”**

By Tom Laskawy  
REUTERS/Mike Stone

Officials in Texas continue to investigate the cause of the explosion last week at West Fertilizer that killed 15 people and injured 200. The explosion, which could be felt up to 50 miles away, obliterated the facility and destroyed houses. It was fueled by a massive stockpile of nitrogen fertilizer — up to 270 tons of ammonium nitrate, a solid fertilizer that comes in the form of a powder or pellets, and over 50,000 gallons of anhydrous ammonia gas.

But while the explosion last week was spectacular and tragic, the lives lost there and the pain the community of West, Texas, is suffering offer a window into a much larger battle concerning the overuse of nitrogen fertilizers on American farmland.

In 1909, when German chemist Fritz Haber demonstrated a process that synthesized ammonia, the main component in what was to be known as synthetic nitrogen fertilizer, it was considered a miracle. He pulled the stuff from the air, no less! He and another German scientist, Carl Bosch, who figured out how to produce ammonia at an industrial scale, won the Nobel Prize in chemistry.

In the century since, synthetic nitrogen fertilizer has displaced the traditional techniques farmers used to increase soil fertility like cover cropping and livestock manure. (Tom Philpott at Mother Jones has an in-depth look at the history of nitrogen fertilizer’s development and use.) Today, U.S. farmers apply over 11 million tons of nitrogen fertilizers to farm fields every year, mostly in the form of ammonium nitrate. The widespread use of the substance is considered part of the so-called Green Revolution, which radically increased the amount food we could grow.

The problem is that a lot of that fertilizer is wasted — more is applied than plants can absorb — and it washes out of the soil into waterways, or evaporates into the atmosphere in the form of nitrous oxide, a potent greenhouse gas. Grist ran a series on the subject in 2010 with the prescient title “Is America fertilizing disaster?”

While the series did not address the risks of explosion associated with storing nitrogen fertilizer, it did describe the main environmental and health risks. They include threats to climate, to human health through nitrate pollution in drinking water, to fish and other wildlife through fertilizer run-off



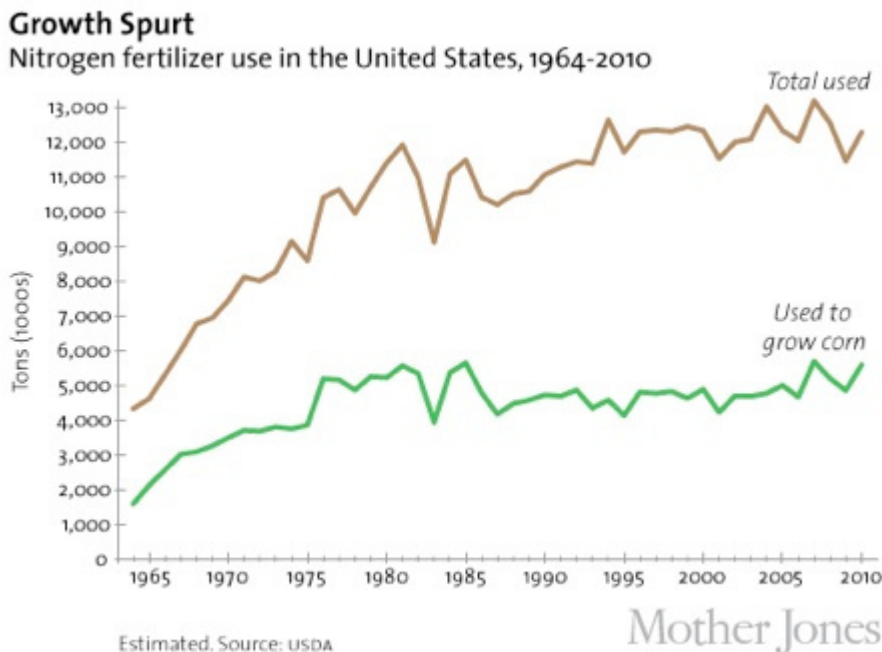
**Article: “Nitrogen Fertilizer Is Bad Stuff—  
and Not Just Because It Could Blow Up Your Town”**

causing low-oxygen “dead zones” throughout the U.S and the world, and to soil health and thus long-term agricultural productivity.

Since we published that series, the data continue to come in regarding the harm excess nitrogen fertilizer can cause. It’s poisoning the water supply of whole communities in California’s Central Valley — enough so that the state is in the early stages of more strictly regulating its agricultural use.

Nitrogen fertilizer’s precise climate impact — which back in 2010 remained unclear — has also come into focus. Nitrous oxide in the atmosphere has risen by 20 percent since the Industrial Revolution, with a good part of that increase coming in the last 50 years. Researchers recently determined that the steep increase in nitrous oxide since the 1960s is almost entirely due to the use of nitrogen fertilizer. Atmospheric carbon dioxide rates have increased around 40 percent in the same period, but nitrous oxide is around 300 times more potent as a greenhouse gas. And it’s also a major ozone-depleting chemical.

This is especially tragic when you look at this Mother Jones chart and realize that nearly half of the nitrogen fertilizer used in the U.S. goes specifically to growing corn:



Article: “Nitrogen Fertilizer Is Bad Stuff—  
and Not Just Because It Could Blow Up Your Town”

What this chart should tell you is that if we grow less corn, we’ll use less nitrogen fertilizer. The benefits of that would be significant — and not just to those who live within a stone’s throw of a fertilizer storage or production facility.

I’ve written at length about agribusiness’s reliance on corn, along with the government policies that continue to prop up production. Weaning farmers off corn won’t be easy, since the entire U.S. agricultural system seems designed to support it. It’s not that there aren’t alternatives that can work within our industrialized system. But we need farmers and politicians to accept that too much corn and too much fertilizer is a bad thing. And right now, as they say on MTV, too much is never enough.

At the moment, Mother Nature seems to be doing a fine job of encouraging farmers to plant less corn: In the wake of last year’s crop-killing drought, heavy rains and flooding in the Midwest have delayed planting and threaten the early corn crop. But bad weather and an unstable climate are only going to make the problem worse in the long term. We instead need farmers, government officials, and regulators to step up and admit we have a massive problem with nitrogen fertilizer pollution — and then take the next difficult step and do something about it.

And therein lies another lesson we can draw from the tragedy in Texas. West Fertilizer had evaded regulatory scrutiny for years — as one member of the House Homeland Security Committee put it, the company was operating “willfully off the grid.” This is a problem when you’re dealing with a substance that, when part of an explosive device, is classed as a WMD. The line between a true accident and negligence can be hard to discern, but when a company operates in a legal grey zone for decades and then has a horrible accident, it’s not unreasonable to expect negligence was involved.

Should investigators find evidence of negligence in West, Texas, one hopes the perpetrators will be brought to justice. But it would be a better legacy of the disaster — though admittedly, an unlikely one — that what one analyst called a “massive failure of the regulatory state” could in turn bring greater scrutiny not only to how nitrogen fertilizer is stored, but how it’s actually used.

Laskawy, Tom. "Nitrogen fertilizer is bad stuff-and not just because it could blow up your town." Grist. 25 April 2013. Web. <http://grist.org/climate-energy/nitrogen-fertilizer-is-bad-stuff-and-not-just-because-it-could-blow-up-your-town/>



## Paraphrasing Anchor Chart

### Paraphrasing means ...

Using your own words instead of the author's to capture the meaning.

### Paraphrasing Sentence Starters

1. According to + source + paraphrased fact

*Example: According to The New York Times, school lunches are often measured in calories, not healthfulness.*

2. Source + author writes + paraphrased fact

illustrates

notes

observes

states

reports

claims

*Example: In The Omnivore's Dilemma, Michael Pollan states that the industrial organic food chain has many of the same drawbacks as the industrial food chain.*

### Paraphrasing helps us:

- process what an author means
- remember the content of an article without having to go back and read the whole thing
- record important information
- avoid plagiarism



Researcher's Notebook

Name: \_\_\_\_\_

Date: \_\_\_\_\_

This notebook will help you gather information for the position paper you will begin writing at the end of this unit. In the paper, you will write about which of Michael Pollan's food chains would best feed the United States. In order to determine which food chain you will choose, you will research the consequences and determine the stakeholders of each food chain. This notebook will help you capture that research to inform your position paper.

Through your work in this researcher's notebook, you will practice the skills of a good researcher and demonstrate your progress toward the following learning targets:

- I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)
- I can use several sources in my research. (W.8.7)
- I can generate additional research questions for further exploration. (W.8.7)
- I can gather relevant information from a variety of sources. (W.8.8)
- I can use search terms effectively. (W.8.8)
- I can evaluate the credibility and accuracy of each source. (W.8.8)
- I can quote and paraphrase others' work while avoiding plagiarism. (W.8.8)
- I can use a standard format for citation. (W.8.8)



**RESEARCH QUESTION:**

**What are the consequences of each of Michael Pollan's four food chains?**

**I. The Industrial Food Chain—Lesson 3**

**Gathering Sources**

In your research team, you chose an article about the industrial food chain. This text and the following entries in your researcher's notebook will help you determine more consequences of the industrial food chain.

A. Track the bibliographic information for this source so you can cite it later.

Title: \_\_\_\_\_ Author: \_\_\_\_\_  
\_\_\_\_\_

Print or Digital: \_\_\_\_\_

Source Type: \_\_\_\_\_ Date of Publication: \_\_\_\_\_  
\_\_\_\_\_

Page #(s): \_\_\_\_\_

B. MLA citation:



Analyzing the Source

- A. Reread. Read your article closely and text code for consequences.
- B. After you've read and text coded, paraphrase the information about consequences you found. Use sentence starters and examples in the chart below to help you as you paraphrase.

Sentence Starter #1	According to +	source	+ paraphrased fact	Examples	According to <i>The New York Times</i> , school lunches are often measure in calories, not healthfulness.
Sentence Starter #2	Source +	writes illustrates notes observes states reports claims	+ paraphrased fact		In <i>The Omnivore's Dilemma</i> , Michael Pollan states that the industrial organic food chain has many of the same drawbacks as the industrial food chain.



## II. The Industrial Organic Food Chain—Lesson 6

### Gathering Sources

Using a task card to guide your search, you will locate an article about the industrial organic food chain. This article should help you determine more consequences of the industrial organic food chain.

**Write the question from your exit ticket here:**

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**A. Search Terms:** What search terms did you use to conduct an internet search?

Write the terms in the chart below and indicate whether or not they were successful in helping you find a relevant text.

Search Attempt	Search Terms I Used	Successful? (Yes or No)	Why or why not? (Examples: too specific, too many words, too general, not enough detail, verbs instead of nouns, etc.)
1			
2			
3			



B. Assess the Text's Credibility and Accuracy using the checklist below.

- Is the author an expert on the topic?
- Is the purpose to inform or 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?
- If the text is from a Web site, is the site associated with a reputable institution such as a respected university, credible media outlet, government program or department, or well-known non-governmental organization? (Note: Beware of using sites like Wikipedia, which are collaboratively developed by users—anyone can add or change the content.)

Based on the checklist, is this text credible and accurate? Explain below.

C. Track the bibliographic information for this source so you can cite it later.

Title: \_\_\_\_\_ Author: \_\_\_\_\_

Print or Digital: \_\_\_\_\_ Source Type: \_\_\_\_\_

Date of Publication: \_\_\_\_\_ Page #(s): \_\_\_\_\_

D. MLA Citation:





Researcher's Notebook

**Analyzing the Source**

A. Reread. Read your article closely for consequences. List the consequences, including quotes from the text here:

B. Paraphrase the consequences you found in one paragraph.

**Refining the search**

A. Generate another question.

Using “criteria for a good research question” from the *Good Research Questions Are ...* anchor chart, generate one additional research question based on what you learned today.



### III. The Local Sustainable Food Chain—Lesson 9

#### Gathering Sources

Using a task card to guide your search, you will locate an article about the local sustainable food chain. This article should help you determine more consequences of this food chain.

**Write the question from your exit ticket here:**

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- A. **Search Terms:** What search terms did you use to conduct an internet search? Write the terms in the chart below and indicate whether or not they were successful in helping you find a relevant text.

Search Attempt	Search Terms I Used	Successful? (Yes or No) If yes, move on to step B! If not, keep trying!	Why or why not? (Examples: too specific, too many words, too general, not enough detail, verbs instead of nouns, etc.)
1			
2			
3			



B. Assess the Text's Credibility and Accuracy using the checklist below.

- Is the author an expert on the topic?
- Is the purpose to inform or 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?
- If the text is from a Web site, is the site associated with a reputable institution such as a respected university, credible media outlet, government program or department, or well-known non-governmental organization? (Note: Beware of using sites like Wikipedia, which are collaboratively developed by users—anyone can add or change the content.)

Based on the checklist, is this text credible and accurate? Explain below.

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c. Track the bibliographic information for this source so you can cite it later.

Title: \_\_\_\_\_ Author: \_\_\_\_\_

\_\_\_\_\_

Print or Digital: \_\_\_\_\_ Source Type: \_\_\_\_\_

\_\_\_\_\_

Date of Publication: \_\_\_\_\_ Page #(s): \_\_\_\_\_

\_\_\_\_\_

D. MLA Citation:



Researcher's Notebook

**Analyzing the Source**

E. Reread. Read your article closely for consequences. List the consequences, including quotes from the text here:

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F. Paraphrase the consequences you found in one paragraph.

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**Refining the search**

G. Generate another question.

Using “criteria for a good research question” from the *Good Research Questions Are ...* anchor chart, generate one additional research question based on what you learned today.

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IV. The Hunter-Gatherer Food Chain

Gathering Sources

Using a task card to guide your search, you will locate an article about the local sustainable food chain. This article should help you determine more consequences of this food chain.

**Write the question from your exit ticket here:**

A. **Search Terms:** What search terms did you use to conduct an internet search? Write the terms in the chart below and indicate whether or not they were successful in helping you find a relevant text.

Search Attempt	Search Terms I Used	Successful? (Yes or No) If yes, move on to step B! If not, keep trying!	Why or why not? (Examples: too specific, too many words, too general, not enough detail, verbs instead of nouns, etc.)
1			
2			
3			



Researcher's Notebook

B. Assess the Text's Credibility and Accuracy using the checklist below.

- Is the author an expert on the topic?
- Is the purpose to inform or 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?
- If the text is from a Web site, is the site associated with a reputable institution such as a respected university, credible media outlet, government program or department, or well-known non-governmental organization? (Note: Beware of using sites like Wikipedia, which are collaboratively developed by users—anyone can add or change the content.)

Based on the checklist, is this text credible and accurate? Explain below.

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c. Track the bibliographic information for this source so you can cite it later.

Title: \_\_\_\_\_ Author: \_\_\_\_\_

\_\_\_\_\_

Print or Digital: \_\_\_\_\_ Source Type: \_\_\_\_\_

\_\_\_\_\_

Date of Publication: \_\_\_\_\_ Page #(s): \_\_\_\_\_

\_\_\_\_\_

D. MLA Citation:



Researcher's Notebook

**Analyzing the Source**

A. Reread. Read your article closely for consequences. List the consequences, including quotes from the text here:

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B. Paraphrase the consequences you found in one paragraph.

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### Refining the search

**A. Generate another question.**

Using “criteria for a good research question” from the *Good Research Questions Are ...* anchor chart, generate one additional research question based on what you learned today.

**B. Extension**

5. Conduct an internet search for your new refined question. Choose your search terms carefully.
6. When you have relevant results, read the first paragraph to see whether the resource will answer your question or not.
7. List the consequences of the hunter-gatherer food chain in the article you read. Use quotes from the article.
8. Paraphrase the consequences of the hunter-gatherer food chain from the article you read.





Researcher's Notebook

V. Synthesis

A. Review the research question. Begin thinking about which food chain you may choose as the best one to feed the United States. Using your research, consider the questions below and write down your initial ideas. You will have time to discuss these questions and others further before starting your position paper.

- What consequence(s) struck you as the biggest or most important? Why?

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- Which stakeholder do you care the most about and why?

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- What changes do you believe need to happen in our current food system?

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EXPEDITIONARY  
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# **Grade 8: Module 4: Unit 2: Lesson 4**

## **Adding to Cascading Consequences and Stakeholders: Industrial Food Chain**



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)	
Supporting Learning Targets	Ongoing Assessment
<ul style="list-style-type: none"><li>• I can use my research to add to the Cascading Consequences chart for Michael Pollan's industrial food chain.</li><li>• I can determine the stakeholders affected by the consequences of Michael Pollan's industrial food chain.</li></ul>	<ul style="list-style-type: none"><li>• Cascading Consequences chart</li><li>• Stakeholders chart</li></ul>



Agenda	Teaching Notes
<ol style="list-style-type: none"> <li>1. Opening               <ol style="list-style-type: none"> <li>A. Unpacking Learning Targets (3 minutes)</li> </ol> </li> <li>2. Work Time               <ol style="list-style-type: none"> <li>A. Creating a Class Cascading Consequences Chart (19 minutes)</li> <li>B. Introduce Stakeholders Chart (18 minutes)</li> </ol> </li> <li>3. Closing and Assessment               <ol style="list-style-type: none"> <li>A. Share Industrial Food Chain Stakeholders Chart (5 minutes)</li> </ol> </li> <li>4. Homework               <ol style="list-style-type: none"> <li>A. Start the Industrial Organic Food Chain Cascading Consequences chart:                   <ul style="list-style-type: none"> <li>– Numbered Heads 1 and 2 reread pages 114–126 of <i>The Omnivore's Dilemma</i> and begin a Industrial Organic Food Chain Cascading Consequences chart.</li> <li>– Numbered Heads 3 and 4 reread pages 127–136 of <i>The Omnivore's Dilemma</i> and begin a Industrial Organic Food Chain Cascading Consequences.</li> </ul> </li> <li>B. Be prepared to share your list of consequences with your research team to create a team Industrial Organic Food Chain Cascading Consequences chart in the next lesson.</li> </ol> </li> </ol>	<ul style="list-style-type: none"> <li>• In this lesson, students create a class Cascading Consequences chart to collect as many consequences as possible so that students can see the big picture of the consequences of this food chain.</li> <li>• Students are introduced to the idea of stakeholders who are affected by the consequences. They need to be aware that the consequences and the stakeholders should play an important role in the positions they take as they begin to think about how to answer the focus question: Which of Michael Pollan's four food chains would best feed all the people in the United States?</li> <li>• Students will be working in teams to finish the Stakeholders chart to support each other in what to record in each column, but it is important to emphasize that the final column of the Stakeholders chart is very much a personal choice because it is about how important the interests of the stakeholders are to each student. Students may want to discuss their ideas for this column with their teammates, but they should answer based on their own personal ideas.</li> <li>• Be aware that a similar lesson format will be used for the other three food chains with gradual release to allow students to become more independent in the process of identifying stakeholders for each food chain. Each time students complete the Stakeholders chart, they will take more responsibility for the work. However, in this lesson they are both heavily teacher modeled. The Stakeholders chart for the industrial food chain used in this lesson is partially complete to allow time for teaching how to fill it out, and to show students what a good model looks like.</li> <li>• Post: Learning targets.</li> </ul>



Lesson Vocabulary	Materials
stakeholder, greater good	<ul style="list-style-type: none"> <li>• Industrial Food Chain Cascading Consequences chart (students' own from Lesson 1)</li> <li>• Industrial Food Chain Cascading Consequences chart (for display; from Lesson 1)</li> <li>• Getting a Dog Cascading Consequences sample chart (for display; from Lesson 1)</li> <li>• Stakeholders chart (blank; one for display)</li> <li>• Getting a Dog Stakeholders chart (answers, for teacher reference)</li> <li>• Industrial Food Chain Stakeholders chart (one per student and one to display)</li> <li>• Blank 8" x 11" paper (one per student)</li> </ul>

Opening	Meeting Students' Needs
<p><b>A. Unpacking Learning Targets (3 minutes)</b></p> <ul style="list-style-type: none"> <li>• Have students volunteer to read the learning targets aloud:             <ul style="list-style-type: none"> <li>* "I can use my research to add to the Cascading Consequences chart for Michael Pollan's industrial food chain."</li> <li>* "I can determine the stakeholders affected by the consequences of Michael Pollan's industrial food chain."</li> </ul> </li> <li>• Underline the word <i>stakeholder</i> and point out that this might be a new term for them. Explain that the next part of the decision-making process that they are using to look at the four food chains is to determine who will be affected by a decision, and how they will be affected. Explain that anyone who will be affected is referred to as a <i>stakeholder</i>—meaning this party has a stake in how the decision turns out. Emphasize that stakeholders don't have to be people—they can be animals or things like the environment. Students will learn how to examine stakeholders in detail in the second part of the lesson.</li> </ul>	<ul style="list-style-type: none"> <li>• ELLs may benefit from visual representation of new words.</li> </ul>



Work Time	Meeting Students' Needs
<p><b>A. Creating a Class Cascading Consequences Chart (19 minutes)</b></p> <ul style="list-style-type: none"> <li>• Invite students to reread the focus question and the research question. Remind students that the Cascading Consequences chart will help them to answer the focus question because it gives them a greater understanding of all of the consequences of a food chain. They will need to consider this when choosing which food chain they think will best feed the United States.</li> <li>• Have the students take out their own <b>Industrial Food Chain Cascading Consequences charts</b> from Lesson 1. Explain that they will be sharing the new information that they added to their personal Cascading Consequences chart from their research to add to the displayed class <b>Industrial Food Chain Cascading Consequences chart</b>, where possible.</li> <li>• Invite volunteers to share their new consequences with the whole group and invite those students to suggest how they think their consequences should be added to the class chart based on the way they added them to their personal Cascading Consequences chart. Try to select one student for each research article to get as much information on the class chart as possible.</li> </ul>	<ul style="list-style-type: none"> <li>• Some students may benefit from an after school or other support session to complete their personal Cascading Consequences charts.</li> </ul>
<p><b>B. Introduce Stakeholders Chart (18 minutes)</b></p> <ul style="list-style-type: none"> <li>• Remind students that at the beginning of the lesson, they learned about the term <i>stakeholder</i>, and that the next part of the decision-making process is to look at who will be affected by a decision, and how they will be affected. Emphasize that the stakeholders are important to consider when answering the focus question of the unit: Which of Michael Pollan's four food chains would best feed all the people in the United States?</li> <li>• Display the <b>Getting a Dog Cascading Consequences sample chart</b>. Model reading each consequence and underlining or highlighting the people, animals, or aspects of the environment that are named there. For example, starting in the top left of the Getting a Dog Cascading Consequences sample chart and going counterclockwise, stakeholders are "I" (the decider), the dog, the dog walker, the vet, "we" (the family of the decider), the cat, the mom, friends, and the sister. Invite students to suggest any stakeholders that they see on the chart.</li> <li>• Point out that some of these stakeholders show up more than once on the chart.</li> <li>• Display a blank <b>Stakeholders chart</b>. Invite students to read the column headings with you. Ask students: <ul style="list-style-type: none"> <li>* "What do you notice?"</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• ELLs and perhaps even other students will benefit from visual representations of the stakeholders.</li> <li>• When reviewing the graphic organizers or recording forms, consider using a document camera to visually display the document for students who struggle with auditory processing.</li> <li>• Some students may benefit from having the Stakeholders chart even more completed than others. Some students may benefit from the rigor of not having it filled in at all.</li> </ul>



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"><li>* “What do you wonder?”</li><li>• Select students to share their notices and wonders with the whole group.</li><li>• Focus students on the fourth column:<ul style="list-style-type: none"><li>* “If the consequence is negative, do <i>you</i> feel it is offset by greater good elsewhere?”</li></ul></li><li>• Ask students to discuss in research teams:<ul style="list-style-type: none"><li>* “What do you think this means?”</li></ul></li><li>• Select volunteers to share their responses. Listen for students to explain that it means that even if a consequence is negative, there are other good things that happen as a result.</li><li>• Model inputting two stakeholders that you have underlined on the Getting a Dog Cascading Consequences sample chart. Use the <b>Getting a Dog Stakeholders chart: (answers, for teacher reference)</b> to guide your modeling.</li><li>• Point out to students that if they were filling out the chart, they might describe or rate things differently than you do (as we all place different value on different consequences).</li><li>• Explain to students that they will now complete a partially completed Stakeholders chart for the industrial food chain. Give each student a copy of the <b>Industrial Food Chain Stakeholders chart</b>. Emphasize to students that the first five rows have been filled out, but they need to work in research teams to complete the rest of the rows and use the class Industrial Food Chain Cascading Consequences chart to think of two additional stakeholders that haven’t been included.</li><li>• Explain that the final column will need to be filled out individually, rather than in teams, as different people may have different ideas about how important that stakeholder is.</li><li>• Circulate to support students as they work. Ask students the questions at the top of the columns on the Industrial Food Chain Stakeholders chart to guide them in making decisions.</li></ul>	



Closing and Assessment	Meeting Students' Needs
<p><b>A. Share Industrial Food Chain Stakeholders Chart (5 minutes)</b></p> <ul style="list-style-type: none"><li>• Invite students to pair up with someone from another team to compare their Stakeholders charts. Explain that students can revise their charts based on their learning from their new partners if they think it is necessary.</li><li>• Invite students to return to their teams and to number each team member between 1 and 4.</li><li>• Explain that for homework, numbers 1 and 2 will reread pages 114–126 of <i>The Omnivore's Dilemma</i> and make a Cascading Consequences chart for it. Numbers 3 and 4 will reread pages 127–136 and make a Cascading Consequences chart.</li><li>• Distribute <b>blank 8" x 11" paper</b>.</li></ul>	<ul style="list-style-type: none"><li>• Some students may need access to an audible or home-language recording of their section in order to complete their homework.</li></ul>
Homework	Meeting Students' Needs
<ul style="list-style-type: none"><li>• Start the Industrial Organic Food Chain Cascading Consequences chart:<ul style="list-style-type: none"><li>– Numbered Heads 1 and 2 reread pages 114–126 of <i>The Omnivore's Dilemma</i> and begin a Industrial Organic Food Chain Cascading Consequences chart.</li><li>– Numbered Heads 3 and 4 reread pages 127–136 of <i>The Omnivore's Dilemma</i> and begin a Industrial Organic Food Chain Cascading Consequences.</li></ul></li><li>• Be prepared to share your list of consequences with your research team to create a team Industrial Organic Food Chain Cascading Consequences chart in the next lesson.</li></ul>	





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# Grade 8: Module 4: Unit 2: Lesson 4

## Supporting Materials



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Stakeholders Chart

Name: \_\_\_\_\_

Date: \_\_\_\_\_

What is the option being considered?

