Grade 8: Module 4: Unit 2: Lesson 8

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

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	Ongoing Assessment
• I can determine the cascading consequences of the local sustainable food chain using *The Omnivore's Dilemma*. • I can develop a supporting research question to help me focus my research.	• Team Local Sustainable Food Chain Cascading Consequences chart • Exit Ticket: Developing a Supporting Research Question: Consequences of Local Sustainable Food Chain

Agenda	Teaching Notes

1. Opening
   A. Unpacking Learning Targets (5 minutes)
2. Work Time
   A. Research Teams Create Local Sustainable Cascading Consequences Charts (20 minutes)
   B. Team Share (10 minutes)
3. Closing and Assessment
   A. Exit Ticket: Developing a Supporting Research Question (10 minutes)
4. Homework
   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.
	• 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.
	
	• 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.
	
	• Review: Local Sustainable Food Chain Cascading Consequences chart (for teacher reference) to help you guide students while you are circulating during Work Time.
	
	• Review: Fist to Five in Checking for Understanding Techniques (see Appendix).

Lesson Vocabulary	Materials
cascading, consequence	• Chart paper (one per research team) • Markers (four different colors per research team) • Consequences Conversation task cards (one per student, from Lesson 5) • Local Sustainable Food Chain Cascading Consequences chart (for teacher reference) • Researcher's roadmap (one per student, from Lesson 2) • Good Supporting Research Questions Are … anchor chart (from Lesson 2) • Exit Ticket: Developing a Supporting Research Question: Consequences of Local Sustainable Food Chain (one per student)

Opening	Meeting Students' Needs

A. Unpacking Learning Targets (5 minutes)
• Invite students to read through the learning targets with you:
   * "I can determine the cascading consequences of the local sustainable food chain using *The Omnivore's Dilemma*."
   * "I can develop a supporting research question to help me focus my research."
• 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:
   * "What do you think we are doing today and why are we doing it?"
• 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 *The Omnivore's Dilemma* 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?"
• Invite students to turn to page 5 in *The Omnivore's Dilemma,* 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.	

Work Time	Meeting Students' Needs

A. Research Teams Create Local Sustainable Cascading Consequences Chart (20 minutes)
 	
• 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.
 	
• Distribute one piece of **chart paper** and four different colored **markers** to each research team.
 	
• Direct students to take out and review their **Consequences Conversation task cards**.
 	
• 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).
 	
• Invite each team to share out their star and step.
 	
• 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.
 	
• 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.
 	
• As students work, circulate to observe and assist teams. Ask students:
 	
  * "Are you following the model by taking turns, discussing where consequences should go and why, and actively and respectfully listening?"
 	
  * "Why did you place this consequence where you did?"
 	
  * "How do you know this is a consequence of this?"
 	
• See the **Local Sustainable Food Chain Cascading Consequences chart (for teacher reference)** in the supporting materials for one way to create a Cascading Consequences chart from these text excerpts; remember, it is NOT the only way.
	• 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.
	
	• 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.

Work Time (continued)	Meeting Students' Needs

B. Team Share (10 minutes)
• 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.
 	
• 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.
 	
• Post the following directions:
 	
   – Number one stay at your team's Cascading Consequences chart to answer questions from other group members.
 	
   – 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."
 	
   – 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.
 	
• Circulate to support students in asking and answering questions. Some students may find this challenging and require additional support.
 	
• 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.
	• Consider modeling one type of conversation that might take place during the Team Share time.

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GRADE 8: MODULE 4: UNIT 2: LESSON 8
Local Sustainable Food Chain:
Determining Cascading Consequences Using *The Omnivore's Dilemma*

