



EXPEDITIONARY
LEARNING

Grade 8: Module 4: Unit 2: Lesson 1

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



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Determining Cascading Consequences Using *The Omnivore's Dilemma*:
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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



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Agenda	Teaching Notes
<p>1. Opening</p> <p>A Unpacking the Learning Target (4 minutes)</p> <p>B Thinking about How We Make Decisions (8 minutes)</p> <p>2. Work Time</p> <p>A. Mini Lesson: Modeling Creating a Cascading Consequences Chart Using Pages 48 and 49 (12 minutes)</p> <p>B. Guided Practice: Partner Work to Add to the Cascading Consequences Chart Using Pages 55 and 56 (10 minutes)</p> <p>C. Application: Partner Work to Add to the Cascading Consequences Chart Using a New Excerpt (6 minutes)</p> <p>3. Closing and Assessment</p> <p>A. Debrief (5 minutes)</p> <p>4. Homework</p> <p>A. Finish adding to your Industrial Food Chain Cascading Consequences chart using your text excerpt.</p>	<ul style="list-style-type: none"> • 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. • 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. • 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. • In advance: Read the article “Learning to Make Systematic Decisions” (in supporting materials) about the use of the Stakeholder Consequences Decision-making (SCDM) process in a science class. • 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. • Review the sample Cascading Consequences charts in the supporting materials and the think-aloud portion of the lesson. • Find an image of a waterfall to display to illustrate the meaning of “cascading” when unpacking the learning target.



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Agenda	Teaching Notes (continued)
	<ul style="list-style-type: none"> • 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. • Review: Fist to Five in Checking for Understanding Techniques (Appendix).

Lesson Vocabulary	Materials
cascading, consequence	<ul style="list-style-type: none"> • Article: “Learning to Make Systematic Decisions” (for teacher reference) • Image of a waterfall (one for display; see Teaching Notes) • Getting a Dog Cascading Consequences sample chart (one per student) • <i>The Omnivore’s Dilemma</i> (book; distributed to each student in Unit 1) • Industrial Food Chain Cascading Consequences chart (new; teacher-created; for display; you may want to transcribe it onto chart paper to hang in the room throughout the unit) • Chart paper (optional) • Blank 8" x 11" paper (one per student) • 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 graphic organizer (from Unit 1; one per student)



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

Opening	Meeting Students’ Needs
<p>A. Unpacking the Learning Target (4 minutes)</p> <ul style="list-style-type: none"> • Read the learning target out loud. <ul style="list-style-type: none"> * “I can analyze The Omnivore’s Dilemma to determine the cascading consequences of the industrial food chain.” • Circle the word <i>consequences</i> on the posted learning targets. • Invite students to discuss with an elbow partner: <ul style="list-style-type: none"> * “What is a consequence?” • 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. • Circle the word cascading on the posted learning target. Display an image of a waterfall. • 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. 	<ul style="list-style-type: none"> • ELLs benefit from having picture cues to help explain word meanings.
<p>B. Unpacking the Learning Target (4 minutes)</p> <ul style="list-style-type: none"> • Display the following steps for students to take: <ol style="list-style-type: none"> 1. Imagine you are deciding whether to get a dog for a family pet. 2. List all the consequences (effects) of this decision. 3. Based on these consequences, what would you decide? 4. Why would you make that decision? • After 2 minutes of thinking and writing, invite students to explain to a partner: <ul style="list-style-type: none"> * “What did you decide, and why?” 	<ul style="list-style-type: none"> • Strategically placing ELLs or students with language production difficulties next to students who are more fluent can support language development during partner talk.



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Opening (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Distribute the Getting a Dog Cascading Consequences sample chart.• Invite students to discuss the following questions with their elbow partner:<ul style="list-style-type: none">* "What do you notice about this Cascading Consequences chart?"* "What do you wonder?"• 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."• 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.• 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">* "What is the problem with making a decision based on emotions or gut feelings?"• 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.	



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Work Time	Meeting Students’ Needs
<p>A. Mini Lesson: Modeling Creating a Cascading Consequences Chart Using Pages 48 and 49 (12 minutes)</p> <ul style="list-style-type: none"> • Invite students to turn to page 48 of <i>The Omnivore’s Dilemma</i>, to the section titled “CAFO—Concentrated Animal Feeding Operation.” • 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. • 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"> • Family farmers grow mostly corn (49) • Cows and other animals are not raised on farms anymore (49) • Cattle are now raised on CAFOs (49) • Meat is cheap (49) • People eat a lot of meat (49) • Manure waste from CAFOs causes toxic pollution (49) • CAFOs increase bacteria in our food (49) • Cows are forced to eat corn (49) • Eating so much corn negatively affects their health (49) • 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. 	<ul style="list-style-type: none"> • Some students may benefit from having the consequences (or a few of the possible consequences) pre-highlighted in their texts. • Some students may benefit from having a partially completed chart to work on. • Providing models of expected work supports all students, especially supports challenged learners. • 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.



