

## Grade 7 Informational Mini-Assessment

### “Chapter 3: From Farm to Factory” – an excerpt from *The Omnivore’s Dilemma: The Secrets Behind What You Eat* by Michael Pollan

This grade 7 mini-assessment is based on the text “Chapter 3: From Farm to Factory,” an excerpt from *The Omnivore’s Dilemma: The Secrets Behind What You Eat* by Michael Pollan. This text is considered to be a text worthy of students’ time to read and also meets the expectations for text complexity at grade 7. Assessments aligned to the Common Core State Standards (CCSS) will employ quality, complex texts such as this one. Because the topic of the text is scientific, the mini-assessment will measure both Reading Standards for Informational Text as well as Reading Standards for Literacy in Science and Technical Subjects.

Questions aligned to the CCSS should be worthy of students’ time to answer and therefore do not focus on minor points of the text. Questions also may address several standards within the same question because complex texts tend to yield rich assessment questions that call for deep analysis. In this mini-assessment there are six questions that address the Reading Standards below.

We encourage educators to give students the time that they need to read closely and write to the source. While we know that it is helpful to have students complete the mini-assessment in one class period, we encourage educators to allow additional time as is necessary.

#### The questions align to the following standards:

<b>RI.7.1</b>	Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
<b>RI.7.3</b>	Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).
<b>RI.7.4</b>	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of a specific word choice on meaning and tone.
<b>RI.7.6</b>	Determine and author’s point of view or purpose in a text and analyze how the author distinguishes his or her position from that of others.
<b>RI.7.8</b>	Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.
<b>RST.6-8.1</b>	Cite specific textual evidence to support analysis of science and technical texts.
<b>RST.6-8.2</b>	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
<b>RST.6-8.5</b>	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.

## Contents

Grade 7 Mini-Assessment – an excerpt from <i>The Omnivore’s Dilemma</i> (print for students).....	p. 3
Information for Teachers: Quantitative and Qualitative Analyses of the Text .....	p. 8
Question Annotations: Correct Answer(s) and Distractor Rationales .....	p. 10
Additional Resources for Assessment and CCSS Implementation .....	p. 15

The assessment questions in this document align with the CCSS and reflect the instructional shifts implied by the standards. To learn more about these topics, please go to the following link:

[www.achievethecore.org](http://www.achievethecore.org)

## Grade 7 Mini-Assessment — an excerpt from *The Omnivore's Dilemma*

Today you will read a passage about chemical fertilizer and how it has impacted farming. You will then answer several questions based on the text. I will be happy to answer questions about the directions, but I will not help you with the answers to any questions. You will notice as you answer the questions that some of the questions have two parts. You should answer Part A of the question before you answer Part B, but you may go back and change your answer to Part A if you want to.

Take as long as you need to read and answer the questions. If you do not finish when class ends, come see me to discuss the ways you may have additional time.

Now read the passage and answer the questions.

### An excerpt from *The Omnivore's Dilemma: The Secrets Behind What You Eat*

#### Chapter 3: From Farm to Factory

The questions in this mini-assessment are based on an excerpt from Chapter 3 (From Farm to Factory) of *The Omnivore's Dilemma: The Secrets Behind What You Eat* by Michael Pollan.

Teachers will find the excerpt by using the following citation: *From Omnivore's Dilemma: Young Readers Edition* by Michael Pollan, copyright © 2009 by Michael Pollan. The material comes from Chapter 3: From Farm to Factory, published by Dial Books, an imprint of Penguin Group (USA) Inc. <sup>1</sup> Teachers will need to provide the excerpted text.

The excerpt begins on page 29, with the first sentence of the chapter, "It may seem . . ." and ends on page 32, with the words, "But the system only works as long as fossil fuel energy is cheap."

<sup>1</sup> The text is not included in this document due to permissions denial for web rights. The user is solely responsible for any permission that may be necessary to reproduce, distribute, or publicly display the text for purposes of the assessment.