Stakeholder	How will he/she/it be affected?	Is this a positive or negative consequence?	If the consequence is negative, do <i>you</i> 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



Getting a Dog Stakeholders Chart  
Answers for Teacher Reference

What is the option being considered?

*Getting a dog*

Stakeholder	How will he/she/it be affected?	Is this a positive or negative consequence?	If the consequence is negative, do <i>you</i> 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
I (the decider)	Will have to walk the dog	Sometimes positive and sometimes negative	I will be getting exercise	1
The dog	It will go for walks three times a day	Positive		1
The dog walker	He/she will get a job	Positive		2



Industrial Food Chain  
Stakeholders Chart

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**What is the option being considered?**  
*Industrial Food Chain.*

Stakeholder	How will he/she/it be affected?	Is this a positive or negative consequence?	If the consequence is negative, do <i>you</i> 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	Reduced numbers of them	Negative	No	2
Cows	Forced to eat corn	Negative	No	2
Cows	Raised on CAFOs – get diseases	Negative	No	2
Environment	Toxic pollution from CAFOs	Negative	No	1
“People” (customers)	Meat is cheap	Positive		1
“People” (customers)				



EXPEDITIONARY  
LEARNING

# **Grade 8: Module 4: Unit 2: Lesson 5**

## **Determining Cascading Consequences Using**

### ***The Omnivore's Dilemma*: Industrial Organic Food Chain**



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
<p>I can cite text-based evidence that provides the strongest support for an analysis of informational text. (RI.8.1)</p> <p>I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)</p> <p>I can generate additional research questions for further exploration. (W.8.7)</p>	
Supporting Learning Targets	Ongoing Assessment
<ul style="list-style-type: none"><li>I can determine the cascading consequences of the industrial organic food chain using <i>The Omnivore's Dilemma</i>.</li><li>I can develop a supporting research question to help me focus my research.</li></ul>	<ul style="list-style-type: none"><li>Industrial Organic Food Chain Cascading Consequences team charts</li><li>Exit Ticket: Developing a Supporting Research Question: Consequences of Industrial Organic Food Chain</li></ul>



Agenda	Teaching Notes
<ol style="list-style-type: none"> <li>1. Opening               <ol style="list-style-type: none"> <li>A. Unpacking Learning Targets (5 minutes)</li> </ol> </li> <li>2. Work Time               <ol style="list-style-type: none"> <li>A. Mini Lesson: Modeling How to Create a Team Industrial Organic Cascading Consequences Chart (8 minutes)</li> <li>B. Research Teams Create Industrial Organic Cascading Consequences Charts (14 minutes)</li> <li>C. Team Share (8 minutes)</li> </ol> </li> <li>3. Closing and Assessment               <ol style="list-style-type: none"> <li>A. Exit Ticket: Developing a Supporting Research Question (10 minutes)</li> </ol> </li> <li>4. Homework               <ol style="list-style-type: none"> <li>A. Read the Assessing Sources handout. Put a check mark next to questions you already ask yourself when you do research. Put a star next to a question that is new to you. Be prepared to share in the next class.</li> </ol> </li> </ol>	<ul style="list-style-type: none"> <li>• This is the first of three lessons focused on the industrial organic food chain. In this lesson, students work in research teams to create an Industrial Organic Food Chain Cascading Consequences team chart. At the end of this lesson, they write a supporting research question to guide their research in Lesson 6. Then in Lesson 7, they will use their research to add to their Cascading Consequences chart and to create a Stakeholders chart. This cycle of lessons will be repeated for the local sustainable and hunter-gatherer food chains.</li> <li>• A large focus of this lesson is on teaching research teams how to work together effectively by modeling a clear process for adding to the Cascading Consequences chart. The process is defined in the Consequences Conversation task card (see supporting materials). Tell students to hold on to this task card in order to refer to it each time they work with their team on a Cascading Consequences chart. Spending time on this process in this lesson is important because students will need to work effectively with their research teams repeatedly throughout the rest of the unit.</li> <li>• Consider making the Consequences Conversation task card used in Work Time B double-sided, with the steps on the front and the checklist on the back.</li> <li>• This is the first time students will be using their own supporting research questions to guide their research. Consider collecting the exit tickets and giving students feedback on the quality of their supporting research questions using the criteria on the Good Supporting Research Questions Are ... anchor chart. They will use these questions to focus their research in the next lesson.</li> <li>• In advance:               <ul style="list-style-type: none"> <li>– Review the script for modeling the creation of the team Cascading Consequences chart and the Industrial Organic Food Chain Cascading Consequences chart for mini lesson.</li> <li>– Identify two students to model creating a Cascading Consequences chart with you in the mini lesson. If possible, share the script and Cascading Consequences chart with them before class begins so they have time to prepare.</li> <li>– Review the Industrial Organic Food Chain Cascading Consequences chart (for teacher reference) to help you while you are circulating during Work Time.</li> </ul> </li> <li>• Review: Fist to Five in Checking for Understanding Techniques (see Appendix).</li> </ul>



Lesson Vocabulary	Materials
cascading, consequence	<ul style="list-style-type: none"><li>• Script for modeling the creation of the team Cascading Consequences chart (three copies, for teacher and two students who help with mini lesson)</li><li>• Industrial Organic Food Chain Cascading Consequences chart for mini lesson (three copies, for teacher and two students who help with mini lesson)</li><li>• Chart paper (one per research team)</li><li>• Markers (four different colors per research team)</li><li>• Consequences Conversation task card (one per student)</li><li>• Industrial Organic Food Chain graphic organizer (completed by students in Unit 1)</li><li>• Industrial Organic Food Chain Cascading Consequences chart (for teacher reference)</li><li>• Researcher's roadmap (one per student, distributed in Lesson 2)</li><li>• Good Supporting Research Questions Are ... anchor chart (created in Lesson 2)</li><li>• Exit Ticket: Developing a Supporting Research Question: Consequences of Industrial Organic Food Chain (one per student)</li><li>• Assessing Sources (one per student)</li></ul>





Opening	Meeting Students' Needs
<p><b>A. Unpacking Learning Targets (5 minutes)</b></p> <ul style="list-style-type: none"><li>• Remind students that their goal in this unit is to use a structured decision-making process to answer the focus question:<ul style="list-style-type: none"><li>* “Which of Michael Pollan’s four food chains would best feed all the people in the United States?”</li></ul></li><li>• Read the first learning target out loud:<ul style="list-style-type: none"><li>* “I can determine the cascading consequences of the industrial organic food chain using <i>The Omnivore’s Dilemma</i>.”</li></ul></li><li>• Circle the words <i>cascading consequences</i> on the posted learning targets and ask students to ask a partner:<ul style="list-style-type: none"><li>* “What is the meaning of <i>cascading consequences</i>?”</li></ul></li><li>• Invite students to use the Think-Pair-Share:<ul style="list-style-type: none"><li>* “What is the purpose of creating Cascading Consequences charts for each food chain?”</li></ul></li><li>• When students share out, listen for them to say that the purpose is to collect evidence to analyze which of Pollan’s food chains is best for feeding the United States, and that it is one part of the structured decision-making process to help them decide how to best answer the question.</li><li>• Explain that for today and the next two lessons, students will be focusing on the industrial organic food chain. Today, as in Lesson 1, they will add consequences of the industrial organic food chain using evidence from <i>The Omnivore’s Dilemma</i>. After adding evidence from the book, they will each research one aspect of the chart and add even more cascading consequences based on their research.</li><li>• Invite students to turn to page 5 in <i>The Omnivore’s Dilemma</i> to the description of the industrial organic food chain. Read this description aloud as students follow along silently. The purpose of this reading is to simply remind students of the definition of industrial organic.</li></ul>	<ul style="list-style-type: none"><li>• ELLs and other students may benefit from visual representations of the four food chains.</li></ul>



Work Time	Meeting Students' Needs
<p><b>A. Mini Lesson: Modeling How to Create a Team Industrial Organic Cascading Consequence Chart (8 minutes)</b></p> <ul style="list-style-type: none"><li>• Invite two students to help you model creating a team Cascading Consequences chart. Give them the <b>script for modeling the creation of the team Cascading Consequences chart</b> and the <b>Industrial Organic Food Chain Cascading Consequences chart for mini lesson</b>. Tell the class to imagine that the three of you (the two students and the teacher) make up a research team and that you are going to model how research teams should work together to create their new Cascading Consequences charts.</li><li>• As they watch the model, invite the students to think about:<ul style="list-style-type: none"><li>* “What is the research team doing well as they create their Cascading Consequences chart together?”</li></ul></li><li>• After the modeling, invite students to Think-Pair-Share:<ul style="list-style-type: none"><li>* “What did you see us do in the model that you think will make your own research team effective?”</li></ul></li><li>• Cold call several students to share out. Listen for students to say: “You each took a turn,” “You said the page numbers where in the book you found the consequence,” “You explained where you thought the consequence should go and why,” “You asked your team if they agreed with you,” “You disagreed respectfully,” “You actively listened to your teammates as they added to the chart,” or “You each used a different color marker.”</li><li>• Consider charting these ideas on the board or chart paper for students to refer to as they work with their research teams. (If you use chart paper, you can take it out again for lessons in which teams add to their Cascading Consequences charts and those in which they repeat this process for the other two food chains.)</li></ul>	<ul style="list-style-type: none"><li>• You can strategically create student success by preparing students with learning challenges to help you model ahead of time.</li><li>• Strategically partnering students for Think-Pair-Shares can help ELLs and others with language production challenges to become more fluent.</li></ul>



Work Time (continued)	Meeting Students' Needs
<p><b>B. Research Teams Create Industrial Organic Cascading Consequences Charts (14 minutes)</b></p> <ul style="list-style-type: none"> <li>• Invite students to take out their own Industrial Organic Food Chain Cascading Consequences chart, which they completed for homework, and explain that they are going to use this to build their team Industrial Organic Food Chain Cascading Consequences charts.</li> <li>• Distribute one piece of <b>chart paper</b> and four different colored <b>markers</b> to each research team.</li> <li>• Distribute a <b>Consequences Conversation task card</b> to each student and explain that the steps on the task card are the same steps they observed in the model. Invite students to read the directions on the task card with you.</li> <li>• Point out that it is important that teams follow the process outlined on the task card because: 1) it ensures that all students' voices are heard; 2) it pushes students to share their thinking about why; and 3) the markers allow you to quickly observe the contributions of each team member.</li> <li>• Remind students that there are multiple ways to create a Cascading Consequences chart from a text. It is OK if each research team's chart is slightly different as long as they can argue why they placed things where they did.</li> <li>• Encourage students to include the three boxes from the mini lesson on their team Cascading Consequences chart. Remind students that they also have their <b>Industrial Organic Food Chain graphic organizer</b> from Unit 1 that they may want to use to add consequences to the chart.</li> <li>• As students work, circulate to observe and assist teams. Ask students: <ul style="list-style-type: none"> <li>* "Are you following the model and using your task card to make sure you are taking turns, discussing where consequences should go and why, and actively and respectfully listening?"</li> <li>* "Why did you place this consequence where you did?"</li> <li>* "How do you know this is a consequence of this?"</li> </ul> </li> <li>• See the <b>Industrial Organic Food Chain Cascading Consequences chart (for teacher reference)</b> for one way to create a Cascading Consequences chart from these text excerpts. Note that it is NOT the ONLY way.</li> </ul>	<ul style="list-style-type: none"> <li>• For students who are having a hard time identifying the consequences in the text, consider giving them a list of consequences that they can use to participate in creating the team Cascading Consequences chart.</li> <li>• You might consider adding a "Stop and Check in with the Teacher" step to some groups' tasks cards. This would help you monitor their progress.</li> <li>• In addition, as students work, leave "sticky note feedback" for groups as you monitor. "Great work staying focused" or "The way you are making sure all voices are being heard is exceptional!" are examples of specific feedback you might leave.</li> </ul>



Work Time (continued)	Meeting Students' Needs
<p><b>C. Team Share (8 minutes)</b></p> <ul style="list-style-type: none"><li>• Remind students that the purpose of creating Cascading Consequences charts is to help them figure out which food chain they think would be best for feeding all the people in the United States.</li><li>• Explain to students that they will now get to borrow ideas from other teams. Direct research teams to assign each student a number, one through four.</li><li>• Post the following directions:<ul style="list-style-type: none"><li>– Number 1 stay at your team's Cascading Consequences chart to answer questions from other group members.</li><li>– Numbers 2 through 4 each travel to another chart. At the other charts, look for any differences compared to your own chart. Ask clarifying questions in order to understand why the team placed certain consequences where they did. For example, you might say: "Why don't you have 'costs more' coming from the box that says 'no chemical fertilizers and pesticides?' Isn't that what really makes organic food cost more?"</li><li>– Numbers 2 through 4 return to your own team with one difference and an explanation of why the other team made the decision they did.</li></ul></li><li>• Circulate to support students in asking and answering questions. Some students may find this challenging and require additional support.</li><li>• Invite all students to return to their own charts to add/revise their cascading consequences based on what they saw on the other charts they visited.</li></ul>	<ul style="list-style-type: none"><li>• Taking what you hear from teams during this share and scripting it on the board, a chart, or an interactive white board will help some students capture what they need on their own charts when they return to their seats.</li></ul>



Closing and Assessment	Meeting Students' Needs
<p><b>A. Exit Ticket: Developing a Supporting Research Question (10 minutes)</b></p> <ul style="list-style-type: none"> <li>Remind students of the focus question and research question, both posted in the classroom: <ul style="list-style-type: none"> <li>* "Focus question: Which of Michael Pollan's four food chains would best feed all the people in the United States?"</li> <li>* "Research question: What are the consequences of each of Michael Pollan's four food chains?"</li> </ul> </li> <li>Remind students that the purpose of the research they are doing is to gather evidence to be able to answer this question orally at the end of Unit 2 and in writing in Unit 3.</li> <li>Invite students to take out their <b>researcher's roadmaps</b> (from Lesson 2) and briefly tell a partner where we are on the roadmap for the new food chain: industrial organic. Remind students that the next step is to develop a supporting research question, which they will use in class tomorrow to further research the consequences of the industrial organic food chain.</li> <li>Invite all students to choose one consequence from the chart about which they would like to do further research and write their initials next to it on their team Cascading Consequences chart.</li> <li>Invite the research teams to look at the boxes that were initialed and discuss whether there are any other consequences that they feel would be more important to research than those that were initialed. If so, students may volunteer to research those instead. Emphasize that each student in the team should have chosen a different consequence to research.</li> <li>Review the <b>Good Supporting Research Questions Are... anchor chart</b> posted on the wall.</li> <li>Distribute an <b>Exit Ticket: Developing a Supporting Research Question: Consequences of Industrial Organic Food Chain</b> to each student. Invite students to complete the exit ticket by writing their research topic (a box from the Cascading Consequences chart) and drafting a supporting research question.</li> <li>Distribute <b>Assessing Sources</b> to students.</li> </ul>	<ul style="list-style-type: none"> <li>Some students may benefit from a sentence frame to complete their exit ticket.</li> </ul>
Homework	Meeting Students' Needs
<ul style="list-style-type: none"> <li>Read the Assessing Sources handout. Put a check mark next to questions you already ask yourself when you do research. Put a star next to a question that is new to you. Be prepared to share in the next class.</li> </ul>	



EXPEDITIONARY  
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# Grade 8: Module 4: Unit 2: Lesson 5

## Supporting Materials



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Script for Modeling the Creation of the Team  
Cascading Consequences Chart

**Teacher:** I am going to add: “Grown on monoculture farms (farms growing only one crop).” This is on page 114. I think this is a direct consequence of choosing the industrial organic food chain, so I think it should go in a box coming directly from the center. *To Student 1 and Student 2:* What do you two think?

**Student 1:** I think you’re right.

**Student 2:** Me too.

*The teacher draws a center box and writes “Industrial Organic Food Chain” and then draws a second box with the consequence “Grown on monoculture farms (farms growing only one crop).” See Industrial Organic Food Chain Cascading Consequences chart for mini lesson.*

**Student 1:** I am going to add: “Cows are fenced in all day and eat grain instead of grass.” This is also from page 114. I think this is a cascading consequence of food coming from monoculture farms. Do you agree?

**Student 2:** I think it could actually come directly from the center box. It seems like a direct consequence of the Industrial Food Chain since it shows how farms are like factories.

**Student 1:** That is a good point, but if farms weren’t made up of just one crop or animal, then they probably wouldn’t have to be fenced in, like on Joel Salatin’s farm.

**Student 2:** OK.

*USING A DIFFERENT COLORED MARKER, Student 1 draws a box with this consequence: “Cows are fenced in all day and eat grain instead of grass.” This is coming from the monoculture box.*

**Student 2:** I am going to add: “Beef is raised on feedlots. Cows are fed corn, just like industrial beef, but the corn is organic.” This consequence is also on page 114. Based on what Student 1 said, I think this is a direct consequence of farms being monoculture, so I think the box should come off of the monoculture box. What do you two think?



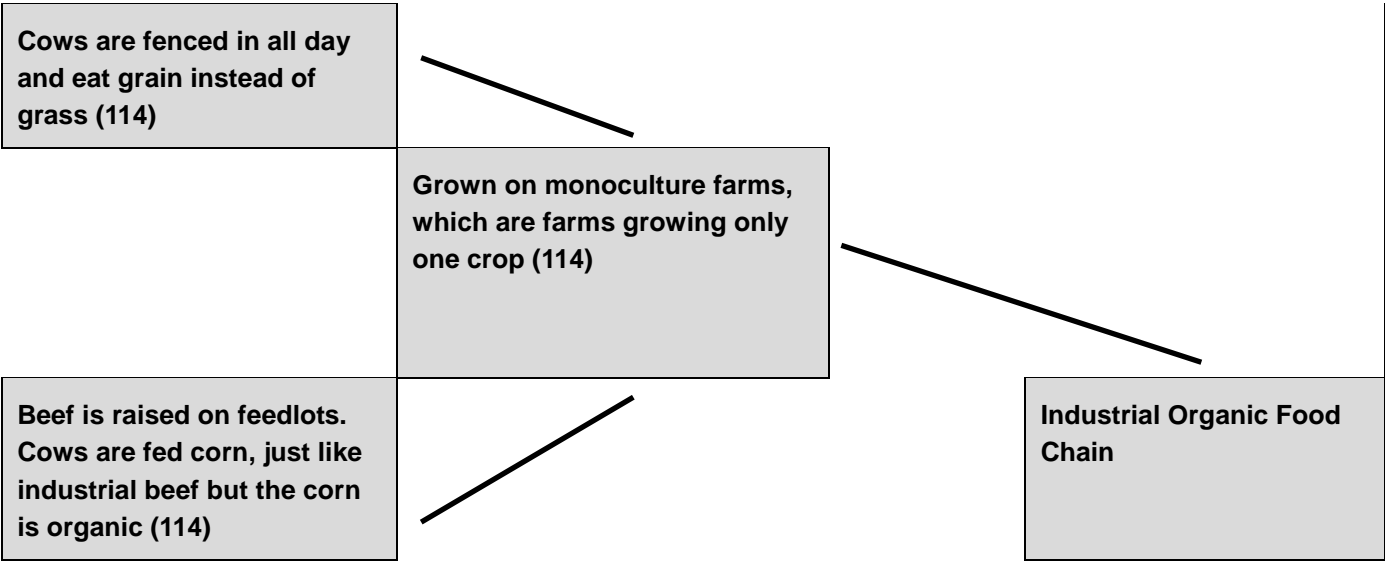
Script for Modeling the Creation of the Team  
Cascading Consequences Chart

**Teacher:** I agree with you. If farms weren't monoculture, we probably wouldn't have feedlots.

*USING A THIRD COLOR OF MARKER, Student 2 draws another box with this consequence: "Beef is raised on feedlots. Cows are fed corn, just like industrial beef, but the corn is organic." This is also coming from the monoculture box.*



but the corn is  
organic (114)



**Consequences Conversation**  
Task Card

**To create or add to a Cascading Consequences chart, follow these steps:**

- Student 1 shares a new consequence, including citing the text name and/or page number, and explains where in the chart he/she thinks it should go.
- Other students agree or disagree with the placement of the consequence.
- If there is disagreement, team works to come to a consensus. Student 1 gets the final decision.
- Student 1 uses his/her color marker to place the consequence on the chart.
- Each remaining student shares one new consequence following the steps above.
- The team repeats this process until students have added all of their consequences or until Work Time is up.

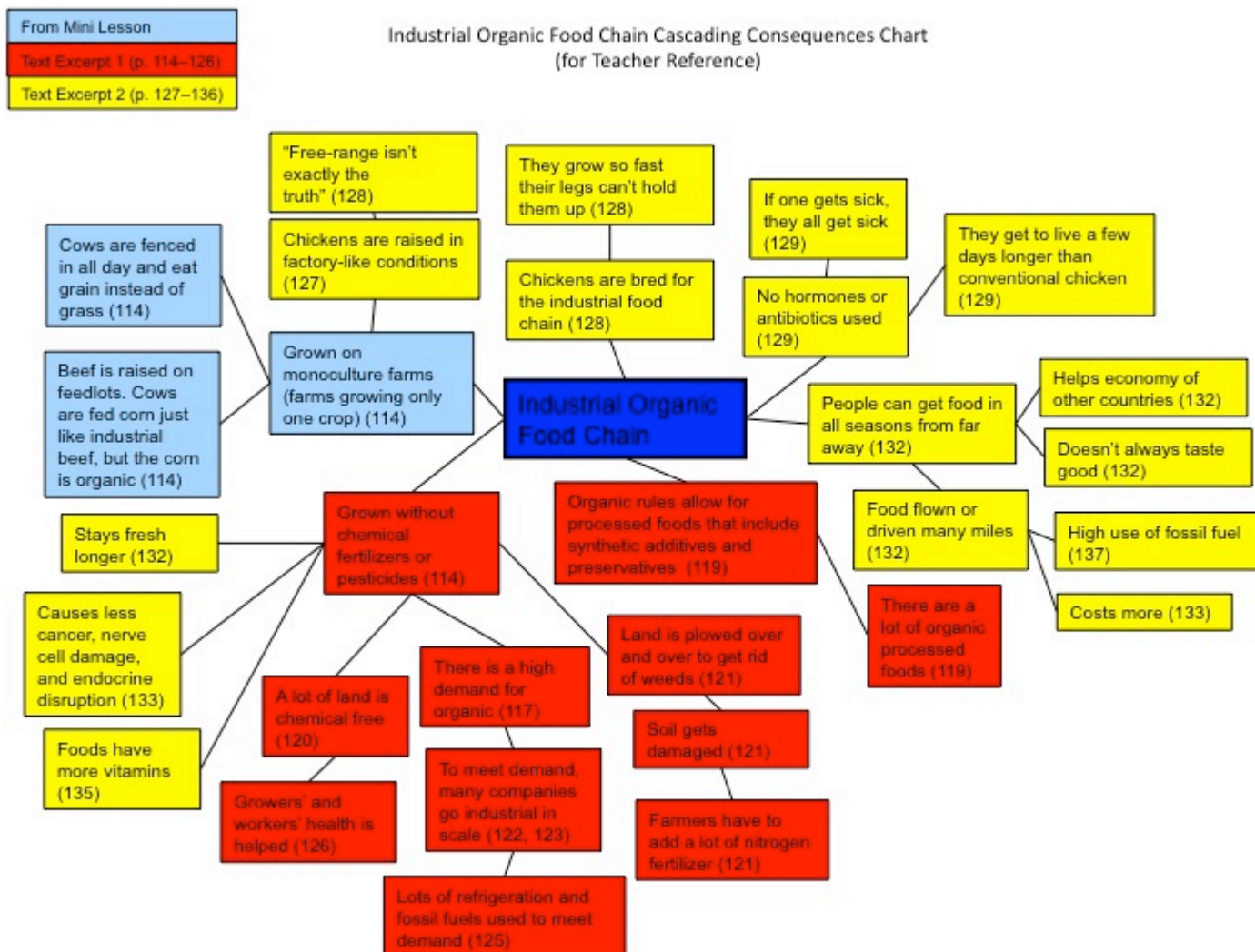
**To make sure you are sharing the workload and communicating effectively, check yourselves:**

- Are you adding only one box before the next student takes his/her turn?
- Is each of you writing in a different color marker?
- Are you thinking about where each consequence should go on the chart and sharing your thinking?
- Are you asking each other questions? And listening to the answers?
- Are you explaining why?
- Are you actively listening and communicating respectfully?



## Industrial Organic Food Chain

### Cascading Consequences Chart for Teacher Reference





**Exit Ticket: Developing a Supporting Research Question:**  
Consequences of Industrial Organic Food Chain

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**Name:**

---

**Date:**

---

What is the topic from your team Cascading Consequences chart that you will research?