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Work Time (continued)	Meeting Students’ Needs
<ul style="list-style-type: none"> • Begin to think aloud about how to turn this list of consequences into a class Industrial Food Chain Cascading Consequences chart. Direct students to create their own Cascading Consequences chart on blank 8" x 11" paper as you create one on the board. See the Industrial Food Chain Cascading Consequences chart using pages 48 and 49 (for teacher reference) in supporting materials. • 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. • Your think-aloud should sound like: <ul style="list-style-type: none"> * “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.” * “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.’” * “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.” * “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.” • Ask students to discuss with an elbow partner: <ul style="list-style-type: none"> * “What words in the text tell you that cheap meat is a consequence of CAFOs?” <p>Cold call students to share their responses with the whole group. Listen for: “thanks to CAFOs.”</p> • Explain that the text often gives clues, like “thanks to CAFOs,” about where a consequence should go on the chart. 	



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Work Time (continued)	Meeting Students' Needs
<ul style="list-style-type: none">• Continue your think-aloud:<ul style="list-style-type: none">* "Because meat is cheap, people eat a lot of meat. That consequence will go in a box coming from 'meat is cheap.'"• 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.• After about 3 minutes, cold call students to share out where they placed each consequence and why.• 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.• 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.• Direct students to make changes to their own chart that they think are necessary based on what you added to the class chart.	



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Work Time (continued)	Meeting Students’ Needs
<ul style="list-style-type: none"> • B. Guided Practice: Partner Work to Add to the Cascading Consequences Chart Using Pages 55 and 56 (10 minutes) • Remind students of the steps you took to build the Cascading Consequences chart: <ol style="list-style-type: none"> 1. Reread the section of the text, looking for consequences of the industrial food chain. 2. Use the text to create a list of consequences of the industrial food chain, including page numbers. 3. Add each consequence to the Cascading Consequences chart, deciding what it is a direct consequence and what is an indirect or “cascading” consequence. • Invite students to work with their partner to add to the chart using the section of <i>The Omnivore’s Dilemma</i> titled “Cattle Eating Cattle,” pages 55 and 56. • As students work, circulate to observe and assist them. Ask: <ul style="list-style-type: none"> * “Why did you place this consequence where you did?” * “How do you know this is a consequence of this?” • See the Industrial Food Chain Cascading Consequences Chart with additions from pages 55 and 56 (for teacher reference) in supporting materials. • 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"> * “Did you identify the same consequence as the presenting partnership? Why or why not?” * “Would you make any changes to this? What would you change? Why?” • After discussing the presenting partnership’s additions to the chart, ask students to work with their own partner to revise their Cascading Consequences chart. <p>Cold call two or three students to explain how they revised their chart and why.</p>	<ul style="list-style-type: none"> • Some students may benefit from having their texts pre-highlighted to help them focus on the specifics they need. • 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.



Work Time (continued)	Meeting Students' Needs
<p>C. Application: Partner Work to Add to the Cascading Consequences Chart Using a New Excerpt (6 minutes)</p> <ul style="list-style-type: none">• 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• Explain that they will share their additions to the chart in the beginning of the next lesson to add to the class chart.• Remind students again that the steps they should follow are:<ol style="list-style-type: none">1. Read to look for consequences2. Create a list of consequences including page numbers.3. Add the consequences to the Cascading Consequences chart.• Remind them that they also have their Industrial Food Chain graphic organizer from Unit 1 that they may want to use to add consequences to the chart.• 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.	<ul style="list-style-type: none">• Look carefully at the excerpts to match them to specific partnerships.