## QUESTIONS

1. The following question has two parts. Answer Part A and then answer Part B.

**Part A:** In paragraph 4, which phrase best helps the reader understand what the word surplus means?

- A. "World War II"
- B. "what the government should do"
- C. "leftover bomb material"
- D. "the timber industry"

**Part B:** According to the excerpt, what was the main result of the surplus described in paragraph 4?

- A. It helped farmers recognize the importance of using fertilizer.
- B. It made farm soil less healthy for animals that lived off the land.
- C. It led to the creation of a large amount of a useful product for farmers.
- D. It caused conflict between different government agencies.

2. The following question has two parts. Answer Part A and then answer Part B.

**Part A:** What is the author's main argument in the excerpt?

- A. Agri-businesses, along with the government, have been effective at creating a system in which large amounts of corn are grown and turned into processed food and other products.
- B. Chemical fertilizer has come into widespread use because of an Iowa farmer named Naylor, who demonstrated the benefits of using ammonium nitrate fertilizer.
- C. Nitrogen is an element required by all living things, a fact that has sparked much debate about how farmers can best ensure that their crops get enough nitrogen.
- D. The use of chemical fertilizer has changed farming for the worse by creating an inefficient system that relies too heavily on fossil fuels.

**Part B:** What is one thing the author could do to strengthen this argument?

- A. Describe how Naylor influenced his neighbors to use fossil fuels
- B. Explain how a shortage of fossil fuel would affect big farms
- C. List some of the products made from corn
- D. Give details about how nitrogen affects the cells of living things

**3. The following question has two parts. Answer Part A and then answer Part B.**

**Part A: Which word best describes the tone of the excerpt?**

- A. Concerned
- B. Outraged
- C. Uncertain
- D. Lighthearted

**Part B: Which sentence from the excerpt provides the best support for the answer to Part A?**

- A. "It may seem that I've given corn too much credit."
- B. "How could a plant take over our food chain and push out almost every other species?"
- C. "At the heart of the industrial food chain are huge businesses, *agri-businesses*."
- D. "But the scientists in the Department of Agriculture had a better idea: Spread the ammonium nitrate on farmland as fertilizer."

**4. The following item has two parts. Answer Part A and then answer Part B.**

**Part A: In which paragraph does the author provide information that helps explain why farmers embraced the use of chemical fertilizer?**

- A. Paragraph 6
- B. Paragraph 7
- C. Paragraph 8
- D. Paragraph 9

**Part B: Highlight three sentences in the paragraph you chose in Part A that help explain why farmers embraced the use of chemical fertilizer.**

5.

COLUMN A	COLUMN B
<b>Part A: The author develops several central ideas in the passage. Below, you will see several ideas that were presented in the text. From the list provided, circle the two ideas that are central rather than minor ideas in the text.</b>	<b>Part B: Write one sentence from the text that helps develop each of the two central ideas you chose from the list in Column A.</b>
The government has become closely involved in the farming industry.	
Corn yields are higher when the crop is given fertilizer.	
Living things need nitrogen in order to make proteins and DNA.	
Farmers have always found it necessary to add nitrogen to soil.	
The use of chemical fertilizer has wiped out traditional farming practices.	

6. The following item has two parts. Answer Part A and then answer Part B.

**Part A: Which statement best describes the structure of paragraphs 6 – 8?**

- A. The author uses chronological order to show that farming methods are constantly being invented to increase crop yields.
- B. The author identifies a problem farmers faced and then explains how the government came up with a solution to that problem.
- C. The author uses cause and effect to explain how chemical fertilizers led to corn becoming the most popular crop.
- D. He uses comparison and contrast to explain the differences between a family farm and the new kind of farms.

**Part B: What is the purpose of that structure in paragraphs 6 – 8?**

- A. to illustrate that corn is much easier to grow than other crops
- B. to establish the idea that modern advances have resulted in too much food being produced
- C. to help develop the idea that there are problems with the practices used by factory farms
- D. to demonstrate that government scientists worked closely with agribusinesses to solve food shortages

## Information for Teachers: Quantitative and Qualitative Analyses of the Text

Regular practice with complex texts is necessary to prepare students for college and career readiness. The excerpt for this mini-assessment is placed at grade 7 for the purpose of this exemplar. This section of the exemplar explains the process that was used to place the text at grade 7 and the reasons that it meets the expectations for text complexity in Reading Standard 10. “Appendix A of the Common Core” and the “Supplement to Appendix A: New Research on Text Complexity” lay out a research-based process for selecting complex texts.

1. Place a text or excerpt within a **grade band** based on at least one<sup>1</sup> quantitative measure according to the research-based conversion table provided in the “Supplement to Appendix A: New Research on Text Complexity” ([www.corestandards.org/resources](http://www.corestandards.org/resources)).
2. Place a text or excerpt at a **grade-level** based on a qualitative analysis (see below).

<b>“Chapter 3: From Farm to Factory” – an excerpt from <i>The Omnivore’s Dilemma</i></b>	<b>Quantitative Measure #1</b> Flesch-Kincaid: 8.5	<b>Quantitative Measure #2</b> Reading Maturity: 7.8
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After gathering the quantitative measures, the next step is to place the quantitative scores in the Conversion Table found in the “Supplement to Appendix A” ([www.corestandards.org/resources](http://www.corestandards.org/resources)) and determine the **grade band** of the text. Figure 1 reproduces the conversion table from the Supplement to Appendix A, showing how the initial results from Flesch-Kincaid and the Lexile measure were converted to grade bands.

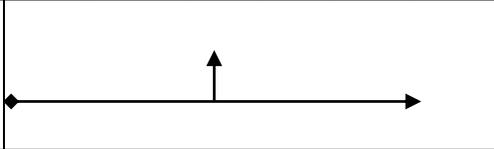
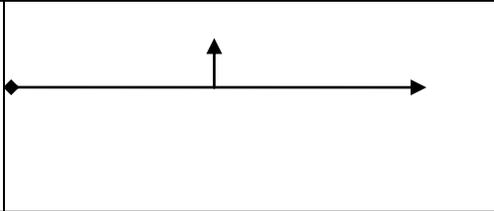
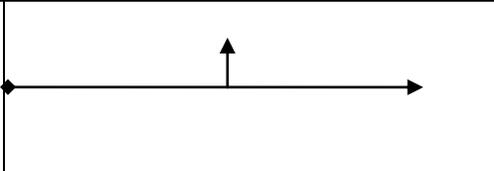
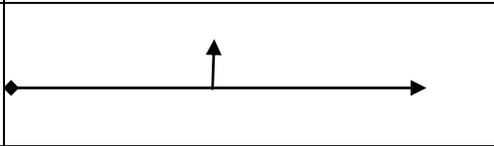
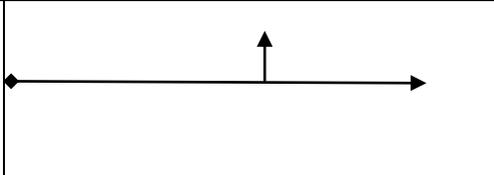
**Figure 1: Updated Text Complexity Grade Bands and Associated Ranges from Multiple Measures<sup>7</sup>**

Common Core Band	ATOS	Degrees of Reading Power®	Flesch-Kincaid <sup>3</sup>	The Lexile Framework®	Reading Maturity	SourceRater
2 <sup>nd</sup> – 3 <sup>rd</sup>	2.75 – 5.14	42 – 54	1.98 – 5.34	420 – 820	3.53 – 6.13	0.05 – 2.48
4 <sup>th</sup> – 5 <sup>th</sup>	4.97 – 7.03	52 – 60	4.51 – 7.73	740 – 1010	5.42 – 7.92	0.84 – 5.75
6 <sup>th</sup> – 8 <sup>th</sup>	7.00 – 9.98	57 – 67	6.51 – 10.34	925 – 1185	7.04 – 9.57	4.11 – 10.66
9 <sup>th</sup> – 10 <sup>th</sup>	9.67 – 12.01	62 – 72	8.32 – 12.12	1050 – 1335	8.41 – 10.81	9.02 – 13.93
11 <sup>th</sup> – CCR	11.20 – 14.10	67 – 74	10.34 – 14.2	1185 – 1385	9.57 – 12.00	12.30 – 14.50

The quantitative data indicates overlap between the two measures at the 6-8 grade band. **NOTE: With scientific texts, there are often scientific terms that tend to drive the readability ratings up. Careful attention should be paid to the complexity of the topic itself in these cases so that the scientific terms do not force the passage into a grade level that is too high for the concepts.**

<sup>1</sup> For higher stakes tests, it is recommended that two text complexity measures be used to place a text in a grade band. When two measures are used, both placing the text in the same **band**, the results provide additional assurance that the text selected is appropriate for the band.

To find the **grade-level** of the text within the designated grade band, engage in a systematic analysis of the characteristics of the text. The characteristics that should be analyzed by doing a qualitative analysis, a sample of which can be found in Appendix A of the CCSS. ([www.corestandards.org](http://www.corestandards.org)).

Qualitative Analysis	"Chapter 3: From Farm to Factory"	Where to place within the band?					
Category	Notes and comments on text, support for placement in this band	early 6 – mid 6	end 6 – early 7	Mid – end 7	Early – mid 8	End 8	NOT suited to band
Structure: (both story structure or form of piece)	This passage is structured both by time order and by the use of cause and effect to show how each event led to the next. The relationships are clear and explicitly stated in the text as the author makes his main argument.						
Language Clarity and Conventions	Although most of the vocabulary can be expected to be accessible to seventh grade students, some of the scientific terms (e.g., ammonium nitrate) and proper nouns may present challenges. Additionally, words such as <i>yields</i> , <i>hybrids</i> , and <i>ecological</i> may be difficult. It will be important for students to use word strategies to be successful with this text. Although the text contains mostly compound and complex sentences, the use of standard punctuation will enable students to navigate through it reasonably well.						
Knowledge Demands (life, content, cultural/literary)	To understand the text, it would be helpful for students to know some basic information about the needs of plants and the purpose of farms. But even without that knowledge, the information needed to answer the test questions lies within the four corners of the text.						
Levels of Meaning (chiefly literary)/ Purpose (chiefly informational)	The main purpose of the text is implicit but readily accessible: The author argues that because of the introduction of chemical fertilizer, farms have become less efficient and waste more fossil fuel than in the past.						
<b>Overall placement: Grade 7</b>	<b>Justification: This text is moderately complex in regard to organizational structure and knowledge demands. The vocabulary and sentence structure may be challenging but are still accessible to the average 7<sup>th</sup> grader. This mini-assessment may be most appropriate for advanced seventh graders early in the year, all seventh graders later in the year, or even 8<sup>th</sup> graders in their first semester.</b>						

## Question Annotations & Correct Answer and Distractor Rationales

Question Number	Correct Answer(s)	Standards	Rationales for Answer Options
1 Part A	C	RI.7.4, RI.7.3, RI.7.1	<p>A. "World War II" identifies when the extra material existed rather than indicating that surplus means excess material.</p> <p>B. "What the government should do" explains an action that needed to be taken to address how to use the surplus rather than explaining that there was an abundance of ammonium nitrate.</p> <p>C. This is the correct response. "Leftover bomb material" indicates there was more ammonium nitrate than needed during World War II.</p> <p>D. "The timber industry" identifies a suggested recipient of the excess material but does explain that there was extra ammonium nitrate to distribute.</p>
1 Part B	C		<p>A. Although ammonium nitrate could be used as fertilizer, farmers had used fertilizer for thousands of years before the surplus of ammonium nitrate.</p> <p>B. The surplus eliminated the need for animal manure, but it did not negatively impact the plants the animals consumed.</p> <p>C. This is the correct response. The government's abundance of ammonium nitrate caused chemical fertilizer to become available for farming.</p> <p>D. Although competing ideas of how to use the extra fertilizer are presented, the author does not suggest that conflict resulted.</p>
2 Part A	D	RST.6-8.2, RI.7.6, RI.7.8, RST.6-8.1, RI.7.1	<p>A. Although the creation of the fertilizer industry by agri-businesses and the government resulted in increased corn and processed food production, the author argues that the system is ineffective.</p> <p>B. Although Naylor was one of the first farmers to use chemical fertilizers, the widespread use was due to other factors. The Naylor example is just one use case outlined by the author.</p> <p>C. Although the author states that all living things require nitrogen, this is a fact rather than an argument and is not the focus of this excerpt.</p> <p>D. This is the correct response. The author explains the shift from solar powered farming to farming powered by fossil fuels and describes the increased energy use and inefficiencies this shift requires.</p>

Question Number	Correct Answer(s)	Standards	Rationales for Answer Options
2 Part B	B		<p>A. Describing how Naylor influenced neighbors to use fossil fuels focuses on a small part of the farming industry rather than explaining how the entire system has become inefficient, so this information would not strengthen the author’s argument about the fuel-inefficiency of today’s farming methods.</p> <p>B. This is the correct response. A shortage of fossil fuels would impact the majority of the farming industry because farmers are much more dependent on fossil fuels than they were in the past. This kind of information would strengthen the author’s argument because it would add credibility by showing the strong interdependence of farming on fossil fuels.</p> <p>C. Listing products made from corn would address the prevalence of processed foods and other products rather than strengthen the author’s argument that the use of fossil fuels have become a significant and inefficient part of modern farming.</p> <p>D. Elaborating on how nitrogen impacts cells of living organisms would provide more scientific information but would not strengthen the author’s argument that an inefficient system of farming now exists.</p>
3 Part A	A	RI.7.4, RI.7.1	<p>A. This is the correct response. Statements like “making nitrogen this way takes enormous amounts of energy,” “Farming was no longer an ecological loop”, and “the industrial farm is using up more energy than it is producing” convey the author’s concerned attitude.</p> <p>B. Although the author argues against the use of chemical fertilizers, he develops a concerned but less emotional tone by presenting conservative estimates and including a benefit of the new farming system.</p> <p>C. The author develops a strong argument that leaves no room for uncertainty: he feels that farming is now inefficient in its use of energy.</p> <p>D. The author’s use of phrases like “Turning Bombs into Fertilizer,” “corn yields really exploded,” and “pastures could be eliminated” may imply a worried, rather than lighthearted, tone.</p>

Question Number	Correct Answer(s)	Standards	Rationales for Answer Options
3 Part B	B		<p>A. This statement does not support a concerned tone but rather sets up the author’s argument that he is not exaggerating the impact of the overgrowth of corn.</p> <p>B. This is the correct response. The words “take over our food chain” and “push out almost every other species” demonstrate the author’s deep concern about how chemical fertilizer has given corn too much of an advantage over other plants, so much so it is taking over.</p> <p>C. This statement does not support a concerned tone but rather simply defines agri-business.</p> <p>D. This statement does not support a concerned tone but rather identifies the origins of the idea for chemical fertilizer.</p>
4 Part A	C	RI.7.3, RI.7.8, RI.7.1	<p>A. This paragraph (6) focuses on one farmer who changed fertilizing methods, rather than reasons that many farmers utilized chemical fertilizers.</p> <p>B. This paragraph (7) explains the systematic change that happened to modern farms with the use of chemical fertilizers rather than the reasons that farmers used them.</p> <p>C. This is the correct response. This paragraph (8) explains the benefits of chemical fertilizers to farmers and thus shows the reasons farmers adopted the use of these fertilizers.</p> <p>D. This paragraph (9) presents an analogy to help explain the inefficiency of chemical fertilizers rather than the reasons that farmers utilized chemical fertilizers.</p>
4 Part B	<ul style="list-style-type: none"> <li>• Since there was no need for legumes to fix nitrogen, farmers could plant corn in every field, every year.</li> <li>• Animals and their pastures could be eliminated.</li> <li>• Farming became much simpler.</li> </ul>		<ul style="list-style-type: none"> <li>• The first statement explains how farmers increased their corn yield with chemical fertilizers.</li> <li>• The second statement explains farmers gained a reduction in work and expense.</li> <li>• The third statement explains the general impact on the workload of farmers.</li> </ul>

Question Number	Correct Answer(s)	Standards	Rationales for Answer Options		
5	See completed chart in rationale column.	RST.6-8.2, RST.6-8.1	COLUMN A	COLUMN B	RATIONALE
			<p>The government has become closely involved in the farming industry.</p>	<p>Possible CAs: To get the corn flowing and keep it flowing, agribusiness depends on government regulations and taxpayer money. (para 2) The government started seriously helping corn back in 1947. (para 3) And so the government helped launch the chemical fertilizer industry. (para 4)</p>	<p>This is a central idea. The author includes several examples of government involvement in the farming industry, from the origin of widespread use of chemical fertilizer to the dependence of agribusiness on tax benefits.</p>
			<p>Corn yields are higher when the crop is given fertilizer.</p>		<p>Although corn yields are central to the author’s argument, this is a minor idea because it focuses on the effect of fertilizer on corn, rather than the change in the farming industry.</p>
			<p>Living things need nitrogen in order to make proteins and DNA.</p>		<p>Although nitrogen is important in the farming industry, this statement is a minor idea because it focuses on the function of nitrogen rather than the way ammonium nitrate changed farming practices.</p>
			<p>Farmers have always found it necessary to add nitrogen to soil.</p>		<p>Although nitrogen is important in the farming industry, this statement is a minor idea because it demonstrates only that farmers have always known that nitrogen is important to plants.</p>
<p>The use of chemical fertilizer has wiped out traditional farming practices.</p>	<p>With chemical fertilizer, farming went from being solar powered to being powered by oil, coal, and gas. (para 8) When George Naylor’s father [a farmer who owned a big farm in Greene County, Iowa] spread his first load of ammonium nitrate fertilizer, the ecology of his farm underwent a quiet revolution. (para 9) Farming was no longer an ecological loop—it was more like a factory. (para 10)</p>	<p>This is a central idea. The author includes several examples of how the farming industry became similar to a factory through the use of chemical fertilizers.</p>			

Question Number	Correct Answer(s)	Standards	Rationales for Answer Options
6 Part A	D	RST.6-8.5, RST.6-8.1	<p>A. Although these paragraphs explain a farming method that increased crop yields, only one method is discussed and the result on farms is compared and contrasted.</p> <p>B. The author does not present a problem in this section, nor is the government’s role addressed here.</p> <p>C. Although these paragraphs explain that farmers switched from growing legumes to corn, the focus is on contrasting farms before and after the invention of chemical fertilizers.</p> <p>D. This is the correct response. This section explains how farms operated before chemical fertilizers were invented and how farms changed afterwards.</p>
6 Part B	C		<p>A. Although production of corn is discussed in this section, the author does not suggest that corn is easier to grow than other crops.</p> <p>B. Although this section discusses the effects of modern farming advances, the author does not state that excess food supply is an effect.</p> <p>C. This is the correct response. By comparing two kinds of farms, the author highlights his concerns about factory farms.</p> <p>D. This section does not address the role of government scientists in agri-businesses but instead compares old farms to new ones.</p>

## Additional Resources for Assessment and CCSS Implementation

**Shift 1 – Complexity:** *Regular practice with complex text and its academic language*

- See Appendix B for examples of informational and literary complex texts  
[http://www.corestandards.org/assets/Appendix\\_B.pdf](http://www.corestandards.org/assets/Appendix_B.pdf)
- See the Text Complexity Collection on [www.achievethecore.org](http://www.achievethecore.org)

**Shift 2 – Evidence:** *Reading, writing, and speaking grounded in evidence from text, both literary and informational*

- See Close Reading Exemplars for ways to engage students in close reading on  
<http://www.achievethecore.org/steal-these-tools/close-reading-exemplars>
- See the Basal Alignment Project for examples of text-dependent questions  
<http://www.achievethecore.org/basal-alignment-project>

**Shift 3 – Knowledge:** *Building knowledge through content-rich nonfiction*

- See Appendix B for examples of informational and literary complex texts  
[http://www.corestandards.org/assets/Appendix\\_B.pdf](http://www.corestandards.org/assets/Appendix_B.pdf)

This mini-assessment can be used as an independent activity or as part of a follow-up to the accompanying sample lesson found on the following link:

<http://www.achievethecore.org/page/31/the-omnivore-s-dilemma-the-secrets-behind-what-you-eat-by-michael-pollan>