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Using the criteria for a good supporting research question, write your supporting research question here:

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## Assessing Sources

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 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?
- If the text is from a Web site, is the site associated with a reputable institution such as a respected university, credible media outlet, government program or department, or well-known non-governmental organization? (Note: Beware of using sites like Wikipedia, which are collaboratively developed by users—anyone can add or change the content.)

### 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 already have?
- How does the information in the text relate to other texts I have found?



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# **Grade 8: Module 4: Unit 2: Lesson 6**

## **Using Search Terms for Further Research: Industrial Organic Food Chain**



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

I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)  
I can use several sources in my research. (W.8.7)  
I can gather relevant information from a variety of sources. (W.8.8)  
I can use search terms effectively. (W.8.8)  
I can evaluate the credibility and accuracy of each source. (W.8.8)  
I can quote and paraphrase others' work while avoiding plagiarism. (W.8.8)  
I can use a standard format for citation. (W.8.8)

**Supporting Learning Targets**

- I can use research skills to determine consequences of the industrial organic food chain.
- I can list the criteria of credible research sources.
- I can choose the most effective search terms to find relevant research sources to answer my research question.
- I can identify the relevant information in a research source to answer my research question.

**Ongoing Assessment**



Agenda	Teaching Notes
<ol style="list-style-type: none"><li>Opening<ol style="list-style-type: none"><li>Discuss Homework Article (5 minutes)</li><li>Unpacking Learning Targets (2 minutes)</li></ol></li><li>Work Time<ol style="list-style-type: none"><li>Mini Lesson and Shared Reading: Using Search Terms Effectively (10 minutes)</li><li>Research, Read, and Record (23 minutes)</li></ol></li><li>Closing and Assessment<ol style="list-style-type: none"><li>Refining the Research Question (5 minutes)</li></ol></li><li>Homework<ol style="list-style-type: none"><li>Finish filling out the researcher's notebook for your article (if necessary).</li><li>Use the consequences you recorded from your research article to add to your personal Industrial Organic Food Chain Cascading Consequences chart. Add new consequences in a different color so they are easy to see. Remember that some of the consequences might be new and some might be cascading consequences from consequences you have already listed. Think carefully about where you put your consequences.</li></ol></li></ol>	<ul style="list-style-type: none"><li>In this lesson, students extend their research on the consequences of Pollan's industrial organic food chain through independent research. Students will discuss the information they find in their research teams and add to their team Cascading Consequences charts for this food chain. The addition of other perspectives on Pollan's food chains will round out students' research and prepare them to craft their own arguments for the end of unit assessment, as well as in Unit 3.</li><li>Students practice determining credibility, accuracy, and effective search terms, using these skills to conduct independent research on the consequences of the industrial organic food chain. The supporting research question they use to conduct their research comes from their exit ticket from Lesson 5. Students begin the research process by transposing this question (taking into account the feedback or corrections you may have provided) onto page 5 of their researcher's notebooks.</li><li>Unless you decide to have students print the articles they decide on, they will not be able to text code for consequences as they did in Lesson 3. Instead, from this point forward, the researcher's notebook prompts students to reread for consequences and then paraphrase.</li><li>There are three new features on the researcher's notebook for this food chain: the search terms chart in the Gathering Sources section of the notebook (page 4), the Assessing Credibility section (page 5), and the Evaluating the Source section (pages 6 and 7). Students may need some guidance with these new features at first. These new features will continue to appear for each of the remaining food chains. Note that Part B of Evaluating the Source is an extension for those students who have time to complete it.</li><li>Students are introduced to search terms by reading an article and identifying the most important words and phrases in the text. By working backwards, students learn how important key words are in an internet search, and will get an idea of how "zooming in" too far with very specific search terms yields limited results, while "zooming out" too far with general search terms yields too many unspecific results. For this activity, the reading is designed to happen quickly, as the article itself is not the focus of the mini lesson. After reading the article, you conduct a sample search using a recommended search engine: SweetSearch. If you cannot model the internet search using a display device, consider modeling it on the board using the process outlined in the lesson.</li></ul>





Agenda	Teaching Notes
	<ul style="list-style-type: none"><li>• Part A of the homework in this lesson requires that students complete the researcher's notebook using the article they chose in class (if they have not done so by the end of class). This requires students to print the article, save it, or access it at home. Consider which option(s) would work best for your students and prepare accordingly.</li><li>• In advance: Prepare the What Makes a Source Accurate and Credible? anchor chart. Leave blank space under the heading so students can contribute criteria from the Assessing Sources homework article, or from memory. Prepare the Effective Search Terms Are ... anchor chart as well. There is no need to leave blank space on this chart, as students will use it as a reference, not add to it. (See supporting materials for anchor chart samples.)</li><li>• Post: Learning targets; Paraphrasing anchor chart (next to researcher's roadmap).</li></ul>

Lesson Vocabulary	Materials
	<ul style="list-style-type: none"><li>• What Makes a Source Accurate and Credible? anchor chart (new; teacher-created; see supporting materials)</li><li>• Researcher's notebook (from Lesson 3; students' own, plus the one that was displayed and filled out as a model in Lesson 3)</li><li>• "Lunch or Junk" article (one per student)</li><li>• Effective Search Terms Are ... anchor chart (new; teacher-created; see supporting materials)</li><li>• Exit Ticket: Developing a Supporting Research Question: Consequences of Industrial Organic Food Chain (from Lesson 5)</li><li>• Research task card (one per student)</li></ul>



Opening	Meeting Students' Needs
<p><b>A. Discuss Homework Article (5 minutes)</b></p> <ul style="list-style-type: none"> <li>• Ask students to take out the Assessing Sources text they read for homework last night. Invite students to pair/share about the most important takeaways about credibility and accuracy they got from the text.</li> <li>• Cold call on some students to share what they discussed with their partners. Add key ideas to the <b>What Makes a Source Accurate and Credible? anchor chart</b>.</li> <li>• Explain that in their <b>researcher's notebooks</b> for the industrial organic food chain, they will practice determining whether the texts they find are credible and accurate using the checklist from the Assessing Sources text.</li> </ul>	
<p><b>B. Unpacking Learning Targets (2 minutes)</b></p> <ul style="list-style-type: none"> <li>• Read the first learning target aloud with students: <ul style="list-style-type: none"> <li>* "I can use research skills to determine consequences of the industrial organic food chain."</li> </ul> </li> <li>• Remind students of the overarching research question for the unit and tell them that this first learning target focuses their question on the industrial organic food chain, which they will research today: <ul style="list-style-type: none"> <li>* "What are the consequences of each of Michael Pollan's food chains?"</li> </ul> </li> <li>• Read the next learning target aloud to students: <ul style="list-style-type: none"> <li>* "I can list the criteria of credible research sources."</li> </ul> </li> <li>• Tell students that now that they have learned about what makes sources credible and accurate, their next step will be to determine what kind of search yields the best results when researching on the internet.</li> <li>• Read the remaining learning targets aloud with students: <ul style="list-style-type: none"> <li>* "I can choose the most effective search terms to find relevant research sources to answer my research question."</li> <li>* "I can identify the relevant information in a research source to answer my research question."</li> </ul> </li> <li>• Ask students to raise their hands if they have ever typed an entire question into a search engine. Explain that most search engines filter those questions, using the most important words to locate general information. Explain that using a database or search engine for research—not just surfing the web—requires more specific search terms, and typing a whole question in the search bar will likely not give the best results.</li> </ul>	<ul style="list-style-type: none"> <li>• ELLs often benefit from access to visual representations of learning targets.</li> <li>• ELLs might benefit from visual representations of each of the four food chains.</li> </ul>



Work Time	Meeting Students' Needs
<p><b>A. Mini Lesson and Shared Reading: Using Search Terms Effectively (10 minutes)</b></p> <ul style="list-style-type: none"> <li>• Distribute <b>“Lunch or Junk” article</b>. Inform students that you will read the article aloud as they follow along silently.</li> <li>• After you have read the text, ask students to take two minutes in teams to circle the words they think are the most important single words in the text. The words they choose should be most important because they reflect the overall meaning of the article. Explain that students must choose five words or less.</li> <li>• Select volunteers to share their responses. The words could include: health, school lunch, diabetes, problem, junk food, obese, overweight, and kids. Write each word on the board in a list.</li> <li>• Clarify that the key words used in an internet search are called search terms. Call students' attention to the <b>Effective Search Terms Are... anchor chart</b>. Invite students to read the criteria aloud with you. Explain that part of being a good researcher is being able to conduct an effective internet search to find information about a topic or answer a research question.</li> <li>• Ask students to think about how they could use the words on the board to create an internet search that would help them locate the article they've just read. Explain that you know it may sound strange to work backwards (you've already found the article, so why would you do a fake internet search for it?), but this exercise will help students understand the value of keywords in finding an article online.</li> <li>• Demonstrate on the board or display how you would combine some of those words the students identified in the article to conduct an effective internet search. For example: “health problem school lunch” or “school lunch food unhealthy.”</li> <li>• Display the Industrial Organic section of the researcher's notebook that was used as a model in Lesson 3 and tell students that you are now going to model how to use a search engine and appropriate search terms to answer a sample research question. Explain that at the same time you are going to show them how to fill out the researcher's notebook.</li> <li>• Read the sample research question aloud to students: <ul style="list-style-type: none"> <li>* “How does corn syrup affect human health?”</li> </ul> </li> <li>• Explain that you will now use the criteria on the anchor chart to conduct an internet search using SweetSearch.</li> <li>• Ask students to help you choose the most important words in the question to enter into the SweetSearch search bar. <i>Corn syrup</i> and <i>health</i> should surface as the most important words. Record these words on the chart in the researcher's notebook.</li> <li>• Type them into the search bar and conduct a search. Scroll through the results with students and ask if anyone sees a title that might answer the research question.</li> <li>• Explain to students that sometimes they may need to group words together in a search in order to get effective results.</li> </ul>	<ul style="list-style-type: none"> <li>• As students research, consider meeting in small groups with those who are having difficulty with the research skills introduced in the lesson or in previous lessons.</li> <li>• For students requiring serious reading interventions, consider compiling a research folder or digital collection of level-appropriate texts for students to read in place of the internet search.</li> </ul> <p>In Section 3—Evaluating the Source, Part B—of each food chain within the researcher's notebook, students are offered a chance to extend their research. Consider directing accelerated learners or students who complete their research early to this extension section. You might ask these students to include the additional research they conduct in conversations within their research teams, which the goal of adding even more details to their Cascading Consequences and Stakeholders charts.</p>



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> <li>• Model a search for students using quotation marks in search terms. For example: “<i>corn syrup</i>” <i>health</i> may yield better results than “corn syrup health” because “corn syrup” is a term with a specific meaning. Update the chart in the researcher’s notebook.</li> <li>• Demonstrate for students how the search results change when the words “corn syrup” are grouped using quotation marks.</li> <li>• Point out the information on the Effective Search Terms Are ... anchor chart about using quotation marks to group words if necessary.</li> <li>• Tell students they will now try using search terms themselves as they research the questions they came up with yesterday. Remind students that they may refer to the anchor charts as much as they need to throughout the research process.</li> </ul>	
<p><b>B. Research, Read, and Record (23 minutes)</b></p> <ul style="list-style-type: none"> <li>• Pass back the <b>Exit Ticket: Developing a Supporting Research Question</b> from Lesson 5 and ask students to take out their researcher’s notebooks. Instruct students to copy the questions from their exit tickets into their researcher’s notebooks under the Gathering Sources heading of the Industrial Organic section on page 4.</li> <li>• Pair students up. Distribute the <b>Research task card</b>, reading the instructions and steps aloud. Select a pair of students to model the process with, reading each step aloud before they do it in front of the class.</li> <li>• Emphasize that the steps are designed to repeat, and that students will likely repeat steps a few times in order to find a relevant and credible article.</li> <li>• Refocus students on the researcher’s notebook. Remind students that they used the notebook in Lesson 3 to track their research on the consequences of the industrial food chain. Tell them that they will do the same thing today, recording information about the best article they find about the industrial organic food chain. The task card will help them locate the article, and the researcher’s notebook is where they will record their findings. Call student’s attention to the Gathering Sources section under “II. Industrial Organic” on page 4.</li> <li>• Focus students on the new features of the researcher’s notebook: the search terms chart on page 4 and the text credibility and accuracy checklist on page 5. Explain that students will record the search terms they use as they conduct their research in the search terms box. After deciding on a text, they will assess its credibility and accuracy using the checklist. Students should then use what they have recorded on the checklist to describe whether they think the source is credible and accurate or not. Instruct students to look over the chart and checklist for a moment to see if they have any questions. Clarify as needed.</li> <li>• Tell students to ignore the final box, Refining the Search, for now.</li> </ul>	<ul style="list-style-type: none"> <li>• When reviewing the graphic organizers or recording forms, consider using a document camera to visually display the document for students who struggle with auditory processing.</li> <li>• Providing models of expected work supports all learners, but especially supports challenged learners.</li> <li>• Research time in Lessons 3, 6, and 9 is critical practice working toward the mid-unit assessment in Lesson 11. This time can be used to meet individually with struggling students and to provide support on key research skills.</li> </ul>



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"><li>• Invite students to begin researching. Remind them to have their task card, researcher's notebook, and a writing utensil with them. Circulate to answer questions and check student progress, making sure the search results students get are relevant to the industrial organic food chain.</li><li>• Circulate to make sure all students find an article they may use for tracking their research in the researcher's notebook. Assist students in refining their search terms where necessary.</li></ul>	
Closing and Assessment	Meeting Students' Needs
<b>A. Refining the Research Question (5 minutes)</b> <ul style="list-style-type: none"><li>• Focus students on Part A of the final section of the researcher's notebook: Refining the Search. Tell students that now that they have found an article and started to do some research on their topic related to the industrial organic food chain, they are going to generate a new research question to refine their search on this topic.</li><li>• Invite students to refine their question and to record the new refined question in the researcher's notebook.</li></ul>	
Homework	Meeting Students' Needs
<ul style="list-style-type: none"><li>• Finish filling out the researcher's notebook for your article (if necessary).</li><li>• Use the consequences you recorded from your research article to add to your personal Industrial Organic Food Chain Cascading Consequences chart. Add new consequences in a different color so that they are easy to see. Remember that some of the consequences might be new and some might be cascading consequences from consequences you have already listed. Think carefully about where you put your consequences.</li></ul>	



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# Grade 8: Module 4: Unit 2: Lesson 6

## Supporting Materials



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**What Makes a Source Accurate and Credible?**

Anchor Chart for Teacher Reference

**What makes a source accurate and credible?**

- An expert author
- Author's purpose = NOT to persuade or sell you something
- Current or updated information (look at publishing date!)
- Specific facts and details to support ideas
- Information that expands on what I already know about the topic (but not ALWAYS)
  
- If from a website, the site should be associated with a:
  - University
  - Credible media outlet
  - Government
  - Well-known non-governmental organization

**\*\*Beware of Wikipedia and similar sites!**





# Lunch or Junk?

## Health experts get tough on school lunches

It's lunchtime at Hall Memorial School in Connecticut, and 10-year-old Haley is making her way through the food line. Many of her friends are thrilled with the day's lunch selections: pizza and French fries and hot dogs. But Haley feels discouraged. “I use four or five napkins just trying to get the grease off the pizza,” she says. “Where are the healthy options?”

Health experts are asking the same question. They say foods high in fat, salt, and sugar should be banned from school lunch programs. This includes some items you might not suspect, like fruit punch, which is loaded with sugar, and macaroni and cheese, which is sky-high in fat and salt. “Children are already consuming too much junk food,” says Jen Keller, a dietitian at the Physician's Committee for Responsible Medicine. “It's important to offer them only healthy items in school.”

It's not that health experts want to deprive kids of foods they like best. They just want to help kids avoid many of the health problems that come with eating large quantities of unhealthful food. Today, 15 percent of children ages 6 to 11 are obese, or seriously overweight. That's up from just 6.5 percent in the late 1970s. Poor diet and obesity can cause diseases

like type-2 diabetes, which can lead to blindness and kidney problems.

As of a few years ago, this disease was so rare in children that it was called “adult onset diabetes.” “Many foods that are offered in cafeterias are linked to these problems,” Keller says.

Most schools do offer some healthful foods, but experts say that doesn't solve the problem. “Given a choice, most kids are going to choose junk over something healthy,” says Pat Thorton, a psychologist who studies obesity in children.

Thorton and other experts agree that schools and parents need to educate kids about making good food choices, both in and out of school. For example, few kids understand that many popular candies, chips, and sodas come in containers that actually contain two or even three servings. And kids need to become skeptical about food advertisements they see on TV and in magazines. “Just because Beyonce sells Pepsi doesn't mean it's a good product for your body,” Thorton says.

Of course some kids already seem to know all of this. “The junk food is tempting,” says 10-year-old Tim. “But my parents tell me that if I eat healthy now, I'll have strong bones when I get older.”







Effective Search Terms Are...  
Anchor Chart for Teacher Reference

Effective search terms are ...

- **Specific**
- **Relevant** to the research question
- The **most** important words—no “filler words”
- **Two to three words**—not whole sentences or questions!
- Terms with **special meanings**
- (e.g., “corn syrup,” not just “corn” or “syrup”)

**Remember:**

- Use quotations marks when necessary to “stick” words together.
- Refine your terms until you get good results.



Research Task Card

Work in pairs and follow the steps on this card to conduct a search for an article that will answer your supporting research question. The steps are designed to be repeated if you don't find a relevant article the first time. Don't be afraid to repeat steps—it will be worth it to find the right article! Once you find a relevant and credible article, use your researcher's notebook to record the necessary information. Discussing each of these steps with your partner will help you to determine whether you have found a good article for answering your question.

**Overarching Research Question:**

What are the consequences of each of Michael Pollan's food chains?

**Step 1:** Brainstorm search terms. Think about the most important words in your supporting research question. Record the search terms you try in your researcher's notebook.

**Step 2:** Scan the titles of your search results. Do they seem relevant to your supporting research question? If yes, move to Step 3. If no, return to Step 1.

**Step 3:** Based on titles and/or descriptions of the articles, open an article that seems relevant to your supporting question. Scan the headings, pictures (if any), and general structure of the article. If these text features hint that the article may answer your supporting question, move to Step 4. If not, return to Step 3. If there are no headings or pictures, skip to Step 4.

**Step 4:** Read the first paragraph of the article for the gist. If the first paragraph begins to answer or introduces possible answers to your supporting research question, move to Step 5. If not, return to Step 3.

**Step 5:** Read the whole article to get the gist. If the article answers your supporting research question, move to Step 6. If not, return to Step 3.

**Step 6:** Fill out the researcher's notebook. Follow the directions in your researcher's notebook to record the consequences of the food chain that you find in your article.



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# **Grade 8: Module 4: Unit 2: Lesson 7**

## **Adding to Cascading Consequences and Stakeholders: Industrial Organic Food Chain**



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Long-Term Target Addressed (Based on NYSP12 ELA CCLS)	
I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)	
Supporting Learning Targets	Ongoing Assessment
<ul style="list-style-type: none"><li>• I can use my research to add to the Cascading Consequences chart for Michael Pollan's industrial organic food chain.</li><li>• I can determine the stakeholders affected by the consequences of Michael Pollan's industrial organic food chain.</li></ul>	<ul style="list-style-type: none"><li>• Cascading Consequences charts</li><li>• Stakeholders charts</li><li>• MLA citations in researcher's notebooks</li></ul>



Agenda	Teaching Notes
<ol style="list-style-type: none"><li>1. Opening<ol style="list-style-type: none"><li>A. Unpacking Learning Targets (2 minutes)</li></ol></li><li>2. Work Time<ol style="list-style-type: none"><li>A. Creating a Team Cascading Consequences Chart (17 minutes)</li><li>B. Creating a Stakeholders Chart (15 minutes)</li><li>C. Mini Lesson Reviewing Citations (6 minutes)</li></ol></li><li>3. Closing and Assessment<ol style="list-style-type: none"><li>A. Citing Research in MLA (5 minutes)</li></ol></li><li>4. Homework<ol style="list-style-type: none"><li>A. Start your Local Sustainable Food Chain Cascading Consequences chart.<ul style="list-style-type: none"><li>– Numbered Heads 1 and 2 reread pages 143–150 and 161–166 of <i>The Omnivore's Dilemma</i> and begin a Local Sustainable Food Chain Cascading Consequences chart.</li><li>– Numbered Heads 3 and 4 reread pages 166–170 and 182–192 of <i>The Omnivore's Dilemma</i> and begin a Local Sustainable Food Chain Cascading Consequences chart.</li></ul></li><li>B. Be prepared to share your list of consequences with your research team to create a team Local Sustainable Food Chain Cascading Consequences chart in the next lesson.</li></ol></li></ol>	<ul style="list-style-type: none"><li>• This lesson is very similar in structure to Lesson 3. In order to gradually release students, in this lesson students are given a blank Stakeholders chart and you model how to fill it out by adding just a couple of stakeholders with student input before students finish it in teams.</li><li>• Students will have done citations in other grades and modules; however, this lesson contains a refresher of when to use citations and the proper format. This will be a good reminder to students that, as they begin to think about answering the guiding question, they will need to use text-based evidence to support their claims—and that citing that evidence properly is very important.</li><li>• You may want to familiarize yourself with citations and MLA formatting so that you can address students' questions about this.</li><li>• Collect student homework from Lesson 6 to ensure student understanding of internet search terms. You do not need to provide feedback, but be prepared to adjust your teaching in Lesson 9—the next research lesson—accordingly.</li><li>• In advance: Prepare the Correct Citations ... section of the researcher's roadmap (see supporting materials for what to include on the anchor chart).</li><li>• Post: Learning targets.</li></ul>



Lesson Vocabulary	Materials
stakeholder, citation	<ul style="list-style-type: none"><li>• Researcher's notebook (one per student, distributed in Lesson 3)</li><li>• Team Industrial Organic Food Chain Cascading Consequences chart (started in Lesson 5)</li><li>• Sticky notes (at least eight per student)</li><li>• Industrial Organic Food Chain Cascading Consequences chart (for teacher reference, from Lesson 5)</li><li>• Research articles (from Lesson 6)</li><li>• Stakeholders chart (new; one per student and one for display; see Lesson 4)</li><li>• Industrial Organic Stakeholders chart (answers, for teacher reference)</li><li>• Correct Citations anchor chart (new; teacher-created; see supporting materials)</li><li>• Blank 8" x 11" paper (one piece per student)</li></ul>



Opening	Meeting Students' Needs
<p><b>A. Unpacking Learning Targets (2 minutes)</b></p> <ul style="list-style-type: none"> <li>• Ask for volunteers to read the learning targets aloud: <ul style="list-style-type: none"> <li>* “I can use my research to add to the Cascading Consequences chart for Michael Pollan’s industrial organic food chain.”</li> <li>* “I can determine the stakeholders affected by the consequences of Michael Pollan’s industrial organic food chain.”</li> </ul> </li> <li>• Remind students that a <i>stakeholder</i> is anyone who will be affected by the consequences of the industrial organic food chain.</li> </ul>	
Work Time	Meeting Students' Needs
<p><b>A. Creating a Team Cascading Consequences Chart (17 minutes)</b></p> <ul style="list-style-type: none"> <li>• Invite students to reread the focus question and the research question. Remind students that the Cascading Consequences chart will help them to answer the focus question because it gives them a greater understanding of all of the consequences of a food chain, which they will need to consider when choosing which food chain they think will best feed the United States.</li> <li>• Have the students take out their <b>researcher’s notebook</b>. Explain that they will be sharing the new consequences that they recorded from their research to add to their <b>team Industrial Organic Food Chain Cascading Consequences chart</b>, where possible.</li> <li>• Remind students that they will take turns reading out new consequences from their reading and discuss with their research teams where to place them on the group chart. Make the suggestion that ALL students in the group read their information BEFORE anything gets added in marker, and that they add their ideas on <b>sticky notes</b> before committing to writing in marker on the chart. That way, they can make the best decisions about where things should go (as there will likely be some overlapping information).</li> <li>• Circulate to support teams as they add to their Cascading Consequences charts. Refer to the <b>Industrial Organic Food Chain Cascading Consequences chart (for teacher reference, from Lesson 5)</b> to guide students in the consequences of the industrial organic food chain and how they are affected.</li> <li>• Ask students: <ul style="list-style-type: none"> <li>* “What new consequences did you find in your research?”</li> <li>* “Where are you going to add them on your team chart? Why?”</li> </ul> </li> <li>• Select teams to share their charts with the whole group.</li> </ul>	<ul style="list-style-type: none"> <li>• This type of small group sharing and discussion provides a collaborative and supportive structure for processing and thinking about complex tasks.</li> <li>• If necessary, provide hint cards based on the Industrial Organic Food Chain Cascading Consequences chart (for teacher reference only) for students who need the additional support.</li> </ul>



Work Time (continued)	Meeting Students' Needs
<p><b>B. Creating a Stakeholders Chart (15 minutes)</b></p> <ul style="list-style-type: none"><li>• Invite teams to look over the team Cascading Consequences chart to identify the stakeholders affected by the consequences listed. If the stakeholders are listed on the chart, they can underline or circle them; if they are not listed, they can note them next to the consequences.</li><li>• Display a blank <b>Stakeholders chart</b> and invite a team to suggest a stakeholder they have identified. Model filling out the columns for that stakeholder by addressing the questions in all of the column headings. Invite a student from that group to call out how they would respond to the prompts in each of the columns. Remind students that, because their life experiences and values may differ, the way they fill out the columns in this chart (particularly the final column) may differ.</li><li>• Distribute Stakeholders charts and invite teams to work together to fill them out. Each group member will be filling out his or her own chart, but can discuss ideas with the team as they work. Remind students that they won't necessarily agree on all of the answers, so each person should record what they think.</li><li>• Circulate to assist students where they need it. Ask students questions to guide their thinking:<ul style="list-style-type: none"><li>* "What stakeholders are affected by this consequence?"</li><li>* "How are they affected?"</li></ul></li><li>• Refer to the <b>Industrial Organic Stakeholders Chart (answers, for teacher reference)</b> to guide students in the stakeholders they could include on their chart. Remember that team Cascading Consequence charts may be different to the teacher reference version, so this may cause a difference in stakeholders.</li><li>• If time allows, have students pair up with a student from another research team to compare and discuss their Stakeholders chart for the industrial organic food chain. Invite students to adjust their own answers based on their conversation if they want to.</li></ul>	<ul style="list-style-type: none"><li>• While students are collaborating in small groups on the Stakeholders chart, an individual chart is expected. Consider providing probing questions to students who need it. Such questions may remind students of possible stakeholders.</li></ul>





Work Time (continued)	Meeting Students' Needs
<p><b>C. Mini Lesson Reviewing Citations (6 minutes)</b></p> <ul style="list-style-type: none"> <li>Focus students' attention on the <b>Correct Citations anchor chart</b>. Ask students to discuss in research teams: <ul style="list-style-type: none"> <li>* "What do you notice?"</li> <li>* "What do you wonder?"</li> </ul> </li> <li>Cold call a few students to share their notice/wonders.</li> <li>Tell students that correct <i>citation</i> means that you (as a writer) are giving credit where credit is due. You are acknowledging that your ideas have been built upon the ideas of others. Citing the sources you have used is the appropriate way to give the right people credit, so that anyone who is interested can read/check that source. Explain that there is a particular format that we will be using in the writing we do to cite our sources. It is called "MLA," or the Modern Languages Association format.</li> <li>Guide students through how-to-cite books, articles, and websites using the examples on the anchor chart.</li> </ul>	
Closing and Assessment	Meeting Students' Needs
<p><b>A. Citing Research in MLA (5 minutes)</b></p> <ul style="list-style-type: none"> <li>Remind students that for each food chain in their researcher's notebook there is a space for them to record an MLA citation of the research resource they have been using. Invite students to fill in each of those now using the anchor chart to guide them.</li> <li>Invite students to return to their teams and to number each team member a number between one and four.</li> <li>Explain that, for homework, numbers 1 and 2 will reread pages 143–150 and 161–166 of <i>The Omnivore's Dilemma</i> and make a new Local Sustainable Food Chain Cascading Consequences chart. Numbers 3 and 4 will reread pages 166–170 and 182–192 and make a Local Sustainable Food Chain Cascading Consequences chart.</li> <li>Distribute <b>blank 8" x 11" paper</b>.</li> </ul>	



Homework	Meeting Students' Needs
<ul style="list-style-type: none"><li>• Start your Local Sustainable Food Chain Cascading Consequences chart:<ul style="list-style-type: none"><li>– Numbered Heads 1 and 2 reread pages 143–150 and 161–166 of <i>The Omnivore's Dilemma</i> and begin a Local Sustainable Food Chain Cascading Consequences chart.</li><li>– Numbered Heads 3 and 4 reread pages 166–170 and 182–192 of <i>The Omnivore's Dilemma</i> and begin a Local Sustainable Food Chain Cascading Consequences chart.</li></ul></li><li>• Be prepared to share your list of consequences with your research team to create a team Local Sustainable Food Chain Cascading Consequences chart in the next lesson.</li></ul>	



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

## Supporting Materials



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# Industrial Organic Stakeholders Chart

Answers for Teacher Reference

What is the option being considered?