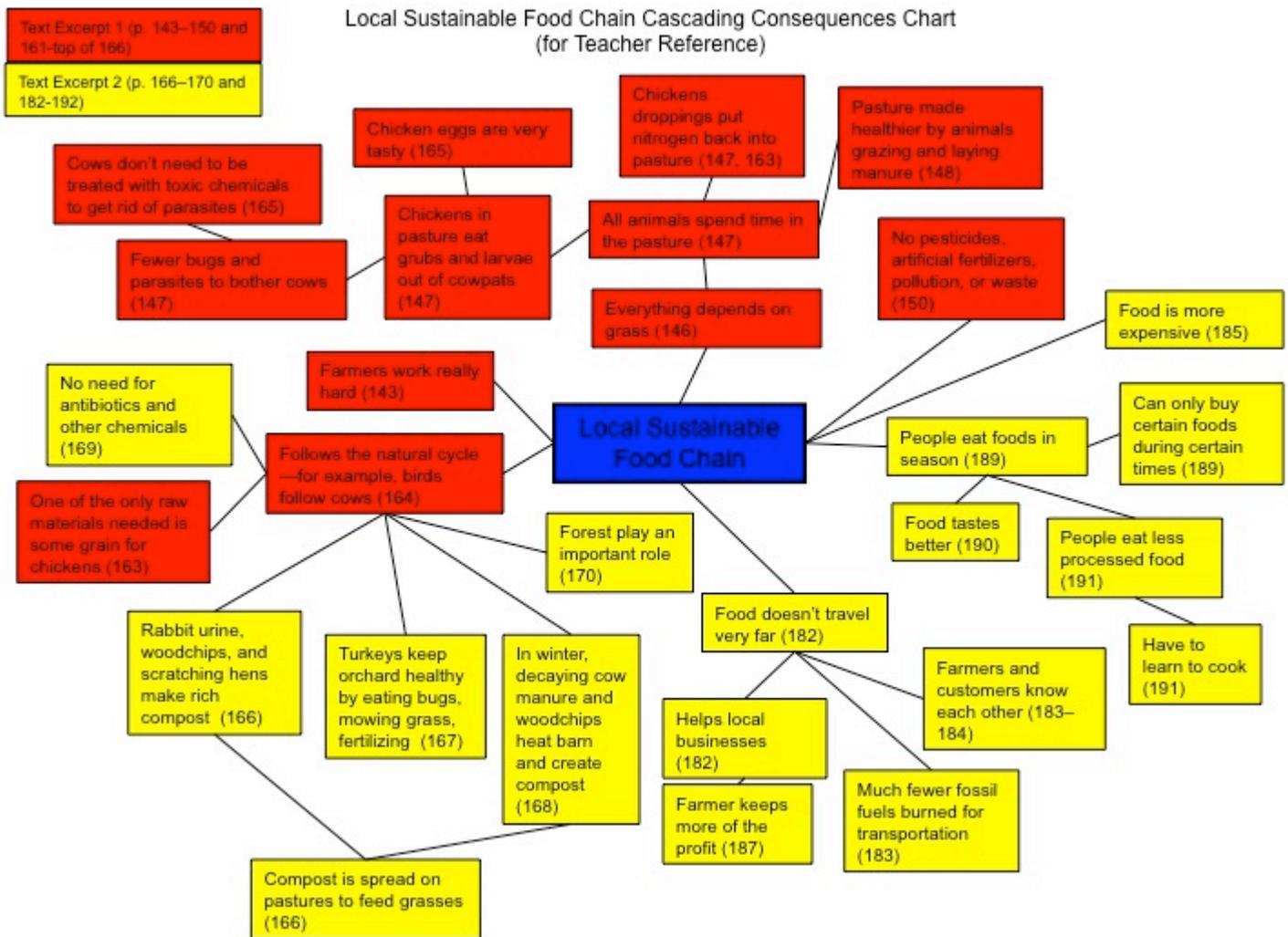| Closing and Assessment	Meeting Students' Needs

A. Exit Ticket: Developing a Supporting Research Question (10 minutes)
• Remind students of the focus question and research question (both posted in the classroom):
   * Focus question: "Which of Michael Pollan's four food chains would best feed all the people in the United States?"
   * Research question: "What are the consequences of each of Michael Pollan's four food chains?"
• 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.
• Invite students to take out their **researcher's roadmap** (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.
• 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.
• 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.
• Review the **Good Supporting Research Questions Are … anchor chart** posted on the wall.
• Distribute an **Exit Ticket: Developing a Supporting Research Question: Consequences of Local Sustainable Food Chain** 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.
• Invite students to record their research question in their researcher's notebook in the Local Sustainable section.
	• 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.

Homework	**Meeting Students' Needs**
• 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.	

EXPEDITIONARY LEARNING

Grade 8: Module 4: Unit 2: Lesson 8
Supporting Materials

Local Sustainable Food Chain
Cascading Consequences Chart for Teacher Reference

Local Sustainable Food Chain Cascading Consequences Chart
(for Teacher Reference)

Text Excerpt 1 (p. 143–150 and 161-top of 166)

Text Excerpt 2 (p. 166–170 and 182-192)

Cows don't need to be treated with toxic chemicals to get rid of parasites (165)

Chicken eggs are very tasty (165)

Chickens droppings put nitrogen back into pasture (147, 163)

Pasture made healthier by animals grazing and laying manure (148)

Fewer bugs and parasites to bother cows (147)

Chickens in pasture eat grubs and larvae out of cowpats (147)

All animals spend time in the pasture (147)

No pesticides, artificial fertilizers, pollution, or waste (150)

Food is more expensive (185)

Everything depends on grass (146)

Farmers work really hard (143)

Local Sustainable Food Chain

People eat foods in season (189)

Can only buy certain foods during certain times (189)

No need for antibiotics and other chemicals (169)

Follows the natural cycle —for example, birds follow cows (164)

Food tastes better (190)

People eat less processed food (191)

One of the only raw materials needed is some grain for chickens (163)

Forest play an important role (170)

Food doesn't travel very far (182)

Have to learn to cook (191)

Rabbit urine, woodchips, and scratching hens make rich compost (166)

Turkeys keep orchard healthy by eating bugs, mowing grass, fertilizing (167)

In winter, decaying cow manure and woodchips heat barn and create compost (168)

Helps local businesses (182)

Farmers and customers know each other (183–184)

Much fewer fossil fuels burned for transportation (183)

Farmer keeps more of the profit (187)

Compost is spread on pastures to feed grasses (166)

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?

_____

_____

_____

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

_____

_____

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