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



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Supporting Materials



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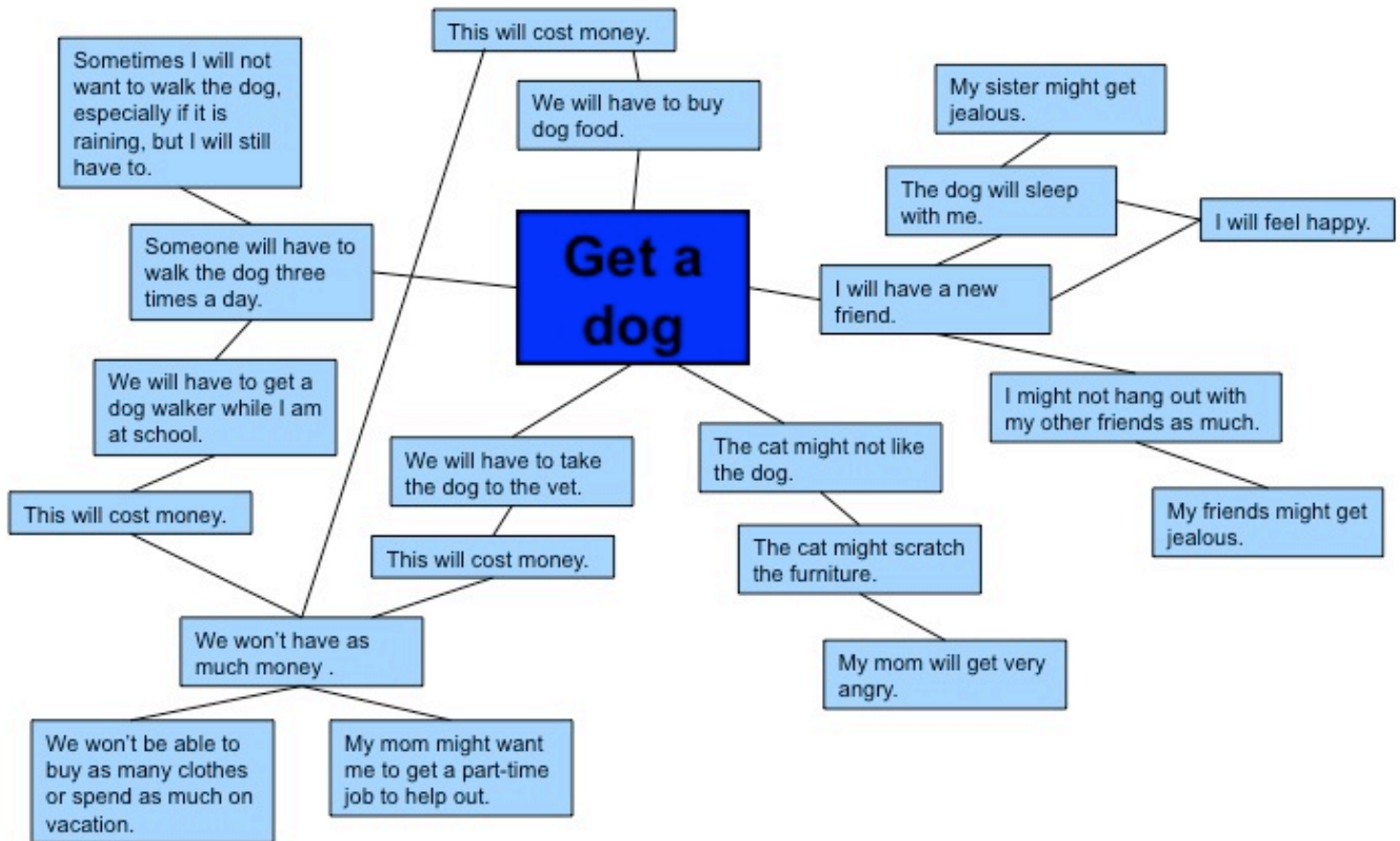
Article: “Learning to Make Systematic Decisions”
(for Teacher Reference)

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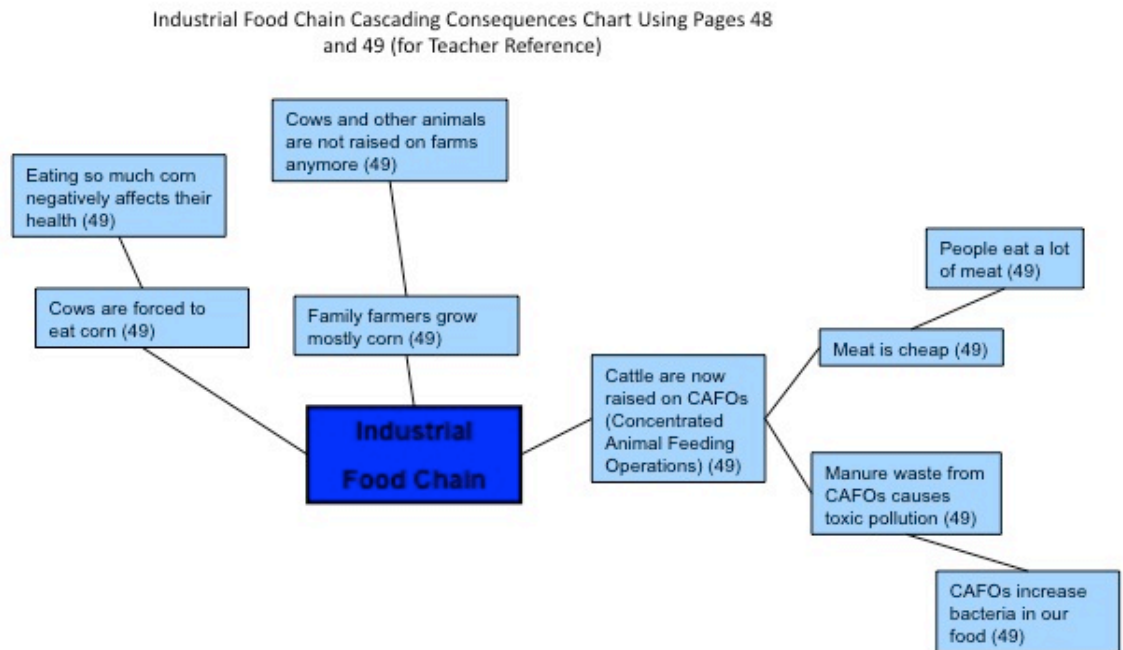
http://education.nationalgeographic.com/education/media/learning-make-systematic-decisions/?ar_a=1

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)