*Industrial Organic*

Stakeholder	How will the/she/it be affected?	Is this a positive or negative consequence?	If the consequence is negative, do <i>you</i> 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
Environment	Chemical-free	Positive		1
Growers and workers	Health is improved	Positive		2
Animals	On feedlots	Negative	No	2
Customer ("people")	"Range" fed beef costs more	Negative and positive	Yes	1
Customer	Food tastes better	Positive		1
Environment	High use of fossil fuels	Negative	Yes	1



### Correct Citations Anchor Chart

#### What should be cited?

- Anything that is not your idea, a shared language, or common knowledge.
- Facts or statistics.
- Verbatim quotes.
- Summaries or paraphrases of others' ideas.
- If the information might be common knowledge but your reader may be unfamiliar with it.
- Others' opinions.
- If you're not sure, ask your teacher or cite it to be safe.

#### How to cite?

##### MLA (Modern Languages Association) Format

##### Books

Last, First M. *Book Title*. City Published: Publisher, Year Published.

**Example:** Pollan, Michael. *The Omnivore's Dilemma*. Young Readers Edition. New York: Dial Books, 2009.

##### Article

Last, First M. "Article." *Journal Name* Volume. Issue (Year): Page (s).

**Example:** Williams, Keisha. "School Librarians-Getting Qualified for the 21st Century." *School Library Monthly* Nov. (2010): 46-47.

##### Website

Last, First M. "Website Article." *Website*. Publisher, Date published - Day Month Year. Web. Date Accessed - Day Month Year.

**Example:** Manson, Richard. "Top Ten Travel Tips." *About.com*. New York Times Company, 20 Dec. 2009. Web. 25 Sept. 2008.



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# **Grade 8: Module 4: Unit 2: Lesson 8**

## **Local Sustainable Food Chain: Determining Cascading Consequences Using *The Omnivore's Dilemma***



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
<p>I can cite text-based evidence that provides the strongest support for an analysis of informational text. (RI.8.1)</p> <p>I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)</p> <p>I can generate additional research questions for further exploration. (W.8.7)</p>	
Supporting Learning Targets	Ongoing Assessment
<ul style="list-style-type: none"> <li>I can determine the cascading consequences of the local sustainable food chain using <i>The Omnivore's Dilemma</i>.</li> <li>I can develop a supporting research question to help me focus my research.</li> </ul>	<ul style="list-style-type: none"> <li>Team Local Sustainable Food Chain Cascading Consequences chart</li> <li>Exit Ticket: Developing a Supporting Research Question: Consequences of Local Sustainable Food Chain</li> </ul>

Agenda	Teaching Notes
<ol style="list-style-type: none"> <li>Opening             <ol style="list-style-type: none"> <li>Unpacking Learning Targets (5 minutes)</li> </ol> </li> <li>Work Time             <ol style="list-style-type: none"> <li>Research Teams Create Local Sustainable Cascading Consequences Charts (20 minutes)</li> <li>Team Share (10 minutes)</li> </ol> </li> <li>Closing and Assessment             <ol style="list-style-type: none"> <li>Exit Ticket: Developing a Supporting Research Question (10 minutes)</li> </ol> </li> <li>Homework             <ol style="list-style-type: none"> <li>In your researcher's notebook, record some search terms you might use in an internet search engine to find articles that will help to answer your research question.</li> </ol> </li> </ol>	<ul style="list-style-type: none"> <li>This is the first of three lessons focused on the local sustainable food chain. The lesson is very similar to Lesson 5, although in order to gradually release students to work more independently, in this lesson there is no teacher modeling. Teams go straight into creating their team Cascading Consequences charts; however, if you have students or teams struggling with this process, consider creating a mini lesson to address the problems and/or reteaching the skill to a group of students.</li> <li>Consider collecting the exit tickets and giving students feedback on the quality of their supporting research questions using the criteria listed under Good Supporting Research Questions on the researcher's roadmap. They will use these questions to focus their research in the next lesson.</li> <li>Review: Local Sustainable Food Chain Cascading Consequences chart (for teacher reference) to help you guide students while you are circulating during Work Time.</li> <li>Review: Fist to Five in Checking for Understanding Techniques (see Appendix).</li> </ul>



Lesson Vocabulary	Materials
cascading, consequence	<ul style="list-style-type: none"> <li>• Chart paper (one per research team)</li> <li>• Markers (four different colors per research team)</li> <li>• Consequences Conversation task cards (one per student, from Lesson 5)</li> <li>• Local Sustainable Food Chain Cascading Consequences chart (for teacher reference)</li> <li>• Researcher's roadmap (one per student, from Lesson 2)</li> <li>• Good Supporting Research Questions Are ... anchor chart (from Lesson 2)</li> <li>• Exit Ticket: Developing a Supporting Research Question: Consequences of Local Sustainable Food Chain (one per student)</li> </ul>

Opening	Meeting Students' Needs
<p><b>A. Unpacking Learning Targets (5 minutes)</b></p> <ul style="list-style-type: none"> <li>• Invite students to read through the learning targets with you:             <ul style="list-style-type: none"> <li>* "I can determine the cascading consequences of the local sustainable food chain using <i>The Omnivore's Dilemma</i>."</li> <li>* "I can develop a supporting research question to help me focus my research."</li> </ul> </li> <li>• Remind students that they have seen similar learning targets in Lessons 1 and 5. Based on the learning targets, invite students to turn and talk with an elbow partner to answer the question:             <ul style="list-style-type: none"> <li>* "What do you think we are doing today and why are we doing it?"</li> </ul> </li> <li>• Cold call students to share out. Listen for students to say that they are going to finish determining the cascading consequences for the local sustainable food chain from <i>The Omnivore's Dilemma</i> in order to use a structured decision-making process to answer the guiding question: "Which of Michael Pollan's four food chains would best feed all the people in the United States?"</li> <li>• Invite students to turn to page 5 in <i>The Omnivore's Dilemma</i>, to the description of the local sustainable food chain. Read this description aloud as students follow along silently. The purpose of this reading is to simply remind students of the definition of local sustainable.</li> </ul>	





Work Time	Meeting Students' Needs
<p><b>A. Research Teams Create Local Sustainable Cascading Consequences Chart (20 minutes)</b></p> <ul style="list-style-type: none"> <li>• Invite students to take out their personal Local Sustainable Food Chain Cascading Consequences, which they completed for homework. Explain that they are going to use this to build their team Local Sustainable Food Chain Cascading Consequences chart.</li> <li>• Distribute one piece of <b>chart paper</b> and four different colored <b>markers</b> to each research team.</li> <li>• Direct students to take out and review their <b>Consequences Conversation task cards</b>.</li> <li>• Invite students to turn and talk to their research team about a star (one thing from the card that the team did well) from Lesson 7, when they added to their team Industrial Organic Food Chain Cascading Consequences chart. Also have them talk about a step (one area for improvement).</li> <li>• Invite each team to share out their star and step.</li> <li>• Remind students that it is important that teams follow the process outlined on the task card because: 1) it ensures that all students' voices are heard; 2) it pushes students to share their thinking about why; and 3) the markers allow you to quickly observe the contributions of each team member.</li> <li>• Remind students that there are multiple ways to create a Cascading Consequences chart from a text. It is okay if each research team's chart is slightly different, as long as they can argue why they placed things where they did.</li> <li>• As students work, circulate to observe and assist teams. Ask students: <ul style="list-style-type: none"> <li>* "Are you following the model by taking turns, discussing where consequences should go and why, and actively and respectfully listening?"</li> <li>* "Why did you place this consequence where you did?"</li> <li>* "How do you know this is a consequence of this?"</li> </ul> </li> <li>• See the <b>Local Sustainable Food Chain Cascading Consequences chart (for teacher reference)</b> in the supporting materials for one way to create a Cascading Consequences chart from these text excerpts; remember, it is NOT the only way.</li> </ul>	<ul style="list-style-type: none"> <li>• For students who are having a hard time identifying the consequences in the text, consider giving them a list of consequences that they can use to participate in creating the team Cascading Consequences chart.</li> <li>• For students who are struggling with this process, consider creating a mini lesson to address the problems, and/or reteaching the skill to a group of students.</li> </ul>



Work Time (continued)	Meeting Students' Needs
<p><b>B. Team Share (10 minutes)</b></p> <ul style="list-style-type: none"><li>• Remind students that the purpose of creating Cascading Consequences charts is to help them figure out which food chain they think would be best for feeding all the people in the United States.</li><li>• Explain to students that they will now get to borrow ideas from other teams. Direct research teams to assign each student a number, one through four.</li><li>• Post the following directions:<ul style="list-style-type: none"><li>– Number one stay at your team's Cascading Consequences chart to answer questions from other group members.</li><li>– Numbers two through four each travel to one or two other charts. At the other charts, look for any differences compared to your own chart. Ask clarifying questions in order to understand why the team placed certain consequences where they did. For example, you might say: "Why do you have 'food tastes better' coming from the box that says, 'people eat foods in season?' I was thinking 'food tastes better' could come from the 'no pesticides box' instead."</li><li>– Numbers two through four return to your own team with one difference and an explanation of why the other team made the decision they did.</li></ul></li><li>• Circulate to support students in asking and answering questions. Some students may find this challenging and require additional support.</li><li>• Invite all students to return to their team charts to add/revise their cascading consequences if they saw something new or significant on the other charts they visited.</li></ul>	<ul style="list-style-type: none"><li>• Consider modeling one type of conversation that might take place during the Team Share time.</li></ul>



Closing and Assessment	Meeting Students' Needs
<p><b>A. Exit Ticket: Developing a Supporting Research Question (10 minutes)</b></p> <ul style="list-style-type: none"> <li>Remind students of the focus question and research question (both posted in the classroom):             <ul style="list-style-type: none"> <li>* Focus question: "Which of Michael Pollan's four food chains would best feed all the people in the United States?"</li> <li>* Research question: "What are the consequences of each of Michael Pollan's four food chains?"</li> </ul> </li> <li>Remind students that the purpose of the research they are doing is to gather evidence to be able to answer this question orally at the end of Unit 2 and in writing in Unit 3.</li> <li>Invite students to take out their <b>researcher's roadmap</b> (from Lesson 2) and briefly tell a partner where we are on the roadmap for the new food chain, local sustainable. Remind students that the next step is to develop a supporting research question, which they will use in class tomorrow to further research the consequences of the local sustainable food chain.</li> <li>Invite all students to choose one consequence from the chart about which they would like to do further research, and write their initials next to it on their team Cascading Consequences chart.</li> <li>Invite the research teams to look at the boxes that were initialed and discuss whether there are any other consequences that they feel would be more important to research than those that were initialed. If so, students may volunteer to research those instead. Emphasize that each student in the team should have chosen a different consequence to research.</li> <li>Review the <b>Good Supporting Research Questions Are ... anchor chart</b> posted on the wall.</li> <li>Distribute an <b>Exit Ticket: Developing a Supporting Research Question: Consequences of Local Sustainable Food Chain</b> to each student. Invite students to complete the exit ticket by writing their research topic (a box from the Cascading Consequences chart) and drafting a supporting research question.</li> <li>Invite students to record their research question in their researcher's notebook in the Local Sustainable section.</li> </ul>	<ul style="list-style-type: none"> <li>Based on the quality of the supporting research questions for the last food chain (Lesson 5, industrial organic), consider adding a brief mini lesson to address common mistakes students made when writing their questions. Giving clear examples of questions that meet and don't meet each criterion can be helpful for students.</li> </ul>
Homework	Meeting Students' Needs
<ul style="list-style-type: none"> <li>In your researcher's notebook, record some search terms you might use in an internet search engine to find articles that will help to answer your research question.</li> </ul>	



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# Grade 8: Module 4: Unit 2: Lesson 8

## Supporting Materials

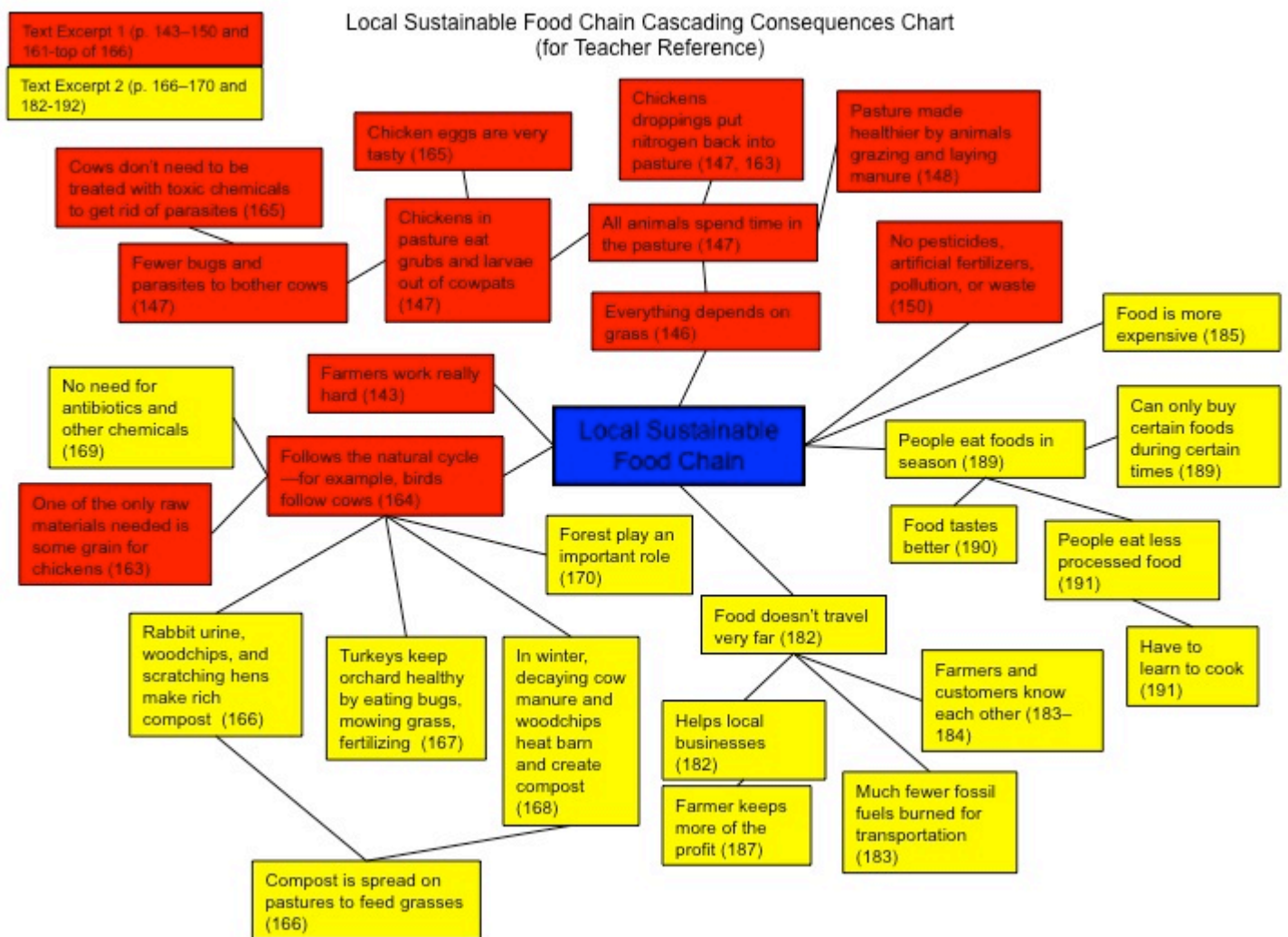


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## Local Sustainable Food Chain

### Cascading Consequences Chart for Teacher Reference





**Exit Ticket: Developing a Supporting Research Question:**  
Consequences of Local Sustainable Food Chain

What is the topic from your team Cascading Consequences chart that you will research?

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Using the criteria for a good supporting research question, write your supporting research question here:

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# **Grade 8: Module 4: Unit 2: Lesson 9**

## **Further Research: Local Sustainable Food Chain**



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

I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)  
I can use several sources in my research. (W.8.7)  
I can gather relevant information from a variety of sources. (W.8.8)  
I can use search terms effectively. (W.8.8)  
I can evaluate the credibility and accuracy of each source. (W.8.8)  
I can quote and paraphrase others' work while avoiding plagiarism. (W.8.8)  
I can use a standard format for citation. (W.8.8)

**Supporting Learning Targets**

- I can use research skills to determine consequences of the local sustainable food chain.
- I can cite sources using MLA format.
- I can choose the most effective search terms to find relevant research sources to answer my research question.
- I can evaluate the credibility and accuracy of a source.
- I can quote and paraphrase others' work while avoiding plagiarism.
- I can identify the relevant information in a research source to answer my research question.

**Ongoing Assessment**

- Researcher's notebook





Agenda	Teaching Notes
<ol style="list-style-type: none"> <li>1. Opening               <ol style="list-style-type: none"> <li>A. Reviewing Homework (5 minutes)</li> <li>B. Unpacking Learning Targets (2 minutes)</li> </ol> </li> <li>2. Work Time               <ol style="list-style-type: none"> <li>A. Review Researcher's Notebook and Research Anchor Charts (5 minutes)</li> <li>B. Research, Read, and Record (28 minutes)</li> </ol> </li> <li>3. Closing and Assessment               <ol style="list-style-type: none"> <li>A. Popcorn Sharing (5 minutes)</li> </ol> </li> <li>4. Homework               <ol style="list-style-type: none"> <li>A. Finish filling out the researcher's notebook for your research articles from this lesson.</li> </ol> </li> </ol>	<ul style="list-style-type: none"> <li>• Be prepared to adjust your teaching about internet search terms accordingly in this lesson based on the Internet Search Terms homework you collected in Lesson 7.</li> <li>• Ensure you have looked over the Exit Ticket: Developing a Supporting Research Question: Consequences of Local Sustainable Food Chain from the previous lesson to ensure students are on the right track with their research question. Be prepared to guide those students who need assistance in the right direction before they begin researching in this lesson.</li> <li>• This lesson is very similar in structure to Lessons 3 and 6. By this lesson, the research process and use of the Researcher's Notebook should be more familiar to students and, as a result, they should require less modeling and support. Keep in mind that this is the last lesson in which students practice research skills before the mid-unit assessment, so anything that students are struggling with should be reviewed in this lesson to ensure students are successful in the mid-unit assessment.</li> <li>• Prompts in the Researcher's Notebook in this lesson are nearly identical to those in Lesson 6, with one exception: Building on the review of MLA style citation in Lesson 7, students will cite their source (as well as those previously noted in their Researcher's Notebooks) in MLA format. This will ensure that students have properly cited sources ready to include in a bibliography for their position paper in Unit 3.</li> <li>• After this lesson, consider checking in with students and/or collecting their Researcher's Notebooks to briefly assess their understanding of MLA citation in preparation for the mid-unit assessment in Lesson 11.</li> <li>• The homework in this lesson requires that students complete the Researcher's Notebook using the article they use in class (if they have not done so by the end of class). This would require the students to print the articles, save them, or access them at home. Consider which option(s) would work best for your students and prepare accordingly.</li> <li>• Post: Learning targets</li> </ul>



Lesson Vocabulary	Materials
	<ul style="list-style-type: none"><li>• Effective Search Terms Are ... anchor chart (created in Lesson 6)</li><li>• Researcher's notebooks (one per student, started in Lesson 3)</li><li>• What Makes a Source Credible and Accurate? anchor chart (created in Lesson 3)</li><li>• Paraphrasing anchor chart (created in Lesson 3)</li><li>• Correct Citations anchor chart (created in Lesson 7)</li><li>• Exit Ticket: Developing a Supporting Research Question: Consequences of Local Sustainable Food Chain (completed in Lesson 8)</li><li>• Research task cards (distributed in Lesson 6)</li></ul>



Opening	Meeting Students' Needs
<p><b>A. Reviewing Homework (5 minutes)</b></p> <ul style="list-style-type: none"><li>• Focus students on the <b>Effective Search Terms Are ... anchor chart</b> and invite them to reread the criteria.</li><li>• In research teams, invite students to share their research questions and the search terms they think will help them to find an article to answer their research question. Instruct students to explain their choices to their team using the criteria on the Effective Search Terms Are ... anchor chart and then listen as the other members of the team explain their own choices.</li><li>• Circulate to identify any problems with student internet search terms. Keep those students with issues in mind as students to focus on in a small group setting at the beginning of the research time.</li><li>• After they have shared their responses, ask students to give a Fist to Five on their comfort level with determining effective search terms. Five means completely comfortable determining effective search terms and zero means not at all comfortable. Clarify and answer questions where necessary.</li></ul>	<ul style="list-style-type: none"><li>• Use the Fist to Five to help you measure which students might need additional support during Work Time B.</li></ul>
<p><b>B. Unpacking Learning Targets (2 minutes)</b></p> <ul style="list-style-type: none"><li>• Invite students to read the learning targets with you:<ul style="list-style-type: none"><li>* "I can use research skills to determine consequences of the local sustainable food chain."</li><li>* "I can cite sources using MLA format."</li><li>* "I can choose the most effective search terms to find relevant research sources to answer my research question."</li><li>* "I can evaluate the credibility and accuracy of a source."</li><li>* "I can quote and paraphrase others' work while avoiding plagiarism."</li><li>* "I can identify the relevant information in a research source to answer my research question."</li></ul></li><li>• Remind students that they will have seen all of these learning targets in previous lessons.</li></ul>	



Work Time	Meeting Students' Needs
<p><b>A. Review Researcher's Notebook and Research Anchor Charts (5 minutes)</b></p> <ul style="list-style-type: none"><li>• Invite students to take out their <b>researcher's notebooks</b>.</li><li>• Remind students that the first time they researched independently, they learned about credibility and accuracy. Invite students to read the learning target aloud:<ul style="list-style-type: none"><li>* "I can evaluate the credibility and accuracy of a source."</li></ul></li><li>• Ask students to discuss in teams:<ul style="list-style-type: none"><li>* "What makes a source credible and accurate?"</li></ul></li><li>• Invite students to reread the <b>What Makes a Source Credible and Accurate? anchor chart</b> with you.</li><li>• Invite students to read the next learning target aloud with you:<ul style="list-style-type: none"><li>* I can quote and paraphrase others' work while avoiding plagiarism."</li></ul></li><li>• Ask students to discuss in teams:<ul style="list-style-type: none"><li>* "How and why do we paraphrase research?"</li></ul></li><li>• Invite students to reread the <b>Paraphrasing anchor chart</b> with you.</li><li>• Call students' attention to the <b>Correct Citations anchor chart</b>. Remind students to refer to the anchor chart when filling out the Gathering Sources section of their researcher's notebook.</li></ul>	



Work Time	Meeting Students' Needs
<p><b>B. Research, Read, and Record (28 minutes)</b></p> <ul style="list-style-type: none"> <li>Read the learning target aloud to students: <ul style="list-style-type: none"> <li>* “I can use research skills to determine consequences of the local sustainable food chain.”</li> </ul> </li> <li>Pass back the <b>Exit Ticket: Developing a Supporting Research Question: Consequences of Local Sustainable Food Chain</b> from Lesson 8. Invite students to revise their question on their researcher’s notebooks based on any feedback you may have given them.</li> <li>Invites students to refer to their <b>Research task cards</b> and to reread the steps. Make sure students know how important it is to follow the steps on the task cards in order to get the best, most relevant results to answer their research questions. Explain that the steps are designed to repeat, and that students will likely repeat steps a few times in order to find a relevant and credible article.</li> <li>Focus students on the Local Sustainable—Lesson 9 of their researcher’s notebook. Invite students to look at the final section of this chapter of their notebook. Point out that, in addition to refining the question, there is now an extension activity for students to research again using their refined question. Explain that students are only to do this if they have time.</li> <li>Invite students to begin researching. Remind them to follow the directions on their Research task cards and to record what they find in their researcher’s notebook. Circulate to answer questions and check student progress, making sure the search results students get are relevant to the local sustainable food chain.</li> <li>When about 10 minutes have passed, circulate to make sure all students have found an article to use. Assist students in refining their search terms where necessary.</li> </ul>	<ul style="list-style-type: none"> <li>As students research, consider meeting in small groups with those who are having difficulty with the research skills introduced in the lesson or in previous lessons.</li> <li>For students requiring serious reading interventions, consider compiling a research folder of level-appropriate texts for students to read in place of the internet search.</li> <li>In Section 3—Evaluating the Source, Part B of each food chain within the researcher’s notebook, students are offered a chance to extend their research. Consider directing accelerated learners or students who complete their research early to this extension section. You might ask these students to include the additional research they conduct in conversations within their research teams, with the goal of adding even more details to their Cascading Consequences and Stakeholders charts.</li> </ul>



Closing and Assessment	Meeting Students' Needs
<p><b>A. Popcorn Sharing (5 minutes)</b></p> <ul style="list-style-type: none"> <li>• Tell students you would like to hear some feedback about how their research went today. Inform students that they will popcorn share their responses. Remind students that popcorn sharing starts with one student, who then chooses the next student to share, and so on. The responses do not need to be related to one another; students can share what's on their mind about the research process today.</li> <li>• Ask students: <ul style="list-style-type: none"> <li>* "What are some things you learned about consequences of the local sustainable food chain today?"</li> </ul> </li> <li>• Choose one student to begin sharing. Make sure each student passes the share out to another volunteer.</li> <li>• Halfway through sharing time, ask students to consider your next question:</li> <li>• "What do you feel most confident about as we approach the mid-unit assessment?"</li> <li>• Choose one student to begin sharing. Make sure each student passes the share out to another volunteer.</li> <li>• Thank students for their hard work during today's research time. Tell them their practice with research skills will pay off on their mid-unit assessment.</li> <li>• Remind students that they will meet with their research teams next lesson to share what they found today and add to their Cascading Consequences charts.</li> </ul>	
Homework	Meeting Students' Needs
<ul style="list-style-type: none"> <li>• Finish filling out the researcher's notebook for your research articles from this lesson.</li> </ul>	<ul style="list-style-type: none"> <li>• This homework requires the student to print the article, save it, or access it at home. Consider which option(s) would work best for your students and prepare accordingly.</li> </ul>

There are no new supporting materials for this lesson.



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# **Grade 8: Module 4: Unit 2: Lesson 10**

## **Adding to Cascading Consequences and Stakeholders: Local Sustainable Food Chain**



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Long-Term Target Addressed (Based on NYSP12 ELA CCLS)	
I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)	
Supporting Learning Targets	Ongoing Assessment
<ul style="list-style-type: none"><li>• I can use my research to add to the Cascading Consequences chart for Michael Pollan's local sustainable food chain.</li><li>• I can determine the stakeholders affected by the consequences of Michael Pollan's local sustainable food chain.</li></ul>	<ul style="list-style-type: none"><li>• Team Local Sustainable Food Chain Cascading Consequences charts</li><li>• Local Sustainable Stakeholders charts</li></ul>





Agenda	Teaching Notes
<ol style="list-style-type: none"><li>1. Opening<ol style="list-style-type: none"><li>A. Unpacking Learning Targets (2 minutes)</li></ol></li><li>2. Work Time<ol style="list-style-type: none"><li>A. Creating a Team Cascading Consequences Chart (12 minutes)</li><li>B. Creating a Stakeholders Chart (18 minutes)</li><li>C. Mini Lesson: Speaking Skills (9 minutes)</li></ol></li><li>3. Closing and Assessment<ol style="list-style-type: none"><li>A. Generating Criteria for Effective Speaking Skills Anchor Chart (4 minutes)</li></ol></li><li>4. Homework<ol style="list-style-type: none"><li>A. Choose an excerpt of three to four paragraphs from <i>The Omnivore's Dilemma</i> that particularly appeals to you. Practice presenting it like a speech following the Effective Speaking Skills criteria you generated and prepare to present to another student in the next lesson.</li></ol></li></ol>	<ul style="list-style-type: none"><li>• This lesson is very similar in structure to Lessons 4 and 7. In order to gradually release them, in this lesson students are given a blank Stakeholders chart. They then work in pairs within their teams.</li><li>• In preparation for the end of the unit assessment, which requires students to give an oral presentation, students analyze and create an anchor chart for effective speaking skills. Students already touched on this briefly at the end of Unit 1 when they had to advocate persuasively. It may be a good idea to refer students to the Advocating Persuasively Criteria anchor chart (from Unit 1, Lesson 12).</li><li>• Post: Learning targets.</li></ul>



Lesson Vocabulary	Materials
stakeholder	<ul style="list-style-type: none"><li>• Researcher's notebooks (one per student, distributed in Lesson 3)</li><li>• Team Local Sustainable Food Chain Cascading Consequences chart (one per team, started in Lesson 8)</li><li>• Stakeholders chart (new; one per student; see Lesson 4)</li><li>• Local Sustainable Stakeholders chart (for teacher reference)</li><li>• Lined paper (one piece per student)</li><li>• Video: Birke Baehr—"What's Wrong with Our Food System" <a href="http://www.ted.com/talks/birke_baehr_what_s_wrong_with_our_food_system.html">http://www.ted.com/talks/birke_baehr_what_s_wrong_with_our_food_system.html</a></li><li>• Effective Speaking Skills anchor chart (new; teacher-created)</li></ul>



Opening	Meeting Students' Needs
<p><b>A. Unpacking Learning Targets (2 minutes)</b></p> <ul style="list-style-type: none"> <li>• Ask for volunteers to read the learning targets aloud: <ul style="list-style-type: none"> <li>* “I can use my research to add to the Cascading Consequences chart for Michael Pollan’s local sustainable food chain.”</li> <li>* “I can determine the stakeholders affected by the consequences of Michael Pollan’s local sustainable food chain.”</li> </ul> </li> <li>• Remind students that a <i>stakeholder</i> is anyone who will be affected by the consequences of the local sustainable food chain.</li> </ul>	
Work Time	Meeting Students' Needs
<p><b>A. Creating a Team Cascading Consequences Chart (12 minutes)</b></p> <ul style="list-style-type: none"> <li>• Invite students to reread the focus question and the research question. Remind students that the Cascading Consequences chart will help them to answer the focus question because it gives them a greater understanding of all of the consequences of a food chain, which they will need to consider when choosing which food chain they think will best feed the United States.</li> <li>• Have the students take out their <b>researcher’s notebooks</b>. Explain that they will be sharing the new consequences that they recorded from their research to add to their <b>team Local Sustainable Food Chain Cascading Consequences charts</b>, where possible.</li> <li>• Remind students that they will take turns reading out new consequences from their reading and discuss with their research teams where to place them on the group chart. Make the suggestion that ALL students in the group read their information BEFORE anything gets added in marker. That way, they can make the best decisions about where things should go (as there will likely be some overlapping information).</li> <li>• Circulate to support teams as they add to their Cascading Consequences charts.</li> <li>• Ask students: <ul style="list-style-type: none"> <li>* “What new consequences did you find in your research?”</li> <li>* “Where are you going to add them on your team chart? Why?”</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Some students might benefit from being reminded of the definition of a consequence, as well as decision-making strategies for placing the evidence on the chart.</li> <li>• Consider having students use sticky notes to flag evidence they share. Students can flag where evidence might be placed on the chart before actually adding it in marker.</li> </ul>



Work Time (continued)	Meeting Students' Needs
<p><b>B. Creating a Stakeholders Chart (18 minutes)</b></p> <ul style="list-style-type: none"> <li>• Invite teams to look over the team Cascading Consequences chart to identify the stakeholders affected by the consequences listed. If the stakeholders are listed on the chart, they can underline or circle them; if they are not listed, they can note them next to the consequences.</li> <li>• Distribute <b>Stakeholders charts</b> and invite students to pair up with someone in their team to work together to fill out the chart for the local sustainable food chain using their Cascading Consequences chart. They will be filling out their own charts, but can discuss ideas with the team as they work. Remind students that they won't necessarily agree on all of the answers, so each person should record what they think.</li> <li>• Circulate to assist students where they need it. Ask students questions to guide their thinking: <ul style="list-style-type: none"> <li>* "What stakeholders are affected by this consequence?"</li> <li>* "How are they affected?"</li> </ul> </li> <li>• Refer to the <b>Local Sustainable Stakeholders chart (for teacher reference)</b> to guide students in the stakeholders they could include on their chart. Remember that team Cascading Consequence charts may be different to the teacher reference version, so this may cause a difference in stakeholders.</li> <li>• If time allows, have students pair up with a member of another research team to compare and discuss their Local Sustainable Stakeholders chart. Invite students to adjust their own answers based on the conversation if they want to.</li> </ul>	<ul style="list-style-type: none"> <li>• Partnering students provides a collaborative and supportive structure.</li> </ul>
<p><b>C. Mini Lesson: Review Effective Speaking Skills (9 minutes)</b></p> <ul style="list-style-type: none"> <li>• Explain to students that since they are going to be giving a presentation speech at the end of this unit to share their answer to the guiding question, it is important to start looking at what makes an effective speech.</li> <li>• Tell students that they are going to watch the Birke Baehr speech that they watched in Unit 1 again to analyze what makes it an effective speech. Remind students that they have already looked at the "what" (content of the speech) in Unit 1, which is the most important aspect of his speech. In this lesson, they are going to focus on <i>how</i> Birke Baehr effectively presents his ideas.</li> <li>• Distribute <b>lined paper</b>. Play the video: <b>Birke Baehr—"What's Wrong with Our Food System."</b> As they watch and listen, tell students to take notes about the presentation skills that made the speech effective.</li> <li>• Play it again if students require more time with the speech</li> <li>• Invite students to share their notes with their research team and to add anything they are missing based on what they learn from their peers.</li> </ul>	<ul style="list-style-type: none"> <li>• Before playing the speech a second time, consider asking probing questions that invite students to share what they notice about how the speech was effectively delivered. This provides scaffolding for students who may not have noticed the effective delivery of the speech during the first viewing.</li> </ul>



Closing and Assessment	Meeting Students' Needs
<p><b>A. Generating Criteria for Effective Speaking Skills Anchor Chart (4 minutes)</b></p> <ul style="list-style-type: none"><li>• Select students to share their ideas with the whole class. Record their ideas on the <b>Effective Speaking Skills anchor chart</b>. Ideas should include:<ul style="list-style-type: none"><li>– Making eye contact with multiple points in the audience</li><li>– Speaking clearly and slowly enough for everyone to hear and understand</li><li>– Using appropriate volume</li><li>– Pronouncing words correctly</li></ul></li><li>• Invite students to record any ideas they are missing on their notes, as they will be using this at home to practice presenting part of <i>The Omnivore's Dilemma</i> for homework.</li></ul>	
Homework	Meeting Students' Needs
<ul style="list-style-type: none"><li>• Choose an excerpt of three to four paragraphs from <i>The Omnivore's Dilemma</i> that particularly appeals to you. Practice presenting it like a speech following the Effective Speaking Skills criteria you generated and prepare to present to another student in the next lesson.</li></ul>	<ul style="list-style-type: none"><li>• Some students may need additional guidance with this assignment. Consider conferring with students who may struggle to offer guidance and support in advance of this assignment.</li></ul>



EXPEDITIONARY  
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# Grade 8: Module 4: Unit 2: Lesson 10

## Supporting Materials



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**Local Sustainable Stakeholders Chart**  
For Teacher Reference

What is the option being considered? \_\_\_\_\_ *Local Sustainable* \_\_\_\_\_

Stakeholder	How will he/she/it be affected?	Is this a positive or negative consequence?	If the consequence is negative, do <i>you</i> 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
Cattle	Graze in meadows	Positive		2
Chickens	Follow cattle from pasture to pasture	Positive		2
Consumers	Eggs are rich and tasty	Positive		1
Farmers	Eggs bring a good price	Positive		1
Farmers	Work very hard to orchestrate the timing	Positive		1
Consumers	Food is more expensive	Negative	Yes	1
Consumers	People eat less processed foods	Positive		1
Environment	Intact and healthy	Positive		1



EXPEDITIONARY  
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# **Grade 8: Module 4: Unit 2: Lesson 11**

## **Mid-Unit Assessment: Research Simulation**



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

I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)  
I can use several sources in my research. (W.8.7)  
I can generate additional research questions for further exploration. (W.8.7)  
I can gather relevant information from a variety of sources. (W.8.8)  
I can use search terms effectively. (W.8.8)  
I can evaluate the credibility and accuracy of each source. (W.8.8)  
I can quote and paraphrase others' work while avoiding plagiarism. (W.8.8)  
I can use a standard format for citation. (W.8.8)

**Supporting Learning Targets**

- I can devise a research question to help me focus my research.
- I can identify the relevant information in a research source to answer my research question.
- I can evaluate the credibility and accuracy of a source.
- I can choose the most effective search terms to find relevant research sources to answer my research question.
- I can quote and paraphrase others' work while avoiding plagiarism.
- I can cite sources using MLA format.

**Ongoing Assessment**

- Mid-Unit 2 Assessment: Research Simulation



Agenda	Teaching Notes
<ol style="list-style-type: none"><li>1. Opening<ol style="list-style-type: none"><li>A. Practicing Speaking Skills (5 minutes)</li><li>B. Unpacking Learning Targets (2 minutes)</li></ol></li><li>2. Work Time<ol style="list-style-type: none"><li>A. Mid-Unit 2 Assessment: Research Simulation (35 minutes)</li></ol></li><li>3. Closing and Assessment<ol style="list-style-type: none"><li>A. Pair/Share: What Have You Learned about Research? (3 minutes)</li></ol></li><li>4. Homework<ol style="list-style-type: none"><li>A. Start your Hunter-Gatherer Food Chain Cascading Consequences Chart:<ul style="list-style-type: none"><li>– Numbered Heads 1 and 2 reread pages 231–246 of <i>The Omnivore's Dilemma</i> and begin a Hunter-Gatherer Food Chain Cascading Consequences chart.</li><li>– Numbered Heads 3 and 4 reread pages 247–262 of <i>The Omnivore's Dilemma</i> and begin a Hunter-Gatherer Food Chain Cascading Consequences chart.</li></ul></li><li>B. Be prepared to share your list of consequences with your research team to create a team Hunter-Gatherer Food Chain Cascading Consequences chart in the next lesson.</li></ol></li></ol>	<ul style="list-style-type: none"><li>• This lesson launches the Mid-Unit 2 Assessment, which assesses the research skills students have been practicing throughout this unit. The assessment, a research simulation, is designed to mimic the research process within the confines of an on-paper assessment. While this task is not the optimal test of students' research skills, it creates a uniformity that allows you to assess what students have been practicing in class. Their in-class practice has been very authentic, and this assessment aims to capture this practice on paper.</li><li>• Although their research skills are assessed today, students will continue their research in the next lessons for the final food chain: hunter-gatherer.</li><li>• In Lesson 13, students receive feedback on this assessment. Be sure to plan enough time to grade student work and provide meaningful feedback using the Grade 8 2-Point Short Response Rubric.</li></ul>



Lesson Vocabulary	Materials
	<ul style="list-style-type: none"><li>• Effective Speaking Skills anchor chart (from Lesson 10)</li><li>• Speaking Skills Practice Directions (one for display; see supporting materials)</li><li>• Correct Citations anchor chart (from Lesson 7)</li><li>• Mid-Unit 2 Assessment: Research Simulation—Food Deserts (one per student)</li><li>• Mid-Unit 2 Assessment: Research Simulation—Food Deserts (answers, for teacher reference)</li><li>• Blank 8" x 11" paper (one piece per student)</li><li>• Grade 8 2-Point Short Response Rubric (for teacher reference; see teaching notes)</li></ul>



Opening	Meeting Students' Needs
<p><b>A. Practicing Speaking Skills (5 minutes)</b></p> <ul style="list-style-type: none"><li>• Start by focusing students' attention on the <b>Effective Speaking Skills anchor chart</b>. Invite students to read the criteria aloud with you.</li><li>• Display <b>Speaking Skills Practice Directions</b> and read the steps aloud with students.</li><li>• Tell students that they will now follow the Speaking Skills Practice Directions to present the short passage from <i>The Omnivore's Dilemma</i> they chose and practiced for homework to a partner. Assure them that they may refer to the anchor chart as much as they need to during the activity.</li></ul>	
<p><b>B. Unpacking Learning Targets (2 minutes)</b></p> <ul style="list-style-type: none"><li>• Remind students they have been focusing on the key skills of a good researcher for the past couple of weeks. They will demonstrate their understanding of the research learning targets on the Mid-Unit 2 Assessment today. Invite students to read the learning targets aloud with you:<ul style="list-style-type: none"><li>* "I can devise a research question to help me focus my research."</li><li>* "I can identify the relevant information in a research source to answer my research question."</li><li>* "I can evaluate the credibility and accuracy of a source."</li><li>* "I can choose the most effective search terms to find relevant research sources to answer my research question."</li><li>* "I can quote and paraphrase others' work while avoiding plagiarism."</li><li>* "I can cite sources using MLA format."</li></ul></li><li>• Ask students if they have any questions about the learning targets before they begin their assessment. Clarify and address questions if needed.</li></ul>	



Work Time	Meeting Students' Needs
<p><b>A. Mid-Unit 2 Assessment: Research Simulation (35 minutes)</b></p> <ul style="list-style-type: none"><li>• Post the <b>Correct Citations anchor chart</b>, as students may need to refer to this to record an MLA citation in their assessment.</li><li>• Ask students to clear their desks of all items except a writing utensil. Distribute the <b>Mid-Unit 2 Assessment: Research Simulation—Food Deserts</b>.</li><li>• Guide students through the assessment, giving a brief overview of each part. Ask students if they have questions about assessment in general, but remind them that, as this is an assessment, you can't answer any of the assessment questions for them.</li><li>• Invite students to begin the assessment. Halfway through the assessment time, give students a time reminder. Continue to remind students when there are 10 minutes, five minutes, and one minute remaining.</li><li>• Circulate to assist students who may need someone to read the questions aloud to them.</li></ul>	<ul style="list-style-type: none"><li>• For some students, this assessment may require more than the 35 minutes allotted. Consider providing students time over multiple days if necessary.</li><li>• If students receive accommodations for assessment, communicate with the cooperating service providers regarding the practices of instruction in use during this study, as well as the goals of the assessment.</li></ul>



Closing and Assessment	Meeting Students' Needs
<p><b>A. Pair/Share: What Have You Learned about Research? (3 minutes)</b></p> <ul style="list-style-type: none"><li>Recognize students' hard work today on the Mid-Unit 2 Assessment. Tell students you would like to hear about what they have learned throughout the unit so far, and would love for them to share with one another as well. Ask students to turn and talk to their research teams about the question:<ul style="list-style-type: none"><li>* "What have you learned about research throughout this unit?"</li></ul></li><li>When students have shared for about 1 minute, call on a few volunteers to share what they discussed with their partners.</li><li>Invite students to return to their teams and to number each team member a number between one and four.</li><li>Explain that for homework, numbers 1 and 2 will reread pages 231–246 of <i>The Omnivore's Dilemma</i> and make a Hunter-Gatherer Food Chain Cascading Consequences chart. Numbers 3 and 4 will reread pages 247–262 and make a Hunter-Gatherer Food Chain Cascading Consequences chart.</li><li>Distribute <b>blank 8" x 11" paper</b>.</li></ul>	<ul style="list-style-type: none"><li>The debrief after the assessment can help build a culture of achievement in your classroom.</li></ul>
Homework	Meeting Students' Needs
<ul style="list-style-type: none"><li>Start your Hunter-Gatherer Food Chain Cascading Consequences Chart:<ul style="list-style-type: none"><li>Numbered Heads 1 and 2 reread pages 231–246 of <i>The Omnivore's Dilemma</i> and begin a Hunter-Gatherer Food Chain Cascading Consequences chart.</li><li>Numbered Heads 3 and 4 reread pages 247–262 of <i>The Omnivore's Dilemma</i> and begin a Hunter-Gatherer Food Chain Cascading Consequences chart.</li></ul></li><li>Be prepared to share your list of consequences with your research team to create a team Hunter-Gatherer Food Chain Cascading Consequences chart in the next lesson.</li></ul>	



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# Grade 8: Module 4: Unit 2: Lesson 11

## Supporting Materials



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**Speaking Skills Practice**  
Directions

**Steps:**

1. Pair up with a partner.
2. Partner 1 reads the passage aloud as Partner 2 listens carefully.
3. Partner 2 gives partner 1 one star and one step based on the
4. Criteria for Effective Speaking Skills anchor chart.
5. Partner 2 reads as the first listens carefully.
6. Partner 1 gives Partner 2 one star and one step based on the anchor chart.
7. When about 4 minutes have passed, remind students that
8. Partner 2 should start reading if he/she has not yet started.
9. When 8 minutes have passed, ask students to wrap up their conversations.





**Mid-Unit 2 Assessment:**  
Research Simulation—Food Deserts

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**Name:**

---

**Date:**

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**Assessment Description**

In the following assessment, you will simulate the research process. Below, you will find a research question related to food deserts. You will read an excerpt of a text about food deserts to answer the research question. You will also complete some selected responses and constructed responses about the research process. Much of the practice you have done in your researcher's notebook will be helpful in completing this assessment.

**Research Question**

**WHAT ARE THE CONSEQUENCES OF A FOOD DESERT?**



Mid-Unit 2 Assessment:  
Research Simulation—Food Deserts

**Text:** “Food deserts (and no, we don’t mean desserts). Is your ’hood pushing unhealthy food?”

**Author:** Betsy Dru Tecco

**Journal Name and Volume:** *Current Health Teens*, A Weekly Reader Publication

**Issue:** 38.4

**Year:** 2011

**Page:** 16

Growing up in a poor section of Santa Cruz, Calif., Maya Salsedo spent a lot of time at the local teen center. It’s a place where people can play games, do homework, and eat. The food is especially important because, as Salsedo says, “It might be the only meal kids are getting outside of school.” Yet what she remembers eating there is prepackaged muffins or chips and dip. Nutrition took a backseat to price and convenience.

Now 18 and attending college, Salsedo recognizes that the teen center is located in what she calls “a micro food desert.” A food desert is an area without easy access to affordable, nutritious foods such as fruits, vegetables, whole grains, and low-fat milk. That’s the neighborhood Salsedo knows. “There’s only a liquor store and a fast-food restaurant within walking distance,” she says.

### Environmental Influences

Most people in the United States are able to buy groceries at supermarkets that are stocked with a wide variety of healthy options. Yet according to a recent study by the U.S. Department of Agriculture, 2.3 million households (that’s 2.2 percent of the country) live more than a mile from a supermarket and don’t have access to a car. And 3.4 million more households live half a mile to a mile from a supermarket and don’t have a vehicle. Relying on public transportation (or foot power) to get back and forth from stores with fresh, healthy foods can be a problem for those 6 million households.

Lower-income and urban neighborhoods, especially those with a large minority population, tend to have many small corner stores and very few supermarkets, points out Dr. Manuel Franco, a food environment researcher. He’s an adjunct assistant professor at Johns Hopkins Bloomberg School of Public Health in Baltimore. Unlike supermarkets, corner stores sell mostly beer, soft drinks, and snack foods that are high in fat, sugar, and sodium.



**Mid-Unit 2 Assessment:**  
Research Simulation—Food Deserts

Research shows that those who live in a neighborhood with a greater availability of small corner stores are more likely to be obese, which raises the risk of diabetes and other diet-related diseases. Other studies find that residents with greater access to supermarkets or plenty of healthy foods in neighborhood stores consume more fresh produce and other nutritious options.

**Glossary:**

*Convenience:* quick and easy

*Urban:* in a city

**Part I: Paraphrasing**

**Instructions:**

1. Read the text: “Food deserts (and no, we don’t mean desserts). Is your ’hood pushing unhealthy food?”
2. Code the text for consequences of a food desert.
3. In the space below, paraphrase the consequences of a food desert.

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**Mid-Unit 2 Assessment:**  
Research Simulation—Food Deserts

**Part II: Using Search Terms**

1. Now that you have read the article, imagine you want to find out more about food deserts and want to conduct an internet research project. In the bank below, write two or three search terms you would use to find articles that might answer the question.

2. On the lines below, explain why the terms you chose would give the best results.

**Part III: Citing Sources**

1. In the space below, write an MLA style citation for the text.

**Mid-Unit 2 Assessment:**  
Research Simulation—Food Deserts

**Part IV: Determining Credibility and Accuracy**

1. Imagine you are looking for information on where food deserts exist in the United States. Which source would be the most credible place to begin your search?

- a. Online database—for example, a university database—of articles written by academic researchers and experts on the subject
- b. A book on food and health written by a professor of nutrition and dietetics
- c. A United States atlas
- d. Newspaper article on food deserts from The New York Times

2. Which of the following questions should a researcher ask to determine whether or not a text is credible and accurate? Circle all that apply.

- a. How current is the information on the topic?
- b. Is the author an expert on the topic?
- c. Has the information from the text been made into a documentary?
- d. Does the text have specific facts and details to support the ideas?



**Mid-Unit 2 Assessment:**  
Research Simulation—Food Deserts  
(Answers, For Teacher Reference)

**Assessment Description**

In the following assessment, you will simulate the research process. Below, you will find a research question related to food deserts. You will read an excerpt of a text about food deserts to answer the research question. You will also complete some selected responses and constructed responses about the research process. Much of the practice you have done in your researcher's notebook will be helpful in completing this assessment.

**Research Question**

**WHAT ARE THE CONSEQUENCES OF A FOOD DESERT?**



Mid-Unit 2 Assessment:  
Research Simulation—Food Deserts

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**Author:** Betsy Dru Tecco

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### Environmental Influences

Most people in the United States are able to buy groceries at supermarkets that are stocked with a wide variety of healthy options. Yet according to a recent study by the U.S. Department of Agriculture, 2.3 million households (that’s 2.2 percent of the country) live more than a mile from a supermarket and don’t have access to a car. And 3.4 million more households live half a mile to a mile from a supermarket and don’t have a vehicle. Relying on public transportation (or foot power) to get back and forth from stores with fresh, healthy foods can be a problem for those 6 million households.

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**Mid-Unit 2 Assessment:**  
Research Simulation—Food Deserts

Research shows that those who live in a neighborhood with a greater availability of small corner stores are more likely to be obese, which raises the risk of diabetes and other diet-related diseases. Other studies find that residents with greater access to supermarkets or plenty of healthy foods in neighborhood stores consume more fresh produce and other nutritious options.

Tecco, Betsy Dru. Food Deserts (and no, we don't mean desserts). Current Health Teens. 2011. 16.





**Mid-Unit 2 Assessment:**  
Research Simulation—Food Deserts  
(Answers, For Teacher Reference)

**Glossary:**

*Convenience:* quick and easy

*Urban:* in a city

**Part I: Paraphrasing**

**Instructions:**

1. Read the text: “Food deserts (and no, we don’t mean desserts). Is your ’hood pushing unhealthy food?”
2. Code the text for consequences of a food desert.
3. In the space below, paraphrase the consequences of a food desert.

**Food deserts cause obesity, which causes diseases like diabetes.**



**Mid-Unit 2 Assessment:**  
Research Simulation—Food Deserts  
(Answers, For Teacher Reference)

**Part II: Using Search Terms**

1. Now that you have read the article, imagine you want to find out more about food deserts and want to conduct an internet research project. In the bank below, write two or three search terms you would use to find articles that might answer the question.

**Food desert      consequences**

2. On the lines below, explain why the terms you chose would give the best results.

**Those are the key words in my question.**

**Mid-Unit 2 Assessment:**  
Research Simulation—Food Deserts  
(Answers, For Teacher Reference)

**Part III: Citing Sources**

1. In the space below, write an MLA style citation for the text.

**Tecco, Betsy D. “Food deserts (and no, we don’t mean desserts). Is your ’hood pushing unhealthy food?” *Current Health Teens*, a Weekly Reader Publication. 38.4 (2011): 16**

**Part IV: Determining Credibility and Accuracy**

1. Imagine you are looking for information on where food deserts exist in the United States. Which source would be the most credible place to begin your search?

- a. Online database—for example, a university database—of articles written by academic researchers and experts on the subject**
- b. A book on food and health written by a professor of nutrition and dietetics
- c. A United States atlas
- d. Newspaper article on food deserts from The New York Times

2. Which of the following questions should a researcher ask to determine whether or not a text is credible and accurate? Circle all that apply.

- a. How current is the information on the topic?**
- b. Is the author an expert on the topic?**
- c. Has the information from the text been made into a documentary?
- d. Does the text have specific facts and details to support the ideas?**

**2-Point Short Response Rubric**  
For Teacher Reference

<b>2-point Response</b>	<p><b>The features of a 2-point response are:</b></p> <ul style="list-style-type: none"> <li>• The response is accurate, complete, and fulfills all the requirements of the task.</li> <li>• Necessary support and/or examples are included and the information given is clearly text-based.</li> <li>• Any inferences from the text are relevant to the task.</li> </ul>
<b>1-point Response</b>	<p><b>The features of a 1-point response are:</b></p> <ul style="list-style-type: none"> <li>• The response is partially accurate and fulfills some requirements of the task.</li> <li>• Some information may be either too general, overly specific, inaccurate, confused and/or irrelevant.</li> <li>• Some of the support and/or examples may be incomplete or omitted.</li> </ul>
<b>0-point Response</b>	<p><b>The features of a 0-point response are:</b></p> <ul style="list-style-type: none"> <li>• The response is completely inaccurate and fulfills none of the requirements of the task, or the student failed to respond to the task.</li> </ul>

Excerpted from the 2011 New York State Testing Program Grades 3–8 Scoring Guide



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# **Grade 8: Module 4: Unit 2: Lesson 12**

## **Determining Cascading Consequences Using *The Omnivore's Dilemma*: Hunter-Gatherer Food Chain**



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)	
<p>I can cite text-based evidence that provides the strongest support for an analysis of informational text. (RI.8.1)</p> <p>I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)</p> <p>I can generate additional research questions for further exploration. (W.8.7)</p>	
Supporting Learning Targets	Ongoing Assessment
<ul style="list-style-type: none"><li>I can determine the cascading consequences of the hunter-gatherer food chain using <i>The Omnivore's Dilemma</i>.</li><li>I can develop a supporting research question to help me focus my research.</li></ul>	<ul style="list-style-type: none"><li>Team Hunter-Gatherer Food Chain Cascading Consequences chart</li><li>Exit Ticket: Developing a Supporting Research Question: Consequences of Hunter-Gatherer Food Chain</li></ul>



Agenda	Teaching Notes
<ol style="list-style-type: none"><li>1. Opening<ol style="list-style-type: none"><li>A. Unpacking Learning Targets (5 minutes)</li></ol></li><li>2. Work Time<ol style="list-style-type: none"><li>A. Research Teams Create Hunter-Gatherer Cascading Consequences Chart (20 minutes)</li><li>B. Team Share (10 minutes)</li></ol></li><li>3. Closing and Assessment<ol style="list-style-type: none"><li>A. Exit Ticket: Develop a Research Question (10 minutes)</li></ol></li><li>4. Homework<ol style="list-style-type: none"><li>A. In your researcher's notebook, record some search terms you might use in an internet search engine to find articles that will help to answer your research question.</li></ol></li></ol>	<ul style="list-style-type: none"><li>• This lesson is very similar in structure to Lessons 1, 5, and 8. Teams create a team Hunter-Gatherer Food Chain Cascading Consequences chart.</li><li>• In advance: Review the Hunter-Gatherer Food Chain Cascading Consequences chart (for teacher reference) to help you while you are circulating during Work Time.</li><li>• Review: Fist to Five in Checking for Understanding Techniques (see Appendix).</li></ul>

Lesson Vocabulary	Materials
cascading, consequence	<ul style="list-style-type: none"><li>• Chart paper (one per research team)</li><li>• Markers (four different colors per research team)</li><li>• Consequences Conversation task card (one per student, from Lesson 5)</li><li>• Hunter-Gatherer Food Chain Cascading Consequences chart (for teacher reference)</li><li>• Researcher's roadmap (one per student, from Lesson 2)</li><li>• Good Supporting Research Questions Are ... anchor chart (from Lesson 2)</li><li>• Exit Ticket: Developing a Supporting Research Question: Consequences of Hunter-Gatherer Food Chain (one per student)</li></ul>



Opening	Meeting Students' Needs
<p><b>A. Unpacking Learning Targets (5 minutes)</b></p> <ul style="list-style-type: none"><li>• Invite students to read through the learning targets with you:<ul style="list-style-type: none"><li>* "I can determine the cascading consequences of the hunter-gatherer food chain using <i>The Omnivore's Dilemma</i>."</li><li>* "I can develop a supporting research question to help me focus my research."</li></ul></li><li>• Remind students that they have seen similar learning targets in Lessons 1 and 5. Based on the learning targets, invite students to turn and talk with an elbow partner to answer the question:<ul style="list-style-type: none"><li>* "What do you think we are doing today, and why are we doing it?"</li></ul></li><li>• Cold call students to share out. Listen for students to say that they are going to finish determining the cascading consequences for the hunter-gatherer food chain from <i>The Omnivore's Dilemma</i> in order to use a structured decision-making process to answer the focus question: "Which of Michael Pollan's four food chains would best feed all the people in the United States?"</li><li>• Invite students to turn to page 5 in <i>The Omnivore's Dilemma</i> to the description of the hunter-gatherer food chain. Read this description aloud as students follow along silently. The purpose of this reading is simply to remind students of the definition of hunter-gatherer.</li></ul>	





Work Time	Meeting Students' Needs
<p><b>A. Research Teams Create Hunter-Gatherer Cascading Consequences Chart (20 minutes)</b></p> <ul style="list-style-type: none"> <li>• Invite students to take out their personal Hunter-Gatherer Food Chain Cascading Consequences chart, which they completed for homework and explain that they are going to use this to build their team Hunter-Gatherer Food Chain Cascading Consequences chart.</li> <li>• Distribute one piece of <b>chart paper</b> and four different colored <b>markers</b> to each research team.</li> <li>• Direct students to take out and review their <b>Consequences Conversation task cards</b>.</li> <li>• Invite students to turn and talk to their research team about a star (one thing from the card that the team did well) from Lesson 10 (when they added to their Local Sustainable Food Chain Cascading Consequences chart), as well as a step (one area for improvement).</li> <li>• Invite each team to share out their star and step.</li> <li>• Remind students that it is important that teams follow the process outlined on the task cards because: 1) it ensures that all students' voices are heard; 2) it pushes students to share their thinking about why; and 3) the markers allow you to quickly observe the contributions of each team member.</li> <li>• Remind students that there are multiple ways to create a Cascading Consequences chart from a text. It is OK if each research team's chart is slightly different as long as they can argue why they placed things where they did.</li> <li>• As students work, circulate to observe and assist teams. Ask students:             <ul style="list-style-type: none"> <li>* "Are you following the model by taking turns, discussing where consequences should go and why, and actively and respectfully listening?"</li> <li>* "Why did you place this consequence where you did?"</li> <li>* "How do you know this is a consequence of this?"</li> </ul> </li> <li>• See the <b>Hunter-Gatherer Food Chain Cascading Consequences chart (for teacher reference)</b> in supporting materials for one way to create a Cascading Consequences chart from these text excerpts; remember, it is NOT the only way.</li> </ul>	<ul style="list-style-type: none"> <li>• For students who are having a hard time identifying the consequences in the text, consider giving them a list of consequences that they can use to participate in creating the team Cascading Consequences chart.</li> </ul>



Work Time (continued)	Meeting Students' Needs
<p><b>B. Team Share (10 minutes)</b></p> <ul style="list-style-type: none"><li>• Remind students that the purpose of creating Cascading Consequences charts is to help them figure out which food chain they think would be best for feeding all the people in the United States.</li><li>• Explain to students that they will now get to borrow ideas from other teams. Direct research teams to assign each student a number, one through four.</li><li>• Post the following directions:<ul style="list-style-type: none"><li>– Number 1 stay at your team's Cascading Consequences chart to answer questions from other group members.</li><li>– Numbers 2 through 4 each travel to one or two other charts. At the other charts, look for any differences compared to your own chart. Ask clarifying questions in order to understand why the team placed certain consequences where they did. For example, you might say: "Why do you have 'Food tastes better' coming from the box that says, 'People eat foods in season?' I was thinking 'Food tastes better' could come from the 'No pesticides' box instead."</li><li>– Numbers 2 through 4 return to your own team with one difference and an explanation of why the other team made the decision they did.</li></ul></li><li>• Invite all students to return to their team charts to add/revise their cascading consequences based on what they saw on the other charts they visited.</li></ul>	<ul style="list-style-type: none"><li>• During the team share time, circulate and provide support to groups who need help questioning and/or explaining.</li><li>• Cross-group sharing provides additional perspectives and thinking on the same content all students are learning.</li><li>• Decision-making strategies may be necessary for teams to decide what, if any, changes to their charts are necessary based on the team share experience.</li></ul>



Closing and Assessment	Meeting Students' Needs
<p><b>A.Exit Ticket: Develop a Research Question (10 minutes)</b></p> <ul style="list-style-type: none"> <li>Remind students of the focus question and research question (both posted in the classroom): <ul style="list-style-type: none"> <li>* Focus question: "Which of Michael Pollan's four food chains would best feed all the people in the United States?"</li> <li>* Research question: "What are the consequences of each of Michael Pollan's four food chains?"</li> </ul> </li> <li>Remind students that the purpose of the research they are doing is to gather evidence to be able to answer this question orally at the end of Unit 2 and in writing in Unit 3.</li> <li>Invite students to take out their <b>researcher's roadmap</b> (from Lesson 2) and briefly tell a partner where we are on the roadmap for the new food chain (hunter-gatherer). Remind students that the next step is to develop a supporting research question, which they will use in class tomorrow to further research the consequences of the hunter-gatherer food chain.</li> <li>Invite all students to choose one consequence from the chart about which they would like to do further research, and write their initials next to it on their team Cascading Consequences chart.</li> <li>Invite the research teams to look at the boxes that were initialed and discuss whether there are any other consequences that they feel would be more important to research than those that were initialed. If so, students may volunteer to research those instead. Emphasize that each student in the team should have chosen a different consequence to research.</li> <li>Review the <b>Good Supporting Research Questions Are ... anchor chart</b> posted on the wall.</li> <li>Distribute an <b>Exit Ticket: Developing a Supporting Research Question: Consequences of Hunter-Gatherer Food Chain</b> to each student. Invite students to complete the exit ticket by writing their research topic (a box from the Cascading Consequences chart) and drafting a supporting research question.</li> <li>Invite students to record their research questions in their researcher's notebook in the Hunter-Gatherer section.</li> </ul>	<ul style="list-style-type: none"> <li>Based on the quality of their previous supporting research questions, consider adding a brief mini lesson to address common mistakes students made when writing their questions. Giving clear examples of questions that meet and don't meet each criterion can be helpful for students.</li> </ul>
Homework	Meeting Students' Needs
<ul style="list-style-type: none"> <li>In your researcher's notebook, record some search terms you might use in an internet search engine to find articles that will help to answer your research question.</li> </ul>	



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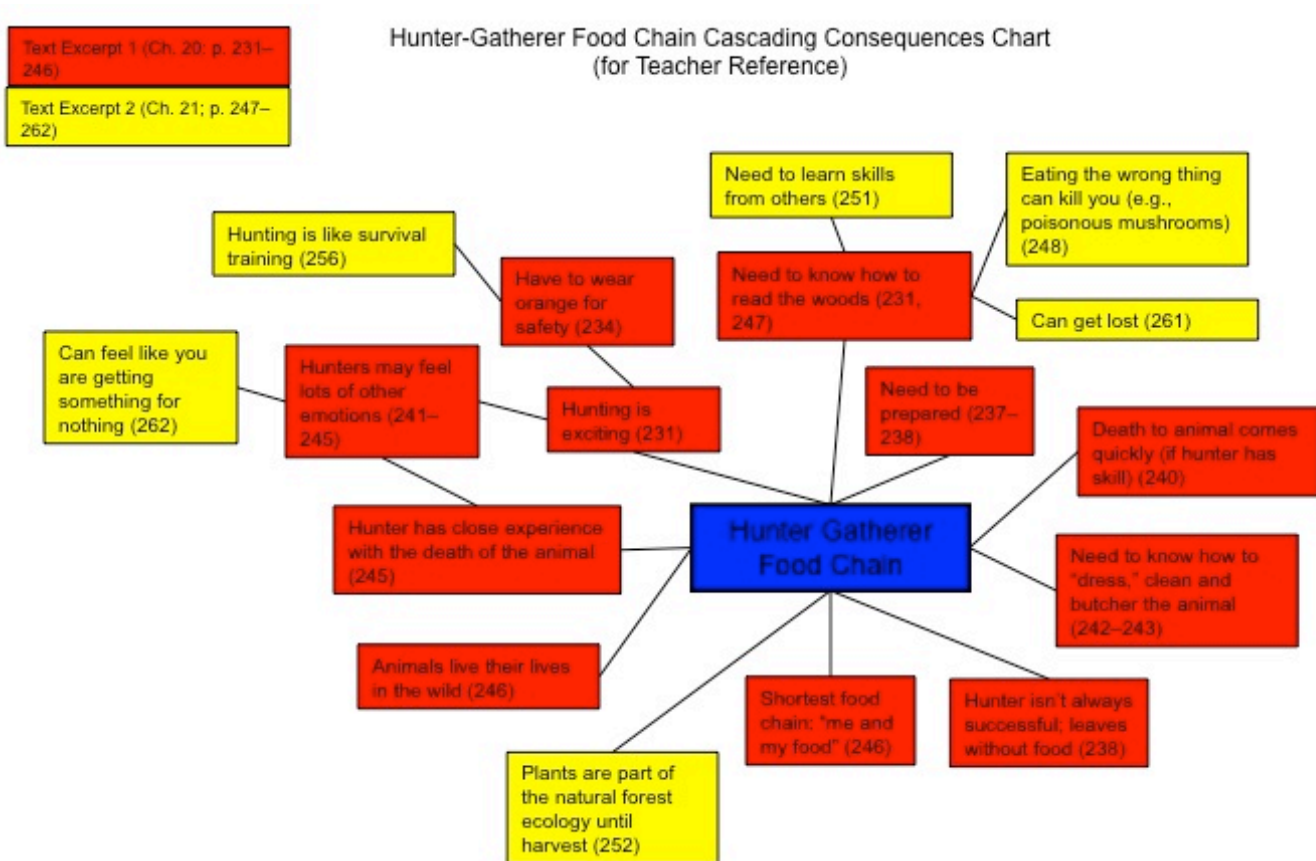
# Grade 8: Module 4: Unit 2: Lesson 12

## Supporting Materials



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## Hunter-Gatherer Food Chain Cascading Consequences Chart For Teacher Reference





**Exit Ticket: Developing a Supporting Research Question:**  
Consequences of Hunter-Gatherer Food Chain

\_\_\_\_\_  
**Name:**

\_\_\_\_\_  
**Date:**

What is the topic from your team Cascading Consequences chart that you will research?

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Using the criteria for a good supporting research question, write your supporting research question here:

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# **Grade 8: Module 4: Unit 2: Lesson 13**

## **Further Research: Hunter-Gatherer Food Chain**



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

I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)  
I can use several sources in my research. (W.8.7)  
I can gather relevant information from a variety of sources. (W.8.8)  
I can use search terms effectively. (W.8.8)  
I can evaluate the credibility and accuracy of each source. (W.8.8)  
I can quote and paraphrase others' work while avoiding plagiarism. (W.8.8)  
I can use a standard format for citation. (W.8.8)

**Supporting Learning Targets**

- I can use research skills to determine consequences of the hunter-gatherer food chain.
- I can devise a research question to help me focus my research.
- I can identify the relevant information in a research source to answer my research question.
- I can evaluate the credibility and accuracy of a source.
- I can choose the most effective search terms to find relevant research sources to answer my research question.
- I can quote and paraphrase others' work while avoiding plagiarism.
- I can cite sources using MLA format.

**Ongoing Assessment**

- Researcher's notebook
- Exit Ticket: Reflection Questions





Agenda	Teaching Notes
<ol style="list-style-type: none"><li>Opening<ol style="list-style-type: none"><li>Feedback from the Mid-Unit Assessment (5 minutes)</li><li>Unpacking Learning Targets (5 minutes)</li></ol></li><li>Work Time<ol style="list-style-type: none"><li>Research, Read, and Record (30 minutes)</li></ol></li><li>Closing and Assessment<ol style="list-style-type: none"><li>Exit Ticket: Reflection (5 minutes)</li></ol></li><li>Homework<ol style="list-style-type: none"><li>Finish filling out the researcher's notebook for your article.</li></ol></li></ol>	<ul style="list-style-type: none"><li>Students receive feedback on their mid-unit assessment at the beginning of this lesson, so ensure all student assessments have been scored. Guide students to use the feedback to refine their research process in this lesson.</li><li>Ensure you have looked over the Exit Ticket: Developing a Supporting Research Question: Consequences of the Hunter-Gatherer Food Chain from the previous lesson to ensure students are on the right track with their research questions. Be prepared to guide those students who need assistance in the right direction before they begin researching in this lesson.</li><li>This lesson is very similar in structure to Lessons 3, 6, and 9. At this point, students have completed the process of gradual release and have learned the research skills outlined in the standards for this module. Thus, this lesson provides students a final opportunity to practice researching, and does not introduce any new skills. Students get about five minutes more of research time, and should be comfortable with the researcher's notebook and task card. As a result, students will have more time to search for articles relevant to the hunter-gatherer food chain, which may prove more difficult than for the previous food chains.</li><li>As there are no mini lessons in this lesson, encourage students to try to advance on to the extension activity, in which they do further research based on their refined research question.</li><li>As with Lessons 3, 6, and 9, the homework in this lesson requires that students to complete the researcher's notebook using the article they chose in class (if they have not done so by the end of class). This would require the students to print the articles, save them, or access them at home. Consider which option(s) would work best for your students and prepare accordingly.</li><li>Post: Learning targets.</li></ul>



Lesson Vocabulary	Materials
	<ul style="list-style-type: none"><li>• Feedback from the mid-unit assessment (one per student, completed in Lesson 11)</li><li>• Researcher's notebook (one per student, started in Lesson 3)</li><li>• Effective Search Terms Are ... anchor chart (created in Lesson 6)</li><li>• Exit Ticket: Developing a Supporting Research Question: Consequences of the Hunter-Gatherer Food Chain (completed in Lesson 12)</li><li>• Research task cards (distributed in Lesson 6)</li><li>• Exit Ticket: Reflection Questions (one per student)</li></ul>



Opening	Meeting Students' Needs
<p><b>A. Feedback from the Mid-Unit Assessment (5 minutes)</b></p> <ul style="list-style-type: none"> <li>• Pass out students' <b>feedback from the mid-unit assessment</b>. Invite students to take 2 minutes to read over the assessment and feedback silently.</li> <li>• When students have finished reading, tell them that the feedback from their assessment should serve as a guide while researching today. Encourage students by telling them they have achieved independence as researchers, and that they will conduct research and complete the <b>researcher's notebook</b> individually today. Ask students to keep the feedback in mind as they search. For example, if they received a comment about their explanation of the search terms they chose on the assessment, they should pay close attention to the search terms they choose today while researching the hunter-gatherer food chain.</li> </ul>	<ul style="list-style-type: none"> <li>• The research time in this lesson is a good opportunity to provide additional support to students who may still be struggling with their research skills. Use the information from the mid-unit assessment to provide targeted support for students who may still need it.</li> </ul>
<p><b>B. Unpacking the Learning Targets (5 minutes)</b></p> <ul style="list-style-type: none"> <li>• Read the first learning target aloud to students: <ul style="list-style-type: none"> <li>* I can use research skills to determine consequences of the hunter-gatherer food chain.</li> </ul> </li> <li>• Remind students of the overarching research question for the unit: "What are the consequences of each Michael Pollan's food chains?" Tell them that this first learning target focuses their question on the hunter-gatherer food chain, which they research today.</li> <li>• Invite students to read the remaining learning targets aloud with you. As each target is read, ask students to rate themselves on a scale of one to five on each target, with five as the top score. Students may write their scores on the back of their assessment, or they may show their scores using their fingers, depending on how comfortable they feel. <ul style="list-style-type: none"> <li>* "I can devise a research question to help me focus my research."</li> <li>* "I can identify the relevant information in a research source to answer my research question."</li> <li>* "I can evaluate the credibility and accuracy of a source."</li> <li>* "I can choose the most effective search terms to find relevant research sources to answer my research question."</li> <li>* "I can quote and paraphrase others' work while avoiding plagiarism."</li> <li>* "I can cite sources using MLA format."</li> </ul> </li> <li>• Remind students that they have worked hard on these research targets throughout the unit, and that today is their final research lesson. Ask them to remember how far they have come since the beginning of the unit as they research today.</li> </ul>	



Work Time	Meeting Students' Needs
<p><b>A. Research, Read, and Record (30 minutes)</b></p> <ul style="list-style-type: none"> <li>• Focus students on the <b>Effective Search Terms Are ... anchor chart</b> and invite them to reread the criteria.</li> <li>• In research teams, invite students to share their research questions and the search terms they think will help them to find an article to answer their research question. Instruct students to explain their choices to their team using the criteria on the Effective Search Terms Are ... anchor chart and then listen as the other members of the team explain their own choices.</li> <li>• Circulate to identify any problems with student internet search terms. Keep those students with issues in mind as students to focus on in a small group setting at the beginning of the research time.</li> <li>• Pass back the <b>Exit Ticket: Developing a Supporting Research Question: Consequences of the Hunter-Gatherer Food Chain</b> from Lesson 12. Invite students to revise their questions in their researcher's notebook based on any feedback you may have given them.</li> <li>• Invites students to refer to their <b>Research task cards</b> and to reread the steps. Make sure students know how important it is to follow the steps on the task cards in order to get the best, most relevant results to answer their research question. Explain that the steps are designed to repeat, and that students will likely repeat steps a few times in order to find a relevant and credible article.</li> <li>• Focus students on the Hunter-Gatherer—Lesson 13 section of their researcher's notebook. Invite students to look at the final section of this chapter of their notebook. Remind students of the extension activity to research again using their refined questions, and explain that as they have more time in this lesson to research you would like to see them trying to complete the extension activity too.</li> <li>• Remind students that the extension activity is at the end of their researcher's notebook for this food chain and asks them to search again based on their new refined research question.</li> <li>• Invite students to begin researching. Remind them to follow the directions on their Research task cards and to record what they find in their researcher's notebooks. Circulate to answer questions and check student progress, making sure the search results students get are relevant to the hunter-gatherer food chain.</li> <li>• When about 10 minutes have passed, circulate to make sure all students have found an article to use. Assist students in refining their search terms where necessary.</li> </ul>	<ul style="list-style-type: none"> <li>• As students research, consider meeting in small groups with students who are having difficulty with the research skills introduced in the lesson or in previous lessons.</li> <li>• For students requiring serious reading interventions, consider compiling a research folder of level-appropriate texts for them to read in place of the internet search.</li> <li>• In Section 3—Evaluating the Source, Part B of each food chain within the researcher's notebook, students are offered a chance to extend their research. Consider directing accelerated learners or students who complete their research early to this extension section. You might ask these students to include the additional research they conduct in conversations within their research teams, which the goal of adding even more details to their Cascading Consequences and Stakeholders charts.</li> </ul>



Closing and Assessment	Meeting Students' Needs
<p><b>A. Exit Ticket: Reflection (5 minutes)</b></p> <ul style="list-style-type: none"><li>Distribute <b>Exit Ticket: Reflection Questions</b> and invite students to read the questions with you. Invite students to fill out their exit tickets.</li></ul>	
Homework	Meeting Students' Needs
<ul style="list-style-type: none"><li>Finish filling out the researcher's notebook for your article.</li></ul>	<ul style="list-style-type: none"><li>This homework requires the student to print the article, save it, or access it at home. Consider which option(s) would work best for your students and prepare accordingly.</li></ul>



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# Grade 8: Module 4: Unit 2: Lesson 13

## Supporting Materials



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**Exit Ticket:**  
Reflection Questions

**Name:**

**Date:**

1. How have you grown as a researcher throughout this unit?

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2. What are some questions that are still in your mind as we wrap up our research?

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# **Grade 8: Module 4: Unit 2: Lesson 14**

## **Adding to Cascading Consequences and Stakeholders: Hunter-Gatherer Food Chain**



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**Long-Term Target Addressed (Based on NYSP12 ELA CCLS)**

I can conduct short research projects to answer a question (including a self-generated question). (W.8.7)

**Supporting Learning Targets**

- I can use my research to add to the Cascading Consequences chart for Michael Pollan's hunter-gatherer food chain.
- I can determine the stakeholders affected by the consequences of Michael Pollan's hunter-gatherer food chain.

**Ongoing Assessment**

- Team Hunter-Gatherer Food Chain Cascading Consequences charts
- Hunter-Gatherer Stakeholders charts

**Agenda**

1. Opening
  - A. Unpacking Learning Targets (2 minutes)
2. Work Time
  - A. Creating a Team Cascading Consequences Chart (13 minutes)
  - B. Creating a Stakeholders Chart (18 minutes)
3. Closing and Assessment
  - A. Considering a Position (12 minutes)
4. Homework
  - A. Familiarize yourself with the Taking a Position graphic organizer and be ready to begin work on it in the next class period.

**Teaching Notes**

- This is the final lesson in which teams create a Stakeholders chart, so students work on their own to complete their Hunter-Gatherer Stakeholders charts in this lesson.
- This is the last lesson in which students consider consequences and stakeholders of food chains. In the next three lessons, students will be writing a presentation speech to answer the question: Which of Michael Pollan's four food chains would best feed the United States?
- Post: Learning targets.



Lesson Vocabulary	Materials
taking a position	<ul style="list-style-type: none"><li>• Researcher's notebook (one per student, distributed in Lesson 3)</li><li>• Team Hunter-Gatherer Food Chain Cascading Consequences chart (one per team, started in Lesson 12)</li><li>• Hunter-Gatherer Food Chain Cascading Consequences chart (for teacher reference, from Lesson 12)</li><li>• Stakeholders chart (new; one per student; see Lesson 4)</li><li>• Hunter-Gatherer Stakeholders chart (for teacher reference)</li><li>• All four of the Cascading Consequences charts and all four of the Stakeholders charts (from Lessons 1–14)</li><li>• Taking a Position graphic organizer (one per student)</li></ul>

Opening	Meeting Students' Needs
<p><b>A. Unpacking Learning Targets (2 minutes)</b></p> <ul style="list-style-type: none"><li>• Ask for volunteers to read the learning targets aloud:<ul style="list-style-type: none"><li>* “I can use my research to add to the Cascading Consequences chart for Michael Pollan’s hunter-gatherer food chain.”</li><li>* “I can determine the stakeholders affected by the consequences of Michael Pollan’s hunter-gatherer food chain.”</li></ul></li><li>• Remind students that a stakeholder is anyone who will be affected by the consequences of the hunter-gatherer food chain.</li></ul>	



Work Time	Meeting Students' Needs
<p><b>A. Creating a Team Cascading Consequences Chart (13 minutes)</b></p> <ul style="list-style-type: none"><li>• Invite students to reread the focus question and the research question. Remind students that the Cascading Consequences chart will help them to answer the essential question because it gives them a greater understanding of all of the consequences of a food chain, which they will need to consider when choosing which food chain they think will best feed the United States.</li><li>• Have the students take out their <b>researcher's notebooks</b>. Explain that they will be sharing the new consequences that they recorded from their research to add to their <b>team Hunter-Gatherer Food Chain Cascading Consequences charts</b>, where possible.</li><li>• Remind students that they will take turns reading out new consequences from their reading and discuss with their research teams where to place them on the group chart. Make the suggestion that ALL students in the group read their information BEFORE anything gets added in marker. That way, they can make the best decisions about where things should go (as there will likely be some overlapping information).</li><li>• Circulate to support teams as they add to their Cascading Consequences charts. Refer to the <b>Hunter-Gatherer Food Chain Cascading Consequences chart (for teacher reference, from Lesson 12)</b> to guide students in the consequences of the hunter-gatherer food chain and how they are affected.</li><li>• Ask students:<ul style="list-style-type: none"><li>* "What new consequences did you find in your research?"</li><li>* "Where are you going to add them on your team chart? Why?"</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Consider having students use sticky notes to flag evidence they share. Students can flag where evidence might be placed on the chart before actually adding it in marker.</li></ul>



Work Time (continued)	Meeting Students' Needs
<p><b>B. Creating a Stakeholders Chart (18 minutes)</b></p> <ul style="list-style-type: none"><li>• Invite teams to look over the team Cascading Consequences chart to identify the stakeholders affected by the consequences listed. If the stakeholders are listed on the chart, they can underline or circle them; if they are not listed, they can note them next to the consequences.</li><li>• Distribute <b>Stakeholders charts</b> and invite students to fill out the charts for the hunter-gatherer food chain using their Cascading Consequences charts. They will be filling out their own charts, but can discuss ideas with the team as they work. Remind students that they won't necessarily agree on all of the answers, so each person should record what they think.</li><li>• Circulate to assist students where they need it. Ask students questions to guide their thinking:<ul style="list-style-type: none"><li>* "What stakeholders are affected by this consequence?"</li><li>* "How are they affected?"</li></ul></li><li>• Refer to the <b>Hunter-Gatherer Stakeholders chart (for teacher reference)</b> to guide students in the stakeholders they could include on their chart. Remember that team Cascading Consequence charts may be different to the teacher reference version, so this may cause a difference in stakeholders.</li><li>• If time allows, have students pair up with a student from another research team to compare and discuss their Hunter-Gatherer Stakeholders charts. Invite students to adjust their own answers based on the conversation if they want to.</li></ul>	<ul style="list-style-type: none"><li>• Circulate and provide supports like a Stakeholders list from which to choose, for example.</li><li>• This task has been intentionally scaffolded to the point of this lesson. Consider encouraging students to seek support from their teammates.</li></ul>



Closing and Assessment	Meeting Students' Needs
<p><b>A. Considering a Position (12 minutes)</b></p> <ul style="list-style-type: none"> <li>Remind students of the question: Which of Michael Pollan's four food chains would best feed the United States? Emphasize to students that this means they are no longer just thinking about feeding themselves or their family, they are thinking about feeding millions of people.</li> <li>Invite teams to get out <b>all four of the Cascading Consequences charts and all four of the Stakeholders charts</b>. Give students time to look over all of those materials and to begin thinking about which of the four chains they think would best feed all the people in the United States.</li> <li>Ask students guiding question as they look over their materials to discuss with their teams: <ul style="list-style-type: none"> <li>* "Is it possible for each food chain to feed everyone in the United States?"</li> <li>* "Are there any food chains that just won't work to feed that many people? Why?"</li> </ul> </li> <li>Refocus students as a group. Ask students to discuss in teams and then to share with the whole group: <ul style="list-style-type: none"> <li>* "What are the pros of the _____ food chain in feeding everyone in the United States?"</li> <li>* "What are the cons of the _____ food chain in feeding everyone in the United States?"</li> </ul> </li> <li>Repeat questioning for each food chain.</li> <li>Introduce the "four corners" activity by pointing out the corners of your room and assigning each corner one of the four food chains from <i>Omnivore's Dilemma</i>. Have the students get up and go to the corner of the room that is assigned the food chain they think would best feed the United States.</li> <li>Have the students at each corner discuss their number-one reason for choosing that food chain. If there is time, you can have a student from each food chain report out the top reasons why the group they are representing is standing where they are.</li> </ul>	<ul style="list-style-type: none"> <li>As teams discuss pros and cons to each of the four chains, provide probing questions to have groups deeply consider each side.</li> </ul>
Homework	Meeting Students' Needs
<ul style="list-style-type: none"> <li>Familiarize yourself with the <b>Taking a Position graphic organizer</b> and be ready to begin work on it in the next class period.</li> </ul>	



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# Grade 8: Module 4: Unit 2: Lesson 14

## Supporting Materials



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Hunter-Gatherer Stakeholders Chart  
For Teacher Reference

Name: \_\_\_\_\_

Date: \_\_\_\_\_

What is the option being considered?

Hunter-Gatherer

Stakeholder	How will he/she/it be affected?	Is this a positive or negative consequence?	If the consequence is negative, do <i>you</i> 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
<b>Hunter-gatherer</b>	Need to learn skills	Positive		2
<b>Hunter-Gatherer</b>	Have to be careful—can get hurt	Negative	Yes	2
<b>Animals</b>	Live their lives in the wild	Positive		1
<b>Animals</b>	Usually have a quick death	Positive		1
<b>Hunter-Gatherer</b>	Has a close experience with death of animal	Positive and negative	Yes	2



**Taking a Position**  
Graphic Organizer

\_\_\_\_\_  
**Name:**

\_\_\_\_\_  
**Date:**

<b>A. In my opinion, the “best” food chain for feeding the United States is:</b>	
<b>B. The top three reasons I made this decision are:</b>	
<b>C. One negative consequence of this food chain is:</b>	





**Taking a Position**  
Graphic Organizer

**Evidence from the Cascading Consequences and Stakeholders Charts  
(to support B and C above):**



EXPEDITIONARY  
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# **Grade 8: Module 4: Unit 2: Lesson 15**

## **Writing a Position Speech: Which Food Chain Would Be Best?**



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Long-Term Target Addressed (Based on NYSP12 ELA CCLS)	
I can present claims and findings in a focused, coherent manner (use relevant evidence, sound reasoning, and well-chosen details). (SL.8.4)	
Supporting Learning Target	Ongoing Assessment
<ul style="list-style-type: none"><li>I can make a claim supported by reasons and evidence from research.</li></ul>	<ul style="list-style-type: none"><li>Position Speech Rubric (content section only for Birke Baehr speech)</li><li>Completed Position Speech graphic organizer</li></ul>



Agenda	Teaching Notes
<ol style="list-style-type: none"> <li>1. Opening               <ol style="list-style-type: none"> <li>A. Unpacking Learning Target (2 minutes)</li> </ol> </li> <li>2. Work Time               <ol style="list-style-type: none"> <li>A. Analyzing a Position Speech (12 minutes)</li> <li>B. Completing Position Speech Graphic Organizer (28 minutes)</li> </ol> </li> <li>3. Closing and Assessment               <ol style="list-style-type: none"> <li>A. Partner Share (3 minutes)</li> </ol> </li> <li>4. Homework               <ol style="list-style-type: none"> <li>A. Finish your Position Speech graphic organizer.</li> <li>B. Use your Position Speech graphic organizer to write your position speech. Remember to use relevant evidence, sound reasoning, and well-chosen details.</li> </ol> </li> </ol>	<ul style="list-style-type: none"> <li>• This is the first of three lessons dedicated fully to the End of Unit 2 Assessment. In this lesson, students watch the Birke Baehr speech once more. In Lesson 10, their focus when watching the speech was on effective speaking skills. In this lesson, their focus is on content, as it was in Unit 1.</li> <li>• Note that, as the Birke Baehr speech has been used in this lesson, students are already familiar with it and will not have to learn a lot of new content. However, it is not an example of a perfect position speech, as he uses personal experiences as evidence rather than researched facts and data. Ensure students are aware of this.</li> <li>• To fully understand how to organize their own speeches, students outline Birke Baehr's argument on the same graphic organizer they will use. Then, in Work Time B, they complete the Position Speech graphic organizer for their own speeches.</li> <li>• The Position Speech graphic organizer lays the foundation for the position paper students will write in Unit 3. It is essentially a first draft of their outline for their paper.</li> <li>• Completing the graphic organizer may be challenging for some students who may require more modeling or small group instruction.</li> <li>• In advance:               <ul style="list-style-type: none"> <li>– Ensure the class Industrial Food Chain Cascading Consequences chart from Lessons 1–4 has the “Food is cheap” consequence. Cascading from that consequence should be “Foods processed to be sweet, fat, and cheap so we’ll eat more.” Cascading from that consequence should be “Obesity increases.” This will be necessary for the counterclaim model you show to the class.</li> <li>– Make sure you are familiar with the Steps for Completing Assessment.</li> <li>– Review the rubric for the Birke Baehr speech in supporting documents. Think about what you want to emphasize when students use the rubric to assess the content of his speech.</li> <li>– Review the Birke Baehr Speech excerpt and the Birke Baehr Speech graphic organizer in supporting documents. Text code the speech yourself in preparation.</li> <li>– Consider photocopying the Birke Baehr Speech excerpt on one side and the Birke Baehr Speech graphic organizer on the opposite side of the same paper.</li> <li>– Review: Checking for Understanding Techniques (see Appendix). You may choose to use one of these</li> </ul> </li> </ul>



strategies during the “catch” in Work Time B.	
Lesson Vocabulary	Materials
counterclaim	<ul style="list-style-type: none"> <li>• End of Unit 2 Assessment: Position Speech Prompt and Steps (one per student)</li> <li>• Position Speech Rubric (one per student)</li> <li>• Video: Birke Baehr—“What’s Wrong with Our Food System <a href="http://www.ted.com/talks/birke_baehr_what_s_wrong_with_our_food_system.html">http://www.ted.com/talks/birke_baehr_what_s_wrong_with_our_food_system.html</a>”</li> <li>• Position Speech graphic organizer (one per student)</li> <li>• Class Industrial Food Chain Cascading Consequences chart (from Lessons 1–4)</li> <li>• Sticky notes (10 per student)</li> </ul>

Opening	Meeting Students’ Needs
<p><b>A. Unpacking Learning Target (2 minutes)</b></p> <ul style="list-style-type: none"> <li>• Read the learning target aloud:             <ul style="list-style-type: none"> <li>* “I can make a claim supported by reasons and evidence from research.”</li> </ul> </li> <li>• Invite students to turn and talk with an elbow partner to answer the questions:             <ul style="list-style-type: none"> <li>* “What did we learn in Unit 1 about relevant evidence, sound reasoning, and well-chosen details?”</li> <li>* “How do they help make a strong argument?”</li> </ul> </li> <li>• Cold call several students to share their answers.</li> <li>• Explain that over the next few lessons students are going to take a position about which food chain is best for feeding all the people in the United States. This position speech is the End of Unit 2 Assessment. This will help them write their position paper in Unit 3.</li> </ul>	



Work Time	Meeting Students' Needs
<p><b>A. Analyzing a Position Speech (12 minutes)</b></p> <ul style="list-style-type: none"><li>• Distribute the <b>End of Unit 2 Assessment: Position Speech Prompt and Steps</b>. Invite students to read it for the gist, circling words that are most important to understanding what they are going to be asked to do.</li><li>• Invite students to turn and talk to a partner, answering the following questions:<ul style="list-style-type: none"><li>– “What do you need to do for the end of unit assessment?”</li><li>– “What questions do you need answered to fully understand what you are being asked to do?”</li></ul></li><li>• Invite students to share out. Use no more than a minute to answer any questions that you think would help students to understand the assessment.</li><li>• Distribute the <b>Position Speech Rubric</b>.</li><li>• Explain to students that the focus of today’s lesson is only on the content of the speech, so they will only be discussing that section of the rubric. Remind them that in Lesson 10 they thought about how speeches should be presented. Their Effective Speaking Skills anchor chart contains the same criteria as the presentation section of the rubric. Tell them that, in the next lesson, they will discuss the remaining section of the rubric (for the visual component).</li><li>• Invite students to read along silently as you read the content section of the rubric aloud.</li><li>• Explain to students that they will now watch Birke Baehr’s speech about local organic food again. As they watch, they should assess the content of his speech using the content section of the rubric. Point out that as they assess this speech, they only need to focus on the criteria in the Content section.</li><li>• Tell students that in the Comments column they should list the claim, the reasons, the evidence, and the counterclaim that they hear to justify how he met the criteria.</li><li>• Play the <b>Video: Birke Baehr—“What’s Wrong with Our Food System”</b> twice. Give students time between each play of the speech to record their ideas before playing it again.</li><li>• Invite students to turn and talk to a partner to share what the checked off and why, and what they recorded.</li></ul>	<ul style="list-style-type: none"><li>• Consider a partially completed rubric for some students who may find it challenging.</li></ul>



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> <li>• Cold call several students to share out. Ask students:             <ul style="list-style-type: none"> <li>– “What did you check off? Why?”</li> <li>– “Do you agree with what the previous student said? Why or why not?”</li> <li>– “What comments or questions did you write down?”</li> </ul> </li> <li>• Emphasize here that as students have done a lot of research in this unit, they should be able to write a much stronger speech than Birke Baehr. Explain that much of Birke Baehr’s evidence is personal experiences, but their evidence will be well-researched information including facts and data.</li> </ul>	
<p><b>B. Completing Position Speech Graphic Organizer (28 minutes)</b></p> <ul style="list-style-type: none"> <li>• Distribute the <b>Position Speech graphic organizer</b>. Invite students to read the steps for completing the graphic organizer.</li> <li>• Focus students on Step D (the counterclaim). Ask students:             <ul style="list-style-type: none"> <li>* “So what is a <i>counterclaim</i>? Why is it a good idea to include a counterclaim when you are taking a position on something?”</li> </ul> </li> <li>• Select volunteers to share their responses. Listen for students to explain that a counterclaim goes against the position they are taking and that it is a good idea to include it to show that you have considered why the other options are not so good. Explain to students that they should be able to find counterclaims on their Cascading Consequences charts (they will be negative consequences).</li> <li>• Show the <b>class Industrial Food Chain Cascading Consequences chart</b>. Say and point to the appropriate parts of the chart as you speak:             <ul style="list-style-type: none"> <li>* “I would choose the industrial food chain because food is cheaper, and one reason I think this is important because my research shows that a lot of people in the United States go hungry because they can’t afford food. Research suggests that cheaper food from the industrial food chain can increase obesity because it contains more fat and sugar, as my Cascading Consequences chart shows, but my response to this is that it is more important for people to not be starving because food is too expensive for them to buy.”</li> </ul> </li> <li>• Distribute <b>10 sticky notes</b> to each student. Explain that the sticky notes are so they can change their minds as they are working without messing up their graphic organizers.</li> </ul>	<ul style="list-style-type: none"> <li>• Remind students that they have worked with writing claims, citing evidence, and acknowledging counterclaims in previous modules for writing assignments. This time they are using these same thinking skills to write a speech. Provide examples from these modules, if necessary.</li> <li>• Additional modeling may be required. Modeling provides a clear vision of the expectation for students.</li> </ul>



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"><li>• Make sure students understand what to write in the two right-hand columns of the graphic organizer:<ul style="list-style-type: none"><li>– The name of the note-catcher it came from (Cascading Consequence chart, Stakeholders chart, or researcher's notebook)</li><li>– What source the evidence came from (page number of <i>The Omnivore's Dilemma</i> or article name)</li></ul></li><li>• Tell students that they can work at their own pace, but that you will pull the class together every 7 or so minutes to make sure everyone understands the steps and is making progress.</li><li>• As students work, circulate to observe and assist them.</li><li>• Depending on where they are in the process, ask students:<ul style="list-style-type: none"><li>* "Why did you choose this piece of evidence?"</li><li>* "How does this piece of evidence prove your claim?"</li><li>* "Do you think this evidence is specific enough? If not, what can you do?"</li><li>* "Why did you choose this counterclaim?"</li><li>* "How did you organize your evidence?"</li><li>* "What two big reasons are you thinking about? Do you have sufficient evidence to support these reasons?"</li></ul></li><li>• After about 7 minutes of work time, pause students and refocus them as a group. Depending on the observations you made while circulating, use this time to:<ul style="list-style-type: none"><li>– Address common problems.</li><li>– Clarify directions.</li><li>– Model if necessary.</li><li>– Invite students to share their progress with a partner.</li><li>– Invite students to self-assess using Fist to Five or a similar quick check strategy; this will help you see who to focus on during the next 7 minutes of Work Time.</li></ul></li><li>• This "catch" should take only 1 or 2 minutes. It should serve to help students see where they need to go next. Then "release" students back to work individually.</li><li>• Explain that once students are happy with their sticky notes, they can write the information straight onto their graphic organizers.</li></ul>	





Closing and Assessment	Meeting Students' Needs
<p><b>A. Partner Share (3 minutes)</b></p> <ul style="list-style-type: none"><li>• Review the learning target.</li><li>• Invite students to share with a partner and give each other feedback:<ul style="list-style-type: none"><li>– Share your claim and one piece of evidence with a partner.</li><li>– Ask your partner: “Is my piece of evidence relevant and detailed enough to prove my claim?”</li><li>– Repeat for the other partner.</li></ul></li><li>• Tell students that for homework they are going to be finishing their Position Speech graphic organizers and using them to write speeches that should take no more than 2 minutes to read aloud.</li><li>• Be sure that students take home everything they need to finish their graphic organizers and write their speeches: their sticky notes, their own Stakeholders charts, and their researcher’s notebooks.</li></ul>	
Homework	Meeting Students' Needs
<ul style="list-style-type: none"><li>• Finish your Position Speech graphic organizer.</li><li>• Use your Position Speech graphic organizer to write your position speech. Remember to use relevant evidence, sound reasoning, and well-chosen details.</li></ul>	<ul style="list-style-type: none"><li>• Some students may require additional time writing their speeches. Adapt lessons as needed based on the outcome of the homework assignment.</li></ul>



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# Grade 8: Module 4: Unit 2: Lesson 15

## Supporting Materials



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**End of Unit 2 Assessment:**  
Position Speech Prompt and Steps

**Name:**

**Date:**

I can present claims and findings in a focused, coherent manner (use relevant evidence, sound reasoning, and well-chosen details). (SL.8.4)

I can use effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation). (SL.8.4)

I can integrate multimedia components and visual displays in a presentation to clarify information, strengthen claims, and add emphasis. (SL.8.5)

I can adapt my speech for a variety of contexts and tasks, using formal English when indicated or appropriate. (SL.8.6)

**Prompt:**

Use your research findings about the consequences of each food chain to write and present a position speech to answer the focus question: “Which of Michael Pollan’s four food chains would best feed all the people in the United States?”

**Steps for completing assessment:**

1. Complete graphic organizer
2. Use graphic organizer to write speech
3. Choose visual component for speech
4. Practice delivering speech
5. Deliver speech to peers
6. Adapt speech for an audience of adults



Position Speech  
Rubric

Name: \_\_\_\_\_

Date: \_\_\_\_\_

The speaker		Check if Yes	Comments? Questions?
Content	Starts with a claim that clearly answers the guiding question		
	Provides at least two reasons for making that claim		
	Provides relevant evidence for each reason from the Cascading Consequences and Stakeholders charts		
	Provides a counterclaim and responds to it with evidence to support own claim		
Presentation	Makes eye contact with multiple points in the audience		
	Speaks clearly and slowly enough for everyone to hear and understand		
	Uses appropriate volume		
	Pronounces words correctly		
Visual Component	Chooses a visual component that clarifies information, supports the claim, and adds emphasis		
	Integrates the visual component into the presentation at a logical point		
Different Audiences	Present to Adults		

Position Speech  
Graphic Organizer

---

**Name:**

---

**Date:**

---

- A. Write down, in the opening statement box of the graphic organizer, the name of the food chain you are choosing. Don't write your complete opening statement yet. This will come after you have identified and organized your evidence.
- B. Look for evidence in your Cascading Consequences charts, Stakeholders charts, and researcher's notebook to prove that the food chain you chose is best for feeding all the people in the United States.
- C. When you find evidence you might want to use, write it on one sticky note. Each sticky note should have one piece of evidence, the name of the note-catcher it came from (Cascading Consequence chart, Stakeholders chart, or researcher's notebook), and what source the evidence came from (page number of *The Omnivore's Dilemma* or article name).
- D. Identify a counterclaim that you can disprove with evidence. Remember that a counterclaim is a claim that goes against the position you are taking. You can often find them in the negative consequences on the Cascading Consequences chart for the food chain you have chosen.
- E. Organize evidence sticky notes into big ideas about why the food chain is best. For example, several of the sticky notes may be about the environment and could therefore go together. Other sticky notes may be evidence that disproves the counterclaim; these sticky notes would be grouped together.
- F. Look for additional evidence if necessary.
- G. Fill in the counterclaim and evidence boxes of the graphic organizer using your sticky notes or other evidence from the note-catchers.
- H. Draft the opening statement so that it includes your answer to the question with two reasons. For example: "The industrial food chain has the potential to be both affordable and healthy for all of the people in the United States."
- I. Draft a closing statement that really pushes the audience to agree with you.



Position Speech  
Graphic Organizer

Guiding Question: Which of Michael Pollan's four food chains would best feed all the people in the United States?		
Claim: What is your answer to the guiding question and why? (one sentence)		
Counterclaim and Response	What note-catcher/organizer is this information from?	What source is this information from?
Supporting Evidence and Details for Reason 1		



Position Speech  
Graphic Organizer

Supporting Evidence and Details for Reason 2		
Closing Statement (one sentence)		



EXPEDITIONARY  
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# **Grade 8: Module 4: Unit 2: Lesson 16**

## **Creating a Visual Component for the Speech:**

### **End of Unit Assessment Preparation and Practice**



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

I can present claims and findings in a focused, coherent manner (use relevant evidence, sound reasoning, and well-chosen details). (SL.8.4)  
I can use effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation). (SL.8.4)  
I can integrate multimedia components and visual displays in a presentation to clarify information, strengthen claims, and add emphasis. (SL.8.5)  
I can adapt my speech for a variety of contexts and tasks, using formal English when indicated or appropriate. (SL.8.6)

**Supporting Learning Targets**

- I can demonstrate effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation).
- I can appropriately use a visual component to clarify, support, and emphasize the content of my speech.

**Ongoing Assessment**



Agenda	Teaching Notes
<ol style="list-style-type: none"> <li>1. Opening               <ol style="list-style-type: none"> <li>A. Unpacking Learning Targets (2 minutes)</li> </ol> </li> <li>2. Work Time               <ol style="list-style-type: none"> <li>A. Mini Lesson—Using a Visual Component in a Speech (8 minutes)</li> <li>B. Choosing Visual Components for Presentation and Practicing (8 minutes)</li> <li>C. Speech Practice (20 minutes)</li> </ol> </li> <li>3. Closing and Assessment               <ol style="list-style-type: none"> <li>A. Peer Feedback (7 minutes)</li> </ol> </li> <li>4. Homework               <ol style="list-style-type: none"> <li>A. Use the suggestions from peer feedback to practice your presentation for the end of unit assessment tomorrow.</li> </ol> </li> </ol>	<ul style="list-style-type: none"> <li>• In this lesson, students comb through their personal and team Cascading Consequences charts for information to choose a visual component to support their end of unit speech. The task requires them the think about how to best support their speeches with a visual cue, and how to best integrate a visual element into their presentations. The use of the visual component during the presentation will provide a higher level of engagement for both the speaker and the audience.</li> <li>• Because of time limitations, students will not create a new visual component to support their speeches. Instead, they will select an appropriate part of a Cascading Consequences or Stakeholders chart that has already been created and work out where and how to draw attention to it in their speeches. Keep in mind that the bulk of the standards for this unit lie in the speech itself, not the visual aspect.</li> <li>• Students may need to share visual components with other members of their teams, as the Cascading Consequences charts, for example, were created in teams. In this situation remind students to share and to take turns to practice using their visual components. While they are waiting they could spend more time perfecting their speeches.</li> <li>• In the latter part of the lesson, students practice their speeches with a partner who is not in their research team. This provides students with a different perspective on their work, as each team Cascading Consequences chart will look different. A more objective partner will be able to provide more authentic feedback during the closing. Consider determining these pairings in advance according to criteria such as speech topic, skill level, or student comfort level. Also emphasize the Peer Critique protocol to students (see Appendix).</li> <li>• While students are choosing their visual components and practicing, circulate to look over as many of the speeches as you can to provide oral feedback. Time permitting, you may wish to extend some of the allocated times in this lesson in order to give students more practice time and to give yourself more time to look at the work of every student.</li> <li>• In advance: Ensure the class Industrial Food Chain Cascading Consequences chart from Lessons 1–4 has the “Food is cheap” consequence. Cascading from that consequence should be “Foods processed to be sweet, fat, and cheap so we’ll eat more,” and cascading from that consequence should be “Obesity increases.” This will be necessary for the model you show to the class.</li> <li>• Post: Learning targets.</li> </ul>



Lesson Vocabulary	Materials
visual component, clarify, emphasis	<ul style="list-style-type: none"><li>• Position Speech Rubric (from Lesson 15; plus fresh copies, one per student)</li><li>• Class Industrial Food Chain Cascading Consequences chart (from Lessons 1–4)</li><li>• Effective Speaking Skills anchor chart (from Lesson 10)</li></ul>

Opening	Meeting Students' Needs
<p><b>A. Unpacking the Learning Targets (2 minutes)</b></p> <ul style="list-style-type: none"><li>• Read the learning targets aloud with students:<ul style="list-style-type: none"><li>* “I can demonstrate effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation).”</li><li>* “I can appropriately use a visual component to clarify, support, and emphasize the content of my speech.”</li></ul></li><li>• Ask students:<ul style="list-style-type: none"><li>* “What is a visual component?”</li></ul></li><li>• Listen for students to explain that a visual component is something that they show in their speeches to support their ideas or emphasize a particular point.</li></ul>	



Work Time	Meeting Students' Needs
<p><b>A. Mini Lesson—Using a Visual Component in a Speech (8 minutes)</b></p> <ul style="list-style-type: none"><li>• Refocus students on the “visual component” section at the bottom of the <b>Position Speech Rubric</b>. Tell students that their use of a visual component needs to meet certain criteria in order to show whether or not they have met the learning target. Invite students to read the first box aloud with you:<ul style="list-style-type: none"><li>* “Chooses a visual component that clarifies information, supports the claim, and adds emphasis.”</li></ul></li><li>• Ask:<ul style="list-style-type: none"><li>* “What does it mean to ‘clarify information?’”</li></ul></li><li>• Invite one or two volunteers to answer the question, listening for the correct response.</li><li>• Ask students to turn and talk about the follow-up question:<ul style="list-style-type: none"><li>* “How can a visual component help ‘clarify information?’”</li></ul></li><li>• Listen for students to discuss how charts and graphs can be used to clarify numbers, how pictures and diagrams can help someone visualize an object, or how slide shows or posters can help make main ideas clearer.</li><li>• Refocus students as a group. Conclude by stating that the visual component of their speech should help to make their reasons and evidence clearer to the audience.</li><li>• Ask students:<ul style="list-style-type: none"><li>* “What does it mean to ‘add emphasis?’”</li></ul></li><li>• Cold call on one or two students to answer the question. Follow up by telling students that a visual component should emphasize the most important points of the speech by placing more attention on those points. Ask students to show a thumbs-up if they understand what it means to clarify and add emphasis, a thumbs-sideways if they are unsure about one or both, or a thumbs-down if they do not understand. Clarify as needed.</li><li>• Invite students to read the next box aloud with you:<ul style="list-style-type: none"><li>* “Integrates the visual component into the presentation at a logical point.”</li></ul></li><li>• Explain that good speakers use visual components when they are appropriate and make the most sense. Tell students that they will also need to determine when they will display or point out their visual components during their speeches. They should display or point out the visual component at a “logical point”—when it matches what they are saying.</li></ul>	<ul style="list-style-type: none"><li>• When reviewing the graphic organizers or recording forms, consider using a document camera to visually display the document for students who struggle with auditory processing.</li><li>• Providing models of expected work supports all learners but especially supports challenged learners.</li></ul>



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"><li>• Tell students that in this lesson they are going to choose a visual component to use to support their speeches. It should be something they have already created—for example, one of the Cascading Consequences charts or one of the Stakeholders charts. Explain that they need to point part of it out in their position speeches in order to emphasize something they are saying.</li><li>• Model an example. Use the <b>class Industrial Food Chain Cascading Consequences chart</b> created in Lessons 1–4. Say to students:<ul style="list-style-type: none"><li>* “I think we should choose the industrial food chain to feed the United States for two reasons. One is that food from the industrial food chain is cheaper for consumers, which means that people who don’t have very much money are still able to buy and eat enough food to survive. You can see that this is a major consequence of this food chain on my Cascading Consequences chart. You can also see from the cascading consequences that come out from it that there are negative consequences as a result of cheaper food (like obesity) because the cheaper foods contain more fat. But my research suggests that there are a lot of people who can’t afford to buy food and go hungry, so it is important to keep food as cheap as possible for them.”</li></ul></li><li>• Explain to students that, in your example, you also used the Cascading Consequences chart as a visual emphasis for your counterclaim and response.</li></ul>	



Work Time (continued)	Meeting Students' Needs
<p><b>B. Choosing Visual Components for Presentation and Practicing (8 minutes)</b></p> <ul style="list-style-type: none"><li>• Invite students to get their personal and group Cascading Consequences charts ready, as well as their Stakeholders charts for the relevant food chains to support their claims. For example, if students have made the claim that Local Sustainable should be used to feed the United States, the Local Sustainable Cascading Consequences and Stakeholders charts will probably be a good place to start. Remind students that, as with your model, they could also use the cascading consequences or stakeholders to support their counterclaims.</li><li>• Circulate and provide assistance as needed. Guide students by asking clarifying questions such as:<ul style="list-style-type: none"><li>* “What is your claim?”</li><li>* “What are the reasons for your claim?”</li><li>* “Are those reasons listed on a Cascading Consequences chart or a Stakeholders chart for this food chain?”</li><li>* “How could you use one of these charts to emphasize and support the ideas in your speech?”</li></ul></li><li>• Tell students that once they have chosen their visual components they should practice using them in their speeches. Explain that students may have to share team charts, so while they are waiting their turn to use them they could spend time perfecting their speeches or practicing their speeches without the visual components.</li><li>• As students begin to practice, circulate to look at students’ speeches to provide oral feedback and encourage them to make revisions where necessary.</li></ul>	<ul style="list-style-type: none"><li>• Support individual students as needed helping them connect what they have on their Speech Rubric to something they can use on one of the charts.</li></ul>
<p><b>C. Speech Practice (20 minutes)</b></p> <ul style="list-style-type: none"><li>• Refocus the students as a group and invite them to reread the criteria on the <b>Effective Speaking Skills anchor chart</b>. Remind students that they watched the Birke Baehr speech in Lesson 10 to come up with this list of criteria, so when presenting their position speeches they should keep these criteria in mind.</li><li>• Distribute new Position Speech Rubrics and invite students to read the criteria in the Presentation section. Emphasize that the criteria on the rubric and the anchor chart are very similar.</li><li>• Invite students to spend time practicing their speeches using their visual components and focusing on their presentation skills.</li></ul>	<ul style="list-style-type: none"><li>• Some students may benefit from practicing their speeches using a mirror to practice eye contact and body language.</li></ul>



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> <li>• Circulate to look at students' speeches to provide oral feedback and encourage them to make revisions where necessary. Identify students who need more help with the content of their speeches and work with those students in a group to ensure the content is appropriate.</li> </ul>	
Closing and Assessment	Meeting Students' Needs
<p><b>A. Peer Feedback (7 minutes)</b></p> <ul style="list-style-type: none"> <li>• Instruct students to pair up with a partner who is not on their research team. Inform students that they will practice their speeches with this new partner in order to give a fresh perspective on their work in preparation for the end of unit assessment in the next lesson.</li> <li>• Remind students that they should practice using the visual component.</li> <li>• Tell students that they are going to fill out the Presentation and Visual Component sections of the Position Speech Rubric for their partner as they present in order to provide them with feedback. Remind students that comments and questions should be helpful, kind, and specific to the criteria being assessed. Provide the example: "Could you slow down a little so that you can pronounce each word correctly?"</li> <li>• Invite students to give their rubrics to their partners and to ask questions if they don't understand their partners' questions or comments.</li> </ul>	<ul style="list-style-type: none"> <li>• It might be helpful to remind students of the Stars and Steps protocol they have used in the past. If students are struggling to provide feedback, have them provide one Star and one Step for their partners.</li> <li>• Consider providing sentence starters for students to use when providing feedback.</li> </ul>
Homework	Meeting Students' Needs
<ul style="list-style-type: none"> <li>• Use the suggestions from peer feedback to practice your presentation for the end of unit assessment tomorrow.</li> </ul>	

There are no new supporting materials for this lesson.



EXPEDITIONARY  
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# **Grade 8: Module 4: Unit 2: Lesson 17**

## **End of Unit 2 Assessment: Presentation of Position**



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

I can present claims and findings in a focused, coherent manner (use relevant evidence, sound reasoning, and well-chosen details). (SL.8.4)  
I can use effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation). (SL.8.4)  
I can integrate multimedia components and visual displays in a presentation to clarify information, strengthen claims, and add emphasis. (SL.8.5)  
I can adapt my speech for a variety of contexts and tasks, using formal English when indicated or appropriate. (SL.8.6)

**Supporting Learning Targets**

- I can present my claim about which food chain would best feed all the people in the United States using relevant evidence, sound reasoning, and well-chosen details.
- I can adapt my speech for an audience of adults.

**Ongoing Assessment**

- End of Unit 2 Assessment: Position Speech



Agenda	Teaching Notes
<ol style="list-style-type: none"><li>1. Opening<ol style="list-style-type: none"><li>A. Unpacking Learning Targets (2 minutes)</li></ol></li><li>2. Work Time<ol style="list-style-type: none"><li>A. Mini Lesson: Adapting a Speech (10 minutes)</li><li>B. End of Unit 3 Assessment: Presenting Position Speeches and Adapting Speeches (30 minutes)</li></ol></li><li>3. Closing and Assessment<ol style="list-style-type: none"><li>A. Partner Share (3 minutes)</li></ol></li><li>4. Homework<ol style="list-style-type: none"><li>A. Finish adapting your speech for an adult audience if you didn't finish it in the lesson.</li></ol></li></ol>	<ul style="list-style-type: none"><li>• In this lesson, students present their position speeches to answer the question: Which of Michael Pollan's four food chains would best feed the United States? Students present in their groups and you will circulate to each group, listening to each student present and assessing them using the Position Speech Rubric (for teacher reference). Please note that, depending on the size of your class, it may take more than one lesson to assess every student.</li><li>• To address SL.8.6, while you are with one group listening to students presenting, the other students will be adapting their speeches for an adult audience, using more formal English. There is a mini lesson to address more formal language at the beginning of the lesson; however, students may need more time and examples than those given in order to successfully adapt their speeches for an adult audience. Adjust accordingly.</li><li>• As you are assessing presentations, you do not need to assess the adapted speeches. Those will be collected at the end of the lesson for assessment against the final row of the rubric. Students may also need extra time to complete their adapted speeches, and may need to take them home to finish for homework. If possible—and time permitting—students should be given the opportunity to present their adapted speeches to complete the assessment of standard SL.8.6.</li><li>• Students will need their Position Speech graphic organizers and their adapted position speeches in the next unit as they write their position papers.</li><li>• Review: Position Speech Rubric ready to assess students as they present.</li><li>• Post: Learning targets.</li></ul>



Lesson Vocabulary	Materials
adapt, formal	<ul style="list-style-type: none"><li>• End of Unit 2 Assessment: Presentation of Position</li><li>• Adapting a Speech anchor chart (new; teacher-created)</li><li>• Formal and Informal Speech excerpt examples (one for display)</li><li>• Position Speech Rubric (from Lesson 15)</li><li>• Lined paper (one piece per student)</li><li>• Position Speech Rubric (for teacher reference; enough copies to assess each student)</li></ul>

Opening	Meeting Students' Needs
<p><b>A. Unpacking Learning Targets (2 minutes)</b></p> <ul style="list-style-type: none"><li>• Read the learning targets aloud:<ul style="list-style-type: none"><li>* “I can present my claim about which food chain would best feed all the people in the United States using relevant evidence, sound reasoning, and well-chosen details.”</li><li>* “I can adapt my speech for an audience of adults.”</li></ul></li><li>• Explain to students that today they will present their position speeches, and they are also going to adapt their speeches for a new audience of adults rather than students. Ask students to discuss in research teams:<ul style="list-style-type: none"><li>* “What does <i>adapt</i> mean?”</li></ul></li><li>• Select volunteers to share their responses. Listen for them to explain that it means to change the speech to make it more appropriate for an audience of adults rather than students.</li></ul>	



Work Time	Meeting Students' Needs
<p><b>A. Mini Lesson: Adapting a Speech (10 minutes)</b></p> <ul style="list-style-type: none"><li>• Tell students that they are going to be presenting their position speeches in groups. Explain that you will be circulating to assess each group.</li><li>• Review the prompt and steps for the <b>End of Unit 2 Assessment: Position Speech: Which of Michael Pollan's four food chains would best feed the United States?</b> first introduced in Lesson 15.</li><li>• Focus students on the final step: Adapt your speech for an audience of adults. Tell students that while you are circulating to assess students, they are going to be rewriting their speeches to adapt them for a new audience of adults. Ask students to discuss in research teams:<ul style="list-style-type: none"><li>* "Why do you think you might need to adapt your speech for an audience of adults rather than students? How might it be different?"</li></ul></li><li>• Select volunteers to share their responses. Listen for and guide students to understand that, when presenting to adults, they will want to be more <i>formal</i> in their use of language. Provide the example that you might greet a friend with, "Hi, how's it going?" But you would greet your teacher or a parent of a friend with, "Hello Mrs. ... How are you?"</li><li>• Ask students to discuss in teams:<ul style="list-style-type: none"><li>* "How can you make your speech more formal for adults?"</li></ul></li><li>• Cold call students to share their ideas. Record them on an <b>Adapting a Speech anchor chart</b>.</li><li>• Display <b>Formal and Informal Speech excerpt examples</b>. Tell students that both of these speech examples say the same thing, but one is more formal and one is less formal. Tell them that you are going to read through both and listen for how one is more formal than the other.</li><li>• Read both speeches aloud. Invite students to discuss in research teams:<ul style="list-style-type: none"><li>* "How are the speeches different? Which one is more formal? How do you know?"</li><li>* "So what might some criteria be to make a speech more formal?"</li></ul></li><li>• Select volunteers to share their responses. Record students' responses on the Adapting a Speech anchor chart. Ideas might include:</li></ul>	



Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none"> <li>– Avoid using contractions (e.g., instead of “don’t,” use “do not”).</li> <li>– Avoid using slang (e.g., instead of “awesome,” use “really good”).</li> <li>– Use “yes” instead of “yeah.”</li> <li>• Use more mature vocabulary (e.g., “wonderful” instead of “good”).</li> </ul>	
<p><b>B. End of Unit 3 Assessment: Presenting Position Speeches and Adapting Speeches (30 minutes)</b></p> <ul style="list-style-type: none"> <li>• Explain that you are going to circulate around research teams listening to each student present, and that while students are waiting for you, they are to adapt their speeches using more formal language for an adult audience.</li> <li>• Remind students of the <b>Position Speech Rubric</b> and invite them to reread the criteria to remind themselves of what will be expected of them as they present their speeches.</li> <li>• Distribute <b>lined paper</b> for students to adapt their speeches.</li> <li>• Circulate, going from one group to the next assessing each student as he/she presents his/her position speech. Use the <b>Position Speech Rubric (for teacher reference)</b>. Note that you will not assess the adapted speeches during the lesson. This will be done afterward, so you can ignore the final row of the rubric during the presentations.</li> </ul>	<ul style="list-style-type: none"> <li>• As they work on adapting their speeches, some students may benefit from an additional copy of their speech to highlight and annotate.</li> </ul>
Closing and Assessment	Meeting Students' Needs
<p><b>A. Partner Share (3 minutes)</b></p> <ul style="list-style-type: none"> <li>• Invite students to share their adapted speeches with a partner and to describe how they adapted their original speeches for an adult audience.</li> <li>• Collect in original speeches and adapted speeches to assess them. If students need more time to complete their adapted speeches, they may finish them for homework.</li> </ul>	<ul style="list-style-type: none"> <li>• Partner sharing allows students to process the work they have done as they review their work together.</li> </ul>
Homework	Meeting Students' Needs
<ul style="list-style-type: none"> <li>• Finish adapting your speech for an adult audience if you didn’t finish it in the lesson.</li> </ul>	



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# Grade 8: Module 4: Unit 2: Lesson 17

## Supporting Materials



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**End of Unit 2 Assessment:**  
Presentation of Position

**Name:**

**Date:**

I can present claims and findings in a focused, coherent manner (use relevant evidence, sound reasoning, and well-chosen details). (SL.8.4)

I can use effective speaking techniques (appropriate eye contact, adequate volume, and clear pronunciation). (SL.8.4)

I can integrate multimedia components and visual displays in a presentation to clarify information, strengthen claims, and add emphasis. (SL.8.5)

I can adapt my speech for a variety of contexts and tasks, using formal English when indicated or appropriate. (SL.8.6)

**Prompt:**

Use your research findings about the consequences of each food chain to write and present a position speech to answer the focus question: “Which of Michael Pollan’s four food chains would best feed all the people in the United States?”

**Steps for completing assessment:**

1. Complete graphic organizer
2. Use graphic organizer to write speech
3. Choose visual component for speech
4. Practice delivering speech
5. Deliver speech to peers
6. Adapt speech for an audience of adults

**Formal and Informal Speech**  
Excerpt Examples

**Excerpt 1**

I'm gonna choose the hunter-gatherer food chain to feed the United States 'cause I think it's better for the animals. Like, all of the animals live in the wild and they are happy and free eatin' grass and other good food until the hunter kills them. They have an awesome life in the wild, and the hunter kills them quickly without any pain.

**Excerpt 2**

I think the hunter-gatherer food chain would be the best to feed all of the people in the United States because the animals are treated more humanely. Hunters are very careful to kill the animals without causing them any pain, and before they are killed they have a very natural life eating the foods that nature provides.





**Position Speech Rubric**  
For Teacher Reference

The speaker ...		4	3	2	1
<b>Content</b>	Makes a strong claim	A strong claim is made in response to the question to open the presentation.	A claim is made in response to the question to open the presentation.	A claim is made but it doesn't respond directly to the question, or it isn't presented at the beginning.	There is no claim made.
	Provides clear reasons for making that claim	Two clear reasons have been provided for making that claim.	Two reasons have been provided for making that claim.	One reason has been provided for making that claim.	No reasons have been provided for making the claim.
	Provides strong supporting evidence for reasons from cascading consequences and stakeholders research	At least two pieces of strong evidence have been provided to support each reason.	At least two pieces of evidence have been provided to support each reason.	There is at least one piece of evidence to support each reason.	No evidence is provided to support the reasons presented.
	Provides a counterclaim and responds to it with evidence	There is a clear counterclaim and response supported by evidence.	There is a counterclaim and response supported by evidence.	There is some evidence of a counterclaim and response.	There is no counterclaim or response.



**Position Speech Rubric**  
For Teacher Reference

The speaker ...		4	3	2	1
<b>Presentation</b>	Eye contact with multiple points in the audience	Eye contact is made with many different people in the audience throughout, advocating persuasively.	Eye contact is made with a number of people in the audience throughout, advocating persuasively.	Eye contact is made with one or two people.	Eye contact is not made with anyone in the audience.
	Speaks clearly and slowly enough for everyone to hear and understand	Speaking is paced perfectly throughout—slow and clear enough for everyone to understand.	Speaking is paced well for a majority of the time—slow and clear enough for most people to understand.	Speaking is paced well some of the time—slow and clear enough for some people to understand.	Speaking is too rushed and not clear enough. It is very difficult for most people to understand.
	Appropriate volume	Volume is appropriate for everyone to hear—not too loud and not too quiet.	Volume is appropriate for most people to hear.	Volume is appropriate for some people to hear.	Volume is challenging for most people to hear.
	Correct pronunciation	Every word is pronounced clearly and correctly.	Most words are pronounced clearly and correctly.	Some words are pronounced clearly and correctly.	Very few words are pronounced clearly or correctly.