

Studying Informational Text Introduction

Studying Informational Text: Introduction

Spark

People have hungered for information about the world since the beginning of time. But for centuries, getting that information to the masses was difficult. Information that today, we might learn by picking up a book, newspaper, magazine or by scouring through a web site, instead had to be shared orally or was painstakingly transcribed.

Watch the flipbook to learn about how the production of what we call informational text today, grew—and how it changed the world.

Video cannot be displayed on Print Preview

Activate Prior Knowledge

One purpose of an informational text is embedded right in the name: It informs or explains about real people, places, and events. But an informational text may also express the author's personal views and, as a result, influence readers' opinions in one way or another. Essays that chronicle a person's life or experiences, for example, are often meant to shape the reader's view of what the world is like. They help the reader see the world through someone else's eyes—often someone whose experience is very different from their own. So while informational text is considered true rather than imagined, like fiction, it's important to remember that the truth of what is explained is conveyed through the author's perspective.

Activity

Think about your own experiences with informational text that conveys a certain perspective even as it shares information about a particular topic. Then, complete the organizer by listing specific examples in the left-hand column and how they conveyed a perspective in the right-hand column. Add to the chart as you read the unit text and the text selections within the unit.

Learning Coach Guide

This section will help you guide students through their learning.

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Learning Goals

Throughout this unit, your student will read *The Journey of Crazy Horse: A Lakota History*, a biography that alternates between narration of Crazy Horse's life in the 1800s and reflections from a historian who is also Lakota. Your student will also read a variety of shorter informational texts. As they read and respond to the texts, your student will be asked to analyze and evaluate complex ideas and to write about their observations and conclusions.

Spark

1. Ask your student what they think of when they think of informational text. Then, ask them what they think of when they think of literary text. Explain that while informational text is nonfiction and literary text is fiction, they are both able to convey information about the human experience and our knowledge of the world.
2. Have your student watch the flipbook about the impact of the written word on world progress. You may wish to explain that woodblock printing was invented in China centuries before the printing press, but the printing press was much more efficient and enabled the production of books on a larger scale.
3. Tell your student that over the course of this unit, they will read several examples of informational text. Certain features of the texts will be similar—all will convey information about a topic or

topics, for example. However, the text structure, the author's perspective, and the writing style will be different. Their purpose will be different too, as some might be written strictly to convey information and others to argue a point or sway opinion. Point out that informational texts might be functional in nature, rather than explanatory or argumentative. They might be written to provide instructions or advertise products, for example.

Activate Prior Knowledge

- 1.** Have your student think about the different types of informational texts they have read and how the language in them differed. Explain the style and tone of a text depends on the author's purpose for writing it. An article written to explain research results would sound very different from an editorial written to promote a political stance, for example.
- 2.** Point out that informational text doesn't have to be dry and boring. It's often full of literary language and can be as colorful and entertaining as fiction.
- 3.** Give your student a copy of the 2-column chart and have them complete it by listing the titles and authors or brief descriptions of different examples of informational texts they have read and the perspective, if any, each contains. Then, discuss what the author's perspective added to your student's understanding of the information a particular text conveyed.

Two-Column Chart

Studying Informational Text: Introduction

The Basics of Informational Text

The main purpose of just about any informational text is to inform readers by conveying true facts and details about the world and the human experience. That experience may reflect one person's perspective or a variety of perspectives.

As you read an informational text—and particularly, a biographical essay or memoir—it's important to recognize and consider the particular perspective from which the author is writing. Doing so allows a reader to build knowledge about a topic while recognizing the impact of that knowledge at the same time. Often, the message the author wants to convey to the world is deeply rooted in this perspective.

To think more about perspective within an informational text, ask yourself these questions as you read:

- What was the author's purpose in writing this?
- How is this text similar to other informational texts I have read? How is it different?
- How did the author organize the ideas and information they convey? What did this structure allow them to do?
- What techniques did the author use to convey their ideas in an effective way?
- What message does the author want me to take away from this text? What new idea do they want me to explore?



Source: aurielaki. 123RF.COM

As you think about perspective within an informational text, consider the historical and cultural context of the text.

- Historical context refers to the time period in which the text was written. The events that take place and the prevailing attitudes of the times mold the way people think and act, and so they are important to know about in order to understand an author's perspective.
- Cultural context refers to the society in which the author lives. The author's beliefs and attitudes reflect their background and their way of life. An author who grew up in a predominantly urban neighborhood would likely have a different perspective from an author raised in a rural setting. For example, a Christian author would have a different perspective from a Hindu or a Muslim author.

Activity

Consider the historical and cultural context in which you live and how your beliefs, behaviors, and attitudes reflect your experiences in that environment. Then, in your own words, summarize how these contexts would impact one or more messages in an informational text you might write.

Learning Coach Guide

This section will help you guide students through their learning.

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The Basics of Informational Text

- 1.** Tell your student that informational text is nonfiction in the sense that it provides information about the real world rather than an imagined one. Explain that once they finish their schooling, the majority of their reading will be informational, and that the ability to read and understand different types of informational text is required for success in the workplace and in any career.
- 2.** Make the point that some of the most influential and thought-provoking examples of nonfiction and informational text come from an author reflecting on their own life or on the life of another person. Discuss how authors of biographical works often convey a particular perspective in addition to factual information about the subject's life. Direct your students to read the list of questions meant to guide their thinking about perspective, discussing how each might help them analyze a particular perspective or attitude toward the factual content of the text. Suggest that your student copy and keep the questions in their Reading Log to refer to as they read the Unit Text.

3. Have your student read the information about historical context.

Explain that in this unit, they will be reading a biography about Crazy Horse, a famous Lakota warrior and leader, written by a historian who is also Lakota. It tells the story of Crazy Horse's life as a Lakota of the Great Plains during the 1800s while westward expansion slowly destroyed the Lakota way of life. Remind them that biographies are another form of informational text in which the author expresses personal views, or opinions, often in colorful language. Point out that biographies can be written from either a first-person or a third-person perspective, just like fiction, and that they can be either formal or conversational in style.

4. Review and discuss the information about historical and cultural context before asking your student to complete the activity independently.

Previewing the Unit Text: *The Journey of Crazy Horse: A Lakota History*



This shirt is believed to have belonged to Crazy Horse. It is displayed at the Buechel Memorial Lakota Museum in St. Francis, South Dakota.

Source: David A. Barnes / Alamy

About Crazy Horse

Thašúnke Witkó, known in English as Crazy Horse, was a warrior and leader of the Oglala Lakota in the 1800s. Born around 1840 in the Black Hills of South Dakota, he came of age during a time of intense conflict between Indigenous Americans and expanding European American settlers. Known for his courage and skill in battle, Crazy Horse played an important role in the resistance against the settlement of the land his people were accustomed to roam. For many, he is most famous for leading the victorious Battle of the Little Bighorn in 1876 against the U.S. Army.

Crazy Horse's life and legacy are important in both American and Indigenous history. His dedication to his people's [sovereignty](#) and way of life symbolizes the fierce resistance of Indigenous Americans against colonization and cultural erasure. Despite

his death in 1877, Crazy Horse continues to inspire Indigenous people and others worldwide with his legacy of resistance. His life story serves as a powerful reminder of the struggles Indigenous peoples endured and their ongoing fight for recognition and rights.

About the Author

Joseph M. Marshall III is an author, historian, and speaker of the Sicangu Lakota Sioux. He was born and raised on the Rosebud Sioux Indian Reservation in South Dakota and has spent much of his life studying and preserving the Lakota's history, culture, and traditions. His book, *The Journey of Crazy Horse*, is an exploration of the life of the legendary Lakota warrior. Marshall, also Lakota, brings an authentic perspective to the narrative that is rooted in the culture and traditions of his people. This authenticity allows him to depict Crazy Horse and the Lakota way of life with a depth that is rarely found in accounts written by outsiders. In doing so, Marshall not only tells the story of a great warrior but also provides a voice to a people and a culture that has often been misunderstood or misrepresented.

About the Text

The Journey of Crazy Horse teaches an important lesson about the effect of westward expansion on Indigenous people. Through the eyes of Crazy Horse, you get a glimpse into the Lakota's values, traditions, and beliefs. Joseph M. Marshall tells the story in four parts: The Early Years; The Rites of Passage; The Warrior Leader; and The Road to Camp Robinson. Each section is told in narrative form and gives a detailed picture of not only Crazy Horse's actions and beliefs but also the differences between Indigenous and American ideals. It is a sad story that ends in Crazy Horse's death and explains how westward expansion destroyed the lives and cultures of so many people. Each section ends with a reflection from the author. These chapters summarize the main events and ideas from each part. They are a great place to think about the lessons taught.

There are many descriptions of battle scenes throughout this book. If you finish reading a battle scene and are confused about how the strategy played out, don't worry! It is not

essential that you understand every detail of these scenes. It is more important to pay attention to how Crazy Horse and the Lakota felt about these battles and the conflict between them and the U.S. Army.

Activity

Crazy Horse is attributed with saying, “Treat the earth well: it was not given to you by your parents, it was loaned to you by your children. We do not inherit the earth from our ancestors; we borrow it from our children.” How does this statement differ from the ideals of European Americans and the U.S. government during westward expansion? How do you think these ideals affected how each culture responded to and treated one another?

The Journey of Crazy Horse: A Lakota History



Reading Log: The Journey of Crazy Horse: A Lakota History

Learning Coach Guide

This section will help you guide students through their learning.

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About Crazy Horse

- 1.** Make sure that your student can access the text. Supply your student with a graphic organizer that they can use as a reading log; or, if they prefer, they may jot down observations, questions, and evidence in their notebook as they read the text. Explain that they will record their opinions and impressions as well as answers to some specific questions. They may also record any ideas and questions that emerge from their reading to discuss with you.
- 2.** Ask your student to read the section about Crazy Horse. Encourage them to discuss anything they may already know about him and the events surrounding his legacy.

The Journey of Crazy Horse: A Lakota History



Reading Log: The Journey of Crazy Horse: A Lakota History

About the Author

Ask your student to read the section about James M. Marshall III. Encourage discussion about the importance of the book being written by a Lakota man.

About the Text

- 1.** Ask your student to read the section about the text. Encourage them to look at the sections of the book and explain how each section has narrative chapters followed by a reflection chapter. It's important they understand that many of the ideas and events from the section they just read will be repeated in the reflection. Explain that these reflections are important because they share a modern perspective of how these events have been perceived throughout history and how they have affected the Lakota people then and now.
- 2.** Have your student respond to the activity question. If they need support, discuss the meaning of Crazy Horse's quote and how it reflects the ideals of the Lakota people. Then ask students to think about how European Americans and the U.S. government treated the land and the people living there during westward expansion. Ask them to compare how these ideas clash and what could happen because of it.

Previewing the Unit Text: *The Journey of Crazy Horse: A Lakota History*

Pace and Prepare Yourself

You will have approximately two weeks to complete this text. Pace yourself so that you can read with understanding and finish the text in time to complete the Apply activities that follow your reading. Here are some suggestions, but feel free to adjust them in any way that works for you and your schedule.

Suggested Pacing Schedule

Days	How Much to Read
Day 1	Introduction, Chapters 1-2
Day 2 (Reading Day)	Chapter 3–Reflections: The Way We Came
Other days	1-3 chapters per day

In the Apply activities that follow your reading, you will find questions that assess your understanding and your ability to analyze informational text. You can prepare for these activities by thinking about some key questions as you read. As you finish each daily reading, take notes in your Reading Log that offer potential answers to these questions:

- How does Crazy Horse feel about White settlers and their expansion into the west?
- How do Marshall's reflections add to the text and deepen your understanding?
- What different perspectives are you presented with?

You may also want to read the questions ahead of time so you can have them in mind as you read.

Begin Reading

The Journey of Crazy Horse: A Lakota History is a story about the effects of western settlement on Native Americans through the eyes of someone who not only lived it but fought against it. Start by reading Introduction to a Hero Story. Identify the main idea, then summarize Marshall's perspective, or point of view, considering how his background influences his beliefs. Write your feelings about the introduction in your Reading Log before you continue reading.

The Journey of Crazy Horse: A Lakota History



Learning Coach Guide

This section will help you guide students through their learning.

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Pace and Prepare Yourself

1. Read the information in this section with your student. Review the chart and compare it to your calendar to help your student devise a reading schedule that will work for your needs.
2. Review the bulleted questions with your student. Explain that after they complete the book, they will apply skills they learn in this unit to *The Journey of Crazy Horse: A Lakota History*. The questions here will help them organize their thoughts as they read and prepare them for the analytical questions that they will encounter in Apply.

Begin Reading

1. With your student, locate the introduction and have your student read the first few paragraphs. Discuss Marshall's perspective.
2. Have your student begin reading, making sure that they have their Reading Log available for note taking. Remind them that they will have more reading time available on Day 2.

Studying Informational Text Reading Day

Unit Reading Information

In this unit, you will read *The Journey of Crazy Horse: A Lakota History* unless otherwise directed by your teacher.

Select the links to access the text and reading log.

The Journey of Crazy Horse: A Lakota History



Reading Log: The Journey of Crazy Horse: A Lakota History

Reading Day

Please use today's lesson to read from the designated text for this unit. Use your reading log to take notes based on the guidance in the unit introduction reading preview. Refer to the pacing guide to plan your reading time during the rest of the unit. In the final lesson of the unit, you will be asked to apply skills learned during the unit to analyze the designated text.

Informational Text Evidence

Unit Reading Information

In this unit, you will read *The Journey of Crazy Horse: A Lakota History* unless otherwise directed by your teacher.

Select the links to access the text and reading log.

The Journey of Crazy Horse: A Lakota History



Reading Log: The Journey of Crazy Horse: A Lakota History

Objective and Key Words

Objective

In this section, you will provide strong and thorough textual evidence to support analysis of explicit meanings drawn from an informational text.

Key Words

- **evidence** – the facts and information that support an idea or analysis
 - **explicit meaning** – the clear and directly explained meaning of a text
 - **implicit meaning** – the implied meaning of a text, which can be understood but must be inferred or assumed
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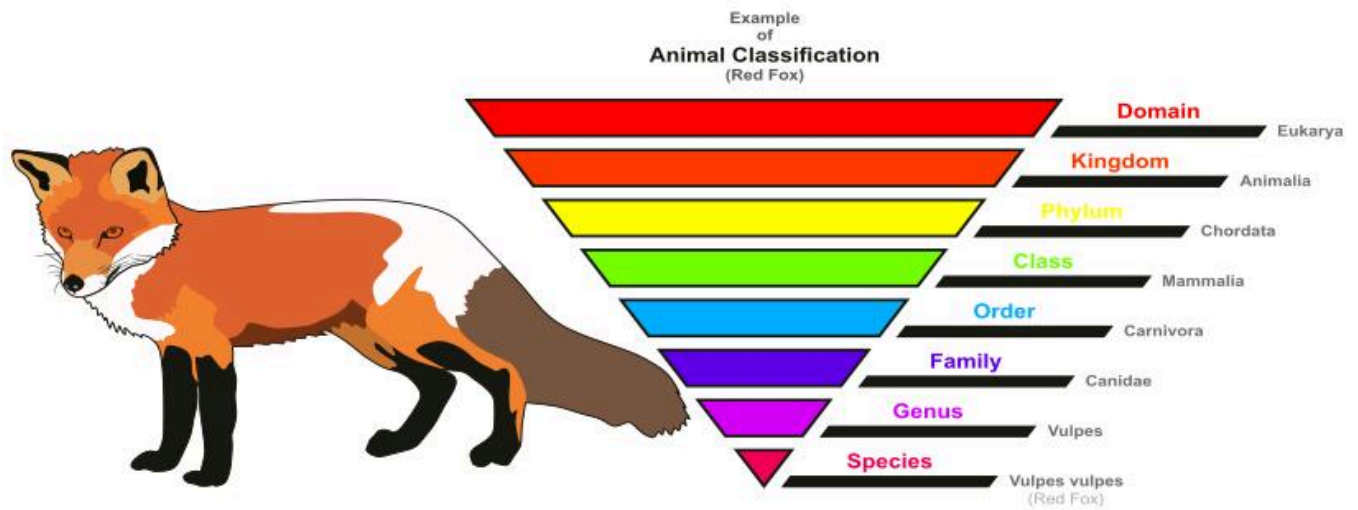
Informational Text Evidence

We read informational texts to expand our knowledge base, to stay up to date on current events or scientific discoveries, and sometimes just to find answers to questions that fascinate and puzzle us. Today you will read about a man who once asked the question: How did dogs become tame?

Get Ready to Read

Before you read about the genetics that make certain relatives of dogs trainable, it may help to learn about relationships in the Canidae family.

Here is the phylogenetic classification of a red fox.



Source: udaix. Shutterstock

Of the canids we are most familiar with in North America, all share the family classification of the red fox: Canidae. After that, they differentiate as shown here.

**Taxonomic classification of selected canid species, including
their genus and species names.**

Animal	Genus	Species
Arctic fox	<i>Vulpes</i>	<i>lagopus</i>

Gray fox	<i>Urocyon</i>	<i>cinereoargenteus</i>
Coyote	<i>Canis</i>	<i>latrans</i>
Red wolf	<i>Canis</i>	<i>rufus</i>
Gray wolf	<i>Canis</i>	<i>lupus</i>
Dog	<i>Canis</i>	<i>lupus familiaris</i>

Dogs have been domesticated since the Neolithic era, but other canids are rarely kept as pets. Scientist Dmitry Belyaev wondered whether it might be possible to demonstrate the genetic process from wild to domesticated, using a relative of the dog.

Take Notes as You Read

Start by reading the title of the informational text. Consider what you have learned from the classification chart about the relationship of foxes to dogs. Then, record in your Reading Log a prediction about what you might learn from the article about Belyaev's experimentation with foxes.

Useful Vocabulary

1. **cytology** – the study of plant and animal cells
 2. **genome** – the genetic material of an organism
 3. **incorrigibly** – unable to be fixed or reformed
 4. **Lysenkoism** – a theory applied to crop plants that denied genetics and said that heredity could be changed by training organisms
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Informational Text Evidence

Find Evidence to Support Explicit Meaning

Any informational text is packed both with explicit meaning and implicit meaning.

The author may present a statement or opinion directly and back it up with textual evidence, or a reader may combine textual evidence with their own understanding of the topic to infer the author's implicit meaning.

This video shows how one student locates text evidence to support what the text says explicitly.

Video cannot be displayed on Print Preview

Now apply that student's process to this passage from the text.

Question 1

Summarize what the author believes to be one of the lab's most interesting findings.

Reveal Answer

Sample answer: The author says that friendly foxes exhibit physical traits not found in the wild.

Question 2

Now give three pieces of evidence that support the author's conclusion.

Reveal Answer

Sample answer: The foxes have spots on their fur, curly tails, and floppy ears.

As you read the entire article, watch for examples of evidence that the author provides to support specific ideas explicitly cited in the text. Record your observations in your Reading Log.

Check-In

Use this excerpt from “Why Domesticated Foxes Are Genetically Fascinating (and Terrible Pets)” to answer the questions that follow.

Question 1

What is the author saying explicitly about the fox experiment?

Reveal Answer

Sample answer: The fox experiment fell on hard times after its funding evaporated.

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Question 2

How does evidence about the sale of foxes help to support that idea about the fox experiment?

Reveal Answer

Sample answer: It shows that the experiment could only continue if the scientists raised money through the sale of foxes.

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Question 3

Which additional evidence, if it were true, might support the author's explicit statement about the fox experiment? Choose all that apply.

- A.** The goal was to simulate the long process that turned wild canids into pets.
- B.** Many of the scientists associated with the experiment had to find other employment.
- C.** To continue their work, experimenters looked for grants from international agencies.
- D.** Belyaev started out with only 130 animals, but the breeding population grew quickly.

Reveal Answer

- B.** Many of the scientists associated with the experiment had to find other employment.
- C.** To continue their work, experimenters looked for grants from international agencies.

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Practice

Think about the title of the article: “Why Domesticated Foxes Are Genetically Fascinating (and Terrible Pets).” Then, use the text to complete this activity.

Activity

The author explicitly states two conclusions in the title of the article. Skim the whole article to locate evidence that you feel supports both conclusions. In a short review, explain how the author substantiated both points.

Reveal Answer

Sample answer: The author states that domesticated foxes are genetically fascinating, a supposition that is supported by discussion of Belyaev’s early experiments that bred foxes to be docile, showing that “certain aspects of the fox’s behavior could be tied to genetics and spotted during breeding.” The fact that the friendliest foxes also have unusual physical traits also supports that idea. Clearly, manipulating the foxes’ genes through breeding causes a variety of changes, not just the ones that were predicted.

The author also claims in the title that foxes make terrible pets. Since the genetic experiments are supposed to create domesticated foxes, that view is surprising, but despite the fact that some foxes “run up to [people] like a dog will,” they still seem to exhibit behaviors that people cannot control. The author offers the example of the dog-like fox coming up and peeing in the scientist’s coffee cup as just one example of this unpredictable behavior.

How Did I Do?

Assess your response to the Practice activity by completing this checklist. If necessary, go back and revise your work.

1. _____ I responded to the prompt with evidence in support of both conclusions.

2. _____ I located evidence throughout the text.
 3. _____ I used quotation marks correctly when I quoted the text.
 4. _____ I used correct grammar, punctuation, and spelling.
-

Objective and Key Words

Objective

In this section, you will provide strong and thorough textual evidence to support analysis of inferences drawn from an informational text.

Key Words

- **evidence** – the facts and information that support an idea or analysis
 - **inferences** – conclusions reached based on evidence or reasoning
 - **valid** – based in logic or fact
-

Informational Text Evidence

Some readers avoid scientific text because the vocabulary can seem intimidating. Don’t be one of those readers! Reading about scientific studies can be both fascinating and enlightening.

Read Strategically

Understanding scientific vocabulary is often a matter of mastering certain Greek and Latin roots. For example, in the “Useful Vocabulary” for the text “Domesticated Foxes as Pets” you will see the words *cytology* and *genome*. Both contain Greek roots that will help you understand not only those words but also scientific terms in other texts.

Common Greek roots used in scientific terminology, along with their derivations and meanings.

Root	Derivation	Meaning
<i>cyto-</i>	Greek	cell
<i>-logy</i>	Greek	a branch of study

<i>gene-</i>	Greek	origin or birth
<i>hemo-, hema-</i>	Greek	blood

Try applying your knowledge of these roots to choose the correct word to complete these scientific sentences.

Take Notes as You Read

Look for scientific words as you read. Rather than skipping over scientific terms or allowing them to unnerve you, look for word parts that look familiar and connect the new word to a word you may know. You might even want to compile a vocabulary list in your reading log to refer to as you read more complex texts or in preparation for higher-level learning in the future.

Reading Log: Domesticated Foxes as Pets

Useful Vocabulary

1. **cytology:** the study of plant and animal cells
 2. **genome:** the genetic material of an organism
 3. **incorrigibly:** unable to be fixed or reformed
 4. **Lysenkoism:** a theory applied to crop plants that denied genetics and said that heredity could be changed by training organisms
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Informational Text Evidence

Find Evidence to Support Inferences

When we read an informational text or argument, we need to look for the evidence that the author provides to support any conclusions given. Based on the text, we ourselves may make inferences about the author's key points. Those inferences are only considered valid if the evidence strongly supports them.

This sort of reasoning is part of the study of logic. An argument is valid if it is impossible for the premises (evidence) to be true and the conclusion to be false. However, in logic, the premises that support the conclusion do not need to be true! Take this example:

- All wolves are taller than foxes.
- All foxes are ten feet tall.
- Therefore, all wolves are taller than ten feet tall.

The statement is logical, but it is not true, because although wolves are taller than foxes, foxes are not ten feet tall. It is up to the reader to make sure not only that inferences are valid but also that evidence is believable.

Read this paragraph from “Why Domesticated Foxes Are Genetically Fascinating (and Terrible Pets).”

The paragraph includes these premises, or evidence:

- Belyaev was studying genetics during a very dangerous time in the Soviet Union.
- After Stalin's death, the government's grasp on genetic research loosened.

A logical inference might be:

- Stalin's death made it easier for Belyaev to study genetics.

Question

How does the last sentence in the excerpt help to validate the inference?

Reveal Answer

Sample answer: It says that after Stalin's death, Belyaev was finally able to test his secret hypothesis.

As you read or reread the article, make inferences about the effectiveness of Belyaev's fox experiments. Record your ideas in your reading log and place a checkmark by the inferences that you consider most valid, based on the text information provided.

Check-In

Use this excerpt from “Why Domesticated Foxes Are Genetically Fascinating (and Terrible Pets)” to show how scientists use evidence to make inferences.

Question 1

The scientific inference is: Aspects of the fox’s behavior could be tied to genetics. What evidence supports this?

Reveal Answer

Sample answer: When foxes that showed aggressive behavior were bred, their pups had aggressive behavior.

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Question 2

The scientific inference is: The breeding program succeeded in creating domesticated foxes. What evidence supports this?

Reveal Answer

Sample answer: By the tenth generation, 18 percent were elite, and by the 20th, the figure was 35 percent. Today, elite foxes make up 70 to 80 percent of the population.

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Question 3

Does the evidence here lead logically to the inference that wild foxes can be tamed as pets? Explain your answer.

Reveal Answer

Sample answer: No; unless the foxes are bred for a specific docile quality, they cannot be considered “elite” foxes.

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Practice

Reread “Why Domesticated Foxes Are Genetically Fascinating (and Terrible Pets)” and complete the activity.

Activity

Based on information in the article, make a logical inference about the future of the fox breeding program. Support your inference with specific evidence from the text in a paragraph that explains why your reasoning is logical and valid.

Reveal Answer

Sample answer: The fox breeding program came through difficulties in its early years in the Soviet Union, and despite its successes, it continues to falter now, making me think that the program will have trouble surviving into the future. The article states that “public funding for the project evaporated” following the collapse of the Soviet Union. A research assistant says that the current situation is not catastrophic but also not stable. The lab survives by selling foxes, which does not seem sustainable to me. Although Kukekova may succeed in publishing a fox genome, that will not be enough to maintain the expensive breeding program.

How Did I Do?

Assess your response to the Practice activity by completing this checklist. If necessary, go back and revise your work.

1. _____ I responded to the prompt with my own inference.
2. _____ I included evidence from the text to provide logical support for my inference.
3. _____ I used quotation marks correctly in any direct citations from the text.
4. _____ I used correct grammar, punctuation, and spelling.

Objective and Key Words

Objective

In this section, you will determine where a text leaves matters uncertain.

Key Words

- **explicit meaning** – the clear and directly explained meaning of a text
 - **implicit meaning** – the implied meaning of a text, which can be understood but must be inferred or assumed
-

Informational Text Evidence

Even adult professionals may have trouble keeping track of information in the texts they read. It is never too early to learn lifelong strategies for tracking, clarifying, and evaluating what you read. Whether you use sticky notes, write summaries, or simply ask yourself questions, look for methods that will help you to understand and retain information.



Source: bialasiewicz. 123rf.com

Read Strategically

An active and effective way to read informational text is to ask questions as you go. Asking questions before, during, and after your reading is an excellent way to keep track of key ideas and to monitor your own understanding of the text.

Before you read, you might ask yourself what the title tells you about the topic and what you already know about that topic. As you read, you might ask yourself what new information you have culled from the text and how it connects to what you already know. After you read, you might ask what surprised you or confused you about the information in the text and what else you might like to know about the topic that was not included in your reading.

Take Notes as You Read

Apply some before/during/after reading questions to your reading of “Why Domesticated Foxes Are Genetically Fascinating (and Terrible Pets).” Record your questions and answers in your Reading Log.

Useful Vocabulary

1. **cytology**: the study of plant and animal cells
 2. **genome**: the genetic material of an organism
 3. **incurably**: unable to be fixed or reformed
 4. **Lysenkoism**: a theory applied to crop plants that denied genetics and said that heredity could be changed by training organisms
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Informational Text Evidence

Determine Where Matters Are Left Uncertain

Any informational text includes both explicit meaning and implicit meaning, which the author supports using text evidence. When the meaning is explicit, the author states it outright; when the meaning is implicit, a reader makes inferences to determine the author's key points.

Because a text is finite, the author chooses what to include and what to exclude, and some information may be left uncertain. Matters may be left uncertain for different reasons—because there is limited room to include certain information; because the author expects the reader to infer a key point; because the author finds certain information unimportant; or because there are, in fact, no answers to a question raised by the text.



Source: Viktor88. Shutterstock

For an example of that last situation, where there are no answers to a question, read this excerpt from “Why Domesticated Foxes Are Genetically Fascinating (and Terrible Pets)”:

Question

What is the question that so far has no answer?

Reveal Answer

Hide Answer

Sample answer: Which genes and how many genes are responsible for the friendly and outgoing behavior of some foxes?

Check-In

Use this excerpt from “Why Domesticated Foxes Are Genetically Fascinating (and Terrible Pets)” to continue exploring areas where the text leaves matters uncertain.

Question 1

What questions remain due to the fact that the fox genome has not yet been sequenced?

Reveal Answer

Hide Answer

Sample answer: The question of which genes cause tameness versus meanness, boldness versus shyness, and activeness versus quietness is unanswered.

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Question 2

Based on the last paragraph, what can you infer about the availability of the missing information?

Reveal Answer

Hide Answer

Sample answer: It is not available now, but it may be available soon.

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Question 3

Suppose the fox genome were sequenced by the end of this year. What would you expect the fox scientists to do with that information?

Reveal Answer

Hide Answer

Sample answer: They would use the genome to determine which exact genes are responsible for creating tamer foxes.

Need a little extra support?

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Practice

Use the text to complete this activity.

Activity

Think about the questions that remain unanswered about domesticated foxes. Use information from the text to design a new experiment that might help to answer one of those unanswered questions. In a paragraph or two, describe what you would like to study that would potentially answer an unanswered question about domesticated foxes.

Reveal Answer

Hide Answer

Sample answer: I wonder whether one species of fox is easier to domesticate than other species. I would like to look at the results of tameness versus wildness for different fox species, looking at the peculiar traits such as floppy ear, spots, and curled tails. Then, once the genome is complete, I would like to compare the genes of those species to see whether one species is possibly tamer—and therefore closer to dogs—than another.

How Did I Do?

Assess your response to the Practice activity by completing this checklist. If necessary, go back and revise your work.

1. _____ I responded to the prompt by asking about something not answered by the text.
 2. _____ I suggested an experiment that might result from my question.
 3. _____ I used a variety of sentence lengths to communicate my ideas.
 4. _____ I used correct grammar, punctuation, and spelling.
-

Word Meaning

Unit Reading Information

In this unit, you will read *The Journey of Crazy Horse: A Lakota History* unless otherwise directed by your teacher.

Select the links to access the text and reading log.

The Journey of Crazy Horse: A Lakota History



Reading Log: The Journey of Crazy Horse: A Lakota History

Objective and Key Words

Objective

In this section, you will use context as a clue to the meaning of a word or phrase.

Key Words

- **context** – the parts of a text before and after a word that clarify its meaning
 - **glossary** – an alphabetical list of words related to a text or subject area with their definitions
-

Word Meaning

Informational texts include not only new and unfamiliar concepts but also new and unfamiliar technical vocabulary. Experts who write scientific or historical texts may expect readers to follow their reasoning. That can sometimes be difficult if the words get in the way.

Get Ready to Read

As you prepare to read an informational text, start by previewing the vocabulary. That helps you predict where a new term might get in the way of your understanding.

Vocabulary self-assessment: students indicate their familiarity with each word

Vocabulary Word	Can Define or Explain	Have Seen or Heard	Don't Know

Take Notes as You Read

Try previewing the technical and unfamiliar vocabulary in “NASA Fosters Innovative Ways to Understand Biodiversity.” Make a checklist for yourself in your Reading Log.

- Begin by copying the checklist into your Reading Log.
- Scan the text and identify some difficult words.
- Record the words. Then, check the box that best describes your level of knowledge.

Reading Log: NASA Fosters Understanding Biodiversity

Once you have identified words that might cause you difficulty, you can use strategies to define them. Read on to learn some specific strategies for dealing with unfamiliar vocabulary in informational texts.

Word Meaning

Use Context

Some scientific or technical texts provide readers with a [glossary](#) to use as a reference tool. When no glossary exists, readers must define the words using what they already know about word and sentence structure. Proficient readers use [context](#) clues and inferential skills to define unfamiliar words.

Read this sentence from “NASA Fosters Innovative Ways to Understand Biodiversity.”

You may have some understanding of the word *biodiversity*, but the author has made things easier for you by including a restatement that essentially defines the word.

Question

What restatement does the author include? What is a definition of *biodiversity*?

Reveal Answer

The restatement context clue is “the immense volume of organisms in the world.”

Biodiversity means “variety of life, including different species of plants and animals.”

There are a variety of clues an author may provide to help readers understand unfamiliar words. This table offers some examples.

Types of context clues with examples from scientific texts

Type of Context Clue	Example
synonym/restatement	To study and monitor changes in Earth's <u>biodiversity</u> , or the immense volume of organisms in the world, scientists and citizen scientists record their sightings in the field.
antonym/contrast	Whether a population is <u>burgeoning</u> or declining often depends on a variety of environmental factors.
definition/explanation	<u>Fragmentation</u> is a type of habitat loss in which roads and development slice up a species' territory.
example/illustration	Cold-weather <u>lagomorphs</u> , such as the mountain-dwelling pika or the snowshoe hare, are losing habitat due to climate change.

As you read a text, watch for context clues surrounding any unfamiliar words or phrases. Use those clues to produce your own definition of the new vocabulary. Then, confirm your definition by replacing the new word with your definition to see whether your definition makes sense in context.

Check-In

Read this sentence from “NASA Fosters Innovative Ways to Understand Biodiversity” and answer the questions that follow.

Question 1

What type of context clue helps to define *vulnerable*?

Reveal Answer

antonym/contrast

Need a little extra support?

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Question 2

Based on the text, how would you define *vulnerable*?

Reveal Answer

Sample answer: unhealthy or weak

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Vulnerable has a slightly different shade of meaning here:



Orangutans and tigers are among the species most vulnerable to habitat loss, as their sources of nutrition and shelter decline, leaving them in increasing danger of extinction.

Question 3

Based on this sentence, how would you modify your definition of *vulnerable*?

Reveal Answer

Sample answer: susceptible to or endangered by

Need a little extra support?

[Get Help Here](#)

Practice

Use your Reading Log checklist and “NASA Fosters Innovative Ways to Understand Biodiversity” to complete this activity.

Activity

Use context clues where possible to determine the meaning of each word you identified on the checklist in your Reading Log. Write your definitions in the chart and check them against the text to ensure that they are reasonable.

Three-Column Chart

How Did I Do?

Assess your response to the Practice activity by completing this checklist. If necessary, go back and revise your work.

1. _____ I used context clues to infer the meaning of each word.
 2. _____ I defined the unfamiliar word in my own words.
 3. _____ I checked to make sure that my definition made logical sense in the sentence.
-

Objective and Key Words

Objective

In this section, you will use common morphological elements as clues to the meaning of a word or phrase.

Key Words

- **affix** – a morpheme added to a base word
 - **base word** – a morpheme that has meaning on its own
 - **morphemes** – the smallest meaningful units in a language
 - **prefixes** – affixes at the beginnings of words
 - **suffixes** – affixes at the ends of words
-

Word Meaning

By age three, children can use around 1,000 words. By the end of high school, that number grows to over 100,000. Yet, every time we read a new informational text, we manage to find new words that we have never seen before. The vocabulary of a lifelong reader never stops growing.



Source: jcgphotography. Shutterstock

Read Strategically

Occasionally, as is the case with your current reading, you will read the introduction or an introductory excerpt from a longer text. You can check your understanding of the excerpt by attempting to predict what the rest of the text will be about, based on what you just read.

When you make predictions about text, you combine text evidence with what you already know about the topic and about informational writing to infer what the author will tell about later on in the text. Predicting is an active reading strategy that will help you monitor your own comprehension as you read.

Take Notes as You Read

Read “NASA Fosters Innovative Ways to Understand Biodiversity.” Use the title of the text and the first four paragraphs to predict what the rest of the text might tell about. Write your prediction in your Reading Log.

If you are interested in seeing whether your predictions were accurate, you can find the entire article on NASA's website.

Word Meaning

Use Morphology

To decipher unfamiliar words in a text, you can use clues that surround the word, or you can use the word itself.

Words are constructed from morphemes. Some morphemes are free, meaning that they can stand alone as a complete word. Others are bound, meaning that they only have meaning when affixed to another morpheme. For example, in the word *flaunting*, *flaunt* is a free morpheme, but *-ing* is a bound morpheme.

A very useful way to decode a complex, unfamiliar word is to look for morphemes you recognize. The morpheme you know may be a base word or an affix. For example:

- If you know the meaning of *form*, and you know that *mal-* means “badly,” you can figure out *malformed*.
- If you know the meaning of *-less*, and you know that *form* means “shape,” you can figure out *formless*.

Many words have roots that come from Latin or ancient Greek, as in this example:

- *cardi* – an affix meaning “relating to the heart”
- *ology* – a Greek root meaning “study of”

Put the morphemes together and you have the word *cardiology*, which means “the study of the heart.”

As you watch this video, notice how one student creates lists of related words by looking at base words, prefixes, and suffixes.

Video cannot be displayed on Print Preview

Peer Model Video Transcript

Now answer the question.

Question

If you knew that the suffix *-ly* means “having the qualities of,” how would that help you understand the word *statistically*?

Reveal Answer

You would know that something proven statistically has the qualities of statistics, or quantitative data.

Check-In

Use your understanding of morphemes and word structure to determine the meanings of complex words. Read this sentence from “NASA Fosters Innovative Ways to Understand Biodiversity” and answer the questions that follow.

Reading Log: NASA Fosters Understanding Biodiversity

Question 1

What is the free morpheme in *urbanization*?

Reveal Answer

urban

Need a little extra support?

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Question 2

What does the base word mean in *urbanization*?

Reveal Answer

relating to a city

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Question 3

Use what you know about morphemes to define *urbanization*. Then, look back at the sentence and refine your definition.

Reveal Answer

Sample answer: It means becoming like a city. In the sentence, it refers to sprawl and growth that cuts into the cuckoo's breeding range.

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Practice

Use this sentence from “NASA Fosters Innovative Ways to Understand Biodiversity” to complete the activity.

Activity 1

Activity 2

How Did I Do?

Assess your response to the Practice activity by completing this checklist. If necessary, go back and revise your work.

1. _____ I was able to identify the morphemes in the word.
 2. _____ I explained what I know about the morphemes and how I know it.
 3. _____ I put my understanding of morphemes together to define the word.
 4. _____ I formed a word using a Greek or Latin root and used it correctly in a sentence.
-

Objective and Key Words

Objective

In this section, you will verify the preliminary determination of the meaning of a word or phrase.

Key Words

- **context** – the parts of a text before and after a word that clarify its meaning
 - **homograph** – one of two or more words that are spelled alike but differ in meaning and often in origin
-

Word Meaning

Consider the amazing process that enables a reader to read and comprehend a text.

Nerve impulses stimulate the back of the brain and allow the reader to tell letters apart.

A different region of the brain converts those symbols on the page into sounds and then into language. Not only must the brain process what is on the written page, but it must also store and recall the information.



Source: wavebreakmedia. Shutterstock

Read Strategically

As you read texts with unfamiliar vocabulary and concepts, you may find that you need to slow the pace of your reading to retain and comprehend the information on the page. Intentionally slowing your reading pace can have a strong effect on your understanding of informational text.

Adult readers read at an average of around 250 words per minute, and speed readers can double that, so it may seem strange to think about slowing down. However, rushing through an informational text means that you skip over technical terms that may be critical to comprehension, and you may not take the time to make connections that will help you understand the author's key points.

Consider these techniques as you try to slow your pace when reading informational text:

- Read aloud. This forces you to slow down, and you can't omit vocabulary you don't know.
- Ask yourself a question after each paragraph. Even a simple "What did I just learn?" can make you reflect on the author's key ideas.
- Skim before you read. Let your quick overview of the text allow you to slow down and fill in the information that you did not absorb when you read quickly.

Try one of these techniques as you read the excerpt from "NASA Fosters Innovative Ways to Understand Biodiversity." Then write your impressions of slow reading in your Reading Log. Tell whether it feels unnatural to you and whether you found yourself better able to remember what you read.

Word Meaning

Verify Definitions

To use context to verify your predicted definition of unfamiliar or specialized vocabulary, you can plug that definition into the original sentence to see whether it makes sense. If you need additional verification, you can check your interpretation in a dictionary.

Sometimes a word is difficult and technical, but other times, it may simply be a multiple-meaning word used in a new or unexpected way.

Scale has multiple meanings and is considered a homograph. Unlike other multiple-meaning words, homographs are listed as separate, numbered entries in the dictionary.



Source: sharafmaksumov. 123rf.com

Read these entries for *scale*.

scale¹ (skāl) *n.* a device used to weigh something

scale² (skāl) *n.* **1.** a thin, flat plate on the body of a fish, snake, or lizard **2.** A thin, flat piece of something

scale³ (skāl) *n.* **1.** a series of regular marks used for measuring **2.** the ratio used to create a map or plan **3.** a system of grouping according to relative size, amount, and so on **4.** a series of musical tones

When you try to narrow down the definition, you often need to use the context of the sentence alongside the definitions to determine which definition is correct.

Question 1

How can you tell that neither entry 1 nor 2 fits the context?

Show Answer

Hide Answer

The context has to do with measurement but not with weight.

Question 2

Why is definition three in entry three a better definition for the meaning of *scale* in the sentence than definition two in entry three?

Show Answer

Hide Answer

The sentence is comparing a range of measurements in real life rather than the ratio on a map or plan.

As you read unfamiliar vocabulary in informational text, begin by using context clues and word structure to make a logical prediction about the definitions of words you do not know. Check your prediction by applying it to the sentence and use a dictionary if you need further verification.

Check-In

Now read another sentence with a homograph and respond to the questions.

The researchers hope to stem the incessant loss of species to climate change.

Question 1

Based on the context, what word can you think of that might be a synonym for *stem*?

Show Answer

Hide Answer

stop

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stem¹ (stem) **n.** **1.** the main, upward growing axis of a plant **2.** a stalk or plant part supporting leaves, flowers, or fruit **3.** a piece of an object that resembles a stem, as in part of a pipe or glass **4.** the forward part of a ship

stem² (stem) **vt.** **1.** to stop or block **2.** to plug or stop up **3.** to turn a ski while slowing

Question 2

How does the function (part of speech) of the word in the sentence show you that entry 1 cannot be correct?

Show Answer

Hide Answer

The context shows that the word must be a verb.

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Question 3

Choose the best definition from the dictionary entries and compare it to your original definition. Explain whether your original definition was correct.

Show Answer

Sample answer: Yes, the first definition in entry 2 is “to stop or block,” and I predicted that the word meant “stop.”

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Practice

Select one unfamiliar term from the excerpt and follow the instructions in the activity.

Activity

Develop your best definition of the word, using context and word structure, and write the definition. Then look up the word in a print or online dictionary and confirm that your definition is correct. Explain any differences between your definition and the dictionary definition.

Show Answer

Hide Answer

Sample answer: I think that *fauna* means “animal life.” In the dictionary, I found this definition: “the animals of a specified region or time.” My definition omitted the important aspect of place that is in the dictionary definition.

How Did I Do?

Assess your response to the Practice activity by completing this checklist. If necessary, go back and revise your work.

1. _____ I used context clues and word structure to define an unfamiliar word.
 2. _____ I verified my definition by looking up the word in the dictionary.
 3. _____ I compared and contrasted my definition to the dictionary definition.
-

Objective and Key Words

Objective

In this section, you will use general and specialized reference materials to find the pronunciation of a word or determine or verify its part of speech, or its etymology.

Key Words

- **diacritical marks** – symbols that tell readers how to pronounce letters
 - **etymology** – the historical development of a word's meaning
 - **glossary** – an alphabetical list of words and their definitions relating to a text or subject area
 - **schwa** – an unstressed vowel in the middle of a word, or the symbol ə that represents that vowel sound
 - **thesaurus** – a book or online resource that lists words with their synonyms and antonyms
-

Word Meaning

Once we learn the English language, we rarely stop to think about its history. However, English has a long and complex history that connects us to speakers of languages around the world. It derives mostly from the Indo-European language family that also gave birth to German and Dutch, but over time it has acquired words from just about everywhere on Earth. Studying the evolution of the English language is a bit like studying the movement of humans throughout history.



Source: StepanPopov. Shutterstock

Read Strategically

Instead of approaching every new vocabulary word as something unique, consider using your understanding of word relationships to determine the definitions of new words. For example, in “NASA Fosters Innovative Ways to Understand Biodiversity,” you can see these relationships:

region : regional :: globe : global

Read this as “Region is to regional as globe is to global.” In other words, *region* is a noun that becomes an adjective with the addition of *-al*, and *globe* is a noun that becomes an adjective with the addition of *-al*. Another word with *-al* in the text is *terrestrial*. Although it does not have a clear noun correlation to *regional* and *global*, you can tell from the formation of the word that it is an adjective too.

Question 1

If you know that *terra* means “earth,” and you know the relationship between *globe* and *global* and between *region* and *regional*, what would you predict is the meaning of *terrestrial*?

Reveal Answer

A reasonable prediction is that *terrestrial* means “relating to the earth.”

Take Notes as You Read

Read the excerpt from “NASA Fosters Innovative Ways to Understand Biodiversity,” making note of any difficult words that relate in some way to words you already know. Jot down the new words and their related words in your Reading Log.

Reading Log: NASA Fosters Understanding Biodiversity

Word Meaning

Consult Reference Materials

A number of print and online resources are available to help readers learn about new vocabulary they encounter as they read.

- A dictionary is an alphabetized list of words with their pronunciations, parts of speech, etymology, and definitions.
- A glossary appears at the end of a text and lists technical or subject-specific words, their definitions, and sometimes their pronunciations.
- A thesaurus contains lists of words and their synonyms and antonyms.

Here is the dictionary entry for a word from “NASA Fosters Understanding Biodiversity.”

virtual (vûr'choo əl) *adj.* [ME *vertual* < ML *virtualis* < L *virtus*, strength, worth] **1.** seeming almost as described, but not in actual fact **2. COMPUTER** taking place in cyberspace

As you can see, the entry word is followed by the pronunciation in parentheses. Different dictionaries show this in different ways, but any pronunciation guide uses diacritical marks to show how to say the word aloud. Pronunciation guides also break words into syllables, showing which syllables are accented. In this case, you can see that *virtual* has three syllables, with the first syllable stressed. The last syllable has a vowel pronounced “uh,” represented by a schwa (ə).

Following the pronunciation, the entry notes the part of speech of the word. The abbreviation *adj.* indicates that the word is an adjective.

Next comes information about the etymology, or origin of the word. Many dictionaries use the symbol “<” to mean “came from,” with the origin being the language farthest to the right. Here, Middle English (ME) derived from Middle Latin (ML), which was a form of Latin used in the Middle Ages, or medieval times. That, in turn, derived from Latin, the language of the ancient Roman Empire.

Question 1

What Latin word was the origin of *virtual*?

Reveal Answer

virtus

Question 2

What spelling changes occurred between Middle Latin and Middle English?

Reveal Answer

The initial *i* changed to *e*, and the ending *-is* was removed.

Consult reference materials when you want to learn more about challenging new words that appear in your reading. As you learn more about the word, you will start to recognize how it corresponds to other words you know that may have similar derivations or pronunciations.

Check-In

The article “NASA Fosters Innovative Ways to Understand Biodiversity” refers to “virtual portals.” Here is a dictionary entry for the word *portal* that may help you better understand that term.

portal (pôrt'1) **n.** [ME < MFr < ML portale < L porta,

1. a doorway, gate, or entrance, especially a large or imposing one
2. any point of entry, as in anatomy
3. A website that provides access to various other sites

Question 1

How did the word *portal* change over time?

Reveal Answer

It began as the Latin word *porta* and gained a final *le* in Middle Latin. In current English, it dropped the final *e* to become *portal*.

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Question 2

How does the etymology of the word help you to understand its use in the text, which describes four virtual portals that NASA has funded to get

information to scientists and others?

Reveal Answer

The word originally meant *door*, which suggests that a virtual portal is a doorway to multiple websites.

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Question 3

The French word for *door* is *porte*. The Spanish word for door is *puerta*. What can you infer about the etymology of the French and Spanish words?

Reveal Answer

They probably derived from the same Latin word that *portal* comes from.

Need a little extra support?

[Get Help Here](#)

Practice

Read this sentence from “NASA Fosters Innovative Ways to Understand Biodiversity.” Then use one or more print or online dictionaries to complete the activity.

Activity

Use one or more dictionaries to explain the connection of the words *flora* and *fauna* to Roman mythology. Include an explanation of each word’s etymology prior to its current English usage and tell how the origins relate to the current meanings of the words. Finally, suggest two more words that have the same derivation as *flora*.

Reveal Answer

Flora and *fauna* derive from Latin characters. Flora was the Roman goddess of spring and flowering plants, and Fauna was a woodland goddess whose brother was part animal. A Swedish botanist chose both Latin names to refer to the plants and animals of a region. *Flora* also gives us the words *floral* and *florist*.

How Did I Do?

Assess your response to the Practice activity by completing this checklist. If necessary, go back and revise your work.

1. _____ I used dictionary entries to locate the etymology of the words.
 2. _____ I explained the connection of the original words to the words as they are used today.
 3. _____ I included two other words with the same derivation as *flora*.
-

Informational Text Word Choice

Unit Reading Information

In this unit, you will read *The Journey of Crazy Horse: A Lakota History* unless otherwise directed by your teacher.

Select the links to access the text and reading log.

The Journey of Crazy Horse: A Lakota History



Reading Log: The Journey of Crazy Horse: A Lakota History

Objective and Key Words

Objective

In this section, you will provide a statement of the meaning of words and phrases as they are used in an informational text, including how meaning is refined over the course of a text.

Key Words

- **context** – the parts of a text before and after a word that clarify its meaning
 - **refine** – to improve by adding details
-

Informational Text Word Choice

Authors of informational texts frequently use technical or subject-specific terms that need explanation. They may choose to define the words directly in the text, or they may use more subtle methods to help the reader understand their meaning. At times, a reader must put evidence together like a detective to define an unfamiliar but critical term in a text.

Get Ready to Read

The text you are about to read is a short excerpt from a longer text titled “How to Keep Conspiracy Theories from Ruining Your Time with Family.”



Whenever you read an excerpt, it is worthwhile to try to determine how it fits into the informational text as a whole. Even if you do not have the entire text in front of you, your knowledge of the genre and your experience reading texts of all kinds should help you determine how the excerpt you are reading connects to the whole text.

Read this opening paragraph from the excerpt.

Question

Think about the title of the text and the content of this paragraph. What information do you expect this excerpt to provide, and how will that information connect to the text as a whole?

Reveal Answer

Sample answer: This excerpt may provide definitions of terms that are used later in the text to show the reader how to keep conspiracy theories from ruining your time with family.

The more you read, the more you understand about how texts are constructed. You can use that knowledge to make predictions and to monitor your understanding as you read a new text.

Take Notes as You Read

As you read this excerpt from “How to Keep Conspiracy Theories from Ruining Your Time with Family,” record details in your Reading Log that explain the importance of the ideas in this excerpt to the text as a whole.

Useful Vocabulary

1. **autism:** a developmental disability which makes communicating and interacting socially difficult
 2. **fluoride:** a mineral that helps prevent tooth decay
 3. **infringe:** encroach; go beyond the limits
 4. **partisan:** showing strong commitment to a party or cause
-

Informational Text Word Choice

Refine Definitions

As you read informational text, pay attention not only to which words an author uses but also to how the author uses those words. Over the course of a text, the author may offer examples, details, and contrasts or comparisons that help to develop and refine the meaning of a word or technical term. By paying attention to those context clues, you can better grasp the author's intention in using the word or term and can recognize the key points the author wishes to make.

Watch this video to see how one student traces the refinement of the term *conspiracy theory* over the course of a text.

Video cannot be displayed on Print Preview

Question 1

According to the author, what must a conspiracy theory involve?

Reveal Answer

The author says a conspiracy theory involves a group of people conducting secret deeds that disadvantage or infringe on the rights of others.

Question 2

How does the author use contrast to further refine the definition? How does that help understanding?

Reveal Answer

The author contrasts a conspiracy theory with a false belief and with a real conspiracy. Contrasting helps understanding by making it clear, if there were doubts in the reader's mind, what it is not.

If at first you have trouble understanding how the author is using a particular term, reading further may help, because the author may use additional examples and details that refine the meaning of the term.

Check-In

Use this excerpt from “How to Keep Conspiracy Theories from Ruining Your Time with Family” to answer the questions that follow.

Question 1

How do these examples help to refine the notion that a conspiracy theory “must involve a group of people conducting secret deeds that disadvantage or infringe on the rights of others?”

Reveal Answer

They show that while false beliefs just involve individual ideas, conspiracy theories involve groups such as health officials or government officials.

Need a little extra support?

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Question 2

Based on this refinement, which of the following would qualify as conspiracy theories? Choose all that apply.

- a.** The United States Federal Reserve manipulates our currency to create recessions.
- b.** Antiperspirants and deodorants are absorbed and cause certain kinds of cancer.
- c.** Climate change is a myth perpetuated by investors in renewable energy companies.

- d.** On the whole, private colleges are more demanding and challenging than public universities.

Reveal Answer

- a.** The United States Federal Reserve manipulates our currency to create recessions.
- c.** Climate change is a myth perpetuated by investors in renewable energy companies.

Need a little extra support?

[Get Help Here](#)

Practice

Read this excerpt from “How to Keep Conspiracy Theories from Ruining Your Time with Family.” Then, complete the activity.

Activity

Explain how the author refines the definition of *proof* in the second sentence here. Then add a third sentence that provides further refinement of the definition by including an example.

Reveal Answer

Sample answer: The author refines the definition of *proof* by using words that describe it—*public*, *objective*, and *verifiable*. In other words, proof must be agreed-upon, unbiased, and able to be checked. A third sentence might be “For example, no scientific study has provided proof that fluoride controls anyone’s mind.”

How Did I Do?

Assess your response to the Practice activity by completing this checklist. If necessary, go back and revise your work.

1. _____ I located the author’s refinement of the definition.
 2. _____ I explained how the author refined the definition.
 3. _____ I provided an example that further refines the definition.
-

Objective and Key Words

Objective

In this section, you will provide a statement explaining the impact of specific word choices on the overall meaning and tone of an informational text.

Key Words

- **connotation** – the idea or feeling a word invokes in addition to its literal meaning
 - **denotation** – the literal meaning of a word
 - **objective** – dealing with facts or conditions without bias or interpretation
 - **subjective** – affected by personal views or opinions
 - **tone** – the attitude an author shows toward their subject
-

Informational Text Word Choice



Source: janjar. 123rf.com

Since informational writing has a principal purpose of providing information, you might expect all informational text to resemble an encyclopedia entry; but, in fact, informational writing takes numerous forms. In some situations, the author writes for a specific audience and tailors the text accordingly. Occasionally, the author has a particular point to make that straddles or crosses the line between information and opinion and integrates judgment with factual material.

Read Strategically

As you read informational text, notice how the author addresses the reader. Some texts use second-person pronouns to speak directly to the audience, incorporating each reader into the discussion of a topic. More commonly, however, the author simply hints at a recognition of the reader, as in the opening here of “How to Keep Conspiracy Theories from Ruining Your Time with Family”:

Question

For whom is the author writing, and how do the words in this excerpt clarify that?

Reveal Answer

Sample answer: The author is addressing readers who may consider themselves smart and savvy but still not know how to differentiate among conspiracy theories, falsehoods, and myths.

Noticing how the author addresses the reader and what the author expects of the reader may also help you determine whether the text you are reading is too advanced or too unsophisticated for you.

Take Notes as You Read

As you read the excerpt, notice how the author assumes some knowledge on the part of the reader while still trying to educate that reader. Record your observations in your Reading Log.

Useful Vocabulary

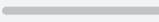


1. **fluoride:** a naturally occurring mineral that helps prevent tooth decay
 2. **infringe:** encroach; go beyond the limits
 3. **partisan:** showing strong commitment to a party or cause
-

Informational Text Word Choice

Explain the Impact of Word Choices

Authors and speakers make decisions about tone as they prepare to present a topic. Choosing words with a certain connotation can imply bias and generate language that is subjective, whereas choosing words for their denotation allows authors and speakers to be more objective.

Listen to the podcast to see how two students determine whether their conversation should be subjective or objective. Notice how word choices affect their presentation of the topic.

▶ 0:00 / 0:00   

Let's Talk Transcript

As you listen to or read information, tally any examples you notice of personal bias on the part of the speaker or author. Try keeping track in that way as you reread “How to Keep Conspiracy Theories from Ruining Your Time with Family.”

Check-In

Use “How to Keep Conspiracy Theories from Ruining Your Time with Family” to respond to these activities.

Activity 1

Find and explain three words or phrases from the text that show a particular bias on the part of the author or one of the experts quoted.

Reveal Answer

Sample answer: In the title of the text, *ruining* has a negative connotation. One expert refers to a witch hunt, which is a negative way of referring to people who oppose your views. The phrase “push the concept” suggests that the party in the minority is forcing an attitude on others.

Need a little extra support?

[Get Help Here](#)

Words That Describe Tone

Tone Word 1	Tone Word 2	Tone Word 3	Tone Word 4	Tone Word 5
arrogant	contemptuous	cynical	defensive	dispassionate
flippant	grim	imploring	judgmental	malicious
patronizing	resentful	skeptical	tolerant	whimsical

Activity 2

Choose the word from the table above that best describes the tone of the text as you understand it. Support your choice with examples from the text.

Reveal Answer

Sample answer: I think that the tone is a bit judgmental, with a bias against those who fall for conspiracy theories. Words such as *prone to*, *susceptible*, and *blindly trust* indicate that the author views followers of conspiracy theories as people with a certain illness or disability.

Need a little extra support?

[Get Help Here](#)

Practice

Refer back to the text as necessary to complete this activity.

Activity

Suppose you wanted to write a brief explanation of conspiracy theories that has a more sympathetic bias toward the people who tend to believe in them. Revise the existing text to both explain conspiracy theories and use words that indicate sympathy, or at least neutrality, for conspiracy theorists and followers of such theories.

Reveal Answer

Sample answer: It is easy to misunderstand conspiracy theories. A conspiracy—and by extension a conspiracy theory—must involve a group of people that seem likely to work in secret against the rights of others.

For instance, if you sense that health officials are lying to you about the effectiveness of vaccines, you believe in a conspiracy theory. If you suspect that fluoride in the water is a means of government overreach, you believe in a conspiracy theory.

You cannot prove a conspiracy theory, but many ideas are hard to verify.

Politicians in the minority may use conspiracy theories to suggest that people in the majority party are working against our interests. If you indicate that you are being victimized, you can put the victimizer at a disadvantage.

Both sides of the political spectrum use conspiracy theories to their advantage.

The problem is not that conspiracy theories exist, but rather that not enough people are paying attention.

How Did I Do?

Assess your response to the Practice activity by completing this checklist. If necessary, go back and revise your work.

1. _____ I used the text as a basis for a revised explanation of conspiracy theories.
 2. _____ I included connotative word choices that showed a more sympathetic bias.
 3. _____ I used correct grammar, punctuation, and spelling.
-

Central Ideas

Unit Reading Information

In this unit, you will read *The Journey of Crazy Horse: A Lakota History* unless otherwise directed by your teacher.

Select the links to access the text and reading log.

The Journey of Crazy Horse: A Lakota History



Reading Log: The Journey of Crazy Horse: A Lakota History

Objective and Key Words

Objective

In this section, you will determine the central ideas of an informational text by providing statements of central idea(s).

Key Words

- **central idea** – the most important idea in a text; the key point the author wants to communicate
 - **details** – facts, statements, and examples that add information
 - **topic** – the general subject of a text
-

Central Ideas

Informational text comes in a variety of forms. It may be impartial and factual, or it may be personal and profound. Most informational texts are presented in a third-person omniscient voice, but some, like the text you will read today, are in the first person and are both candid and autobiographical. Nevertheless, in any kind of informational text, there are always clues that explain why the author is writing.

Get Ready to Read

When a text informs about a specific law, policy, or current event, you may not have the background knowledge necessary to follow the author's argument. The article you are about to read, "In the Face of Anti-LGBTQ Rights Laws, My Students Give Me Hope," refers to a particular law in Mississippi. Use the comic book to see how one student researched the law before reading the text.

Video cannot be displayed on Print Preview

HB 1523 Transcript

Did You Know?

The controversial HB 1523 was passed into law in Mississippi in 2016. According to a poll from the Public Religion Research Institute, a majority of Americans oppose religious exemption laws that allow discrimination against the LGBTQ community.

Take Notes as You Read

Do your own research into Mississippi HB 1523 before you read “In the Face of Anti-LGBTQ Rights Laws, My Students Give Me Hope.” Take notes in your Reading Log and pay attention to how your advance research helps you to grasp the author’s point of view.

Reading Log: Students Give Hope in Face of Anti-LGBTQ Rights Laws

Useful Vocabulary

1. **ambiguity:** the quality of being open to more than one interpretation
2. **denomination:** a branch of an existing religion

3. experiential: cause to feel isolated or left out

4. frequented: visited often

5. philanthropists: people who donate time or money to help others

Central Ideas

State the Central Idea

Authors may state the central idea of a text directly and succinctly, or they may provide a series of clues that allow the reader to infer the key points in the text. In either case, the reader needs to ask a question: what does the author want me to know or understand? In some cases, that question has more than one answer; the author has two or more central ideas to share with the reader.

Whereas the topic of a text might be stated in a word or phrase that tells the subject of a text, the central idea is a complete sentence that explains what the author intends to say about that topic.

Use these strategies to determine and state the central ideas of “In the Face of Anti-LGBTQ Rights Laws, My Students Give Me Hope”:

- Connect the title to key points the author wants to make. First, what does the author mean by “in the face of” those laws? How do those laws affect the author? Second, in what way do the author’s students provide hope, and what qualities make them able to do so? Answering these questions may help you to construct the central ideas of the text.
- Determine the topic of the text as a whole and ask: what does the author want me to know about this topic?
- Think about how the author constructs the text to reveal information about themselves, their identity, and their experiences.
- Consider how one part of the text flows into the next part of the text and how the ideas and details connect.
- Watch for sentences or paragraphs that directly reveal something the author wants you to know about the topic or that hint at the author’s point of view about that topic.

Question 1

When you first read the title of the text, what did it mean to you?

Reveal Answer

Sample answer: It meant that the author's students give the author hope that anti-LGBTQ rights laws don't represent everyone's opinions.

Question 2

How does knowing that the author is gay help you better understand the title of the text?

Reveal Answer

Sample answer: It helps me see that the author feels threatened by the laws, and maybe the students make the author feel better.

Use the strategies as you reread “In the Face of Anti-LGBTQ Rights Laws, My Students Give Me Hope.” Record your new observations and understandings in your Reading Log.

Check-In

Answer these questions about the text to guide you to an understanding of its central ideas. Save your answers to refer to as you complete the Practice activity.

Question 1

What does the author learn from life at a public university and from reading John Dewey? What does the author then learn from teaching at a diverse boarding school?

Reveal Answer

The author learns that the world is complicated, and that experiencing differences and ambiguity helps people be more accepting.

Need a little extra support?

[Get Help Here](#)

Question 2

How does the implementation of HB 1523 affect the author's feelings about Mississippi and the South?

Reveal Answer

The author wonders whether the Magnolia State can be welcoming to people like the author and feels that it is hard to be proud, hard to forgive, and very hard not to hate the South.

Need a little extra support?

[Get Help Here](#)

Practice

Use the text and your responses to the Check-In questions to complete this activity.

Activity

The text by Douglas Ray has two implied central ideas, one dealing with acceptance and one dealing with the effect of prejudicial laws. Using evidence from the text and your responses to Check-In, write statements of those two central ideas. Explain your thinking and show how the central ideas connect.

Reveal Answer

Sample answer: The author's references to the importance of experiencing difference and ambiguity and the statement that "the students I teach are infinitely more worldly wise and accepting of differences than I was at their age" implies that one central idea is the following: Experiencing differences and ambiguity can lead to acceptance of diversity.

The author's inability to have pride or love for the South following the legislation suggests that a second central idea might be the following: Anti-LGBTQ laws lead to psychological stress.

The text as a whole contrasts the acceptance of the students and some of their families with the intolerance of the people who made these laws.

How Did I Do?

Assess your response to the Practice activity by completing this checklist. If necessary, go back and revise your work.

1. _____ I stated each of the central ideas in my own words.
2. _____ I offered evidence from the text to support my ideas.
3. _____ I showed how the central ideas connect across the text.

Objective and Key Words

Objective

In this section, you will analyze how the central idea emerges, is shaped, and is refined by specific details.

Key Words

- **anecdote** – a brief personal account that is shared for interest or to make a point
 - **central idea** – the most important idea in a text; the key point the author wants to communicate
 - **details** – facts, statements, and examples that add information
 - **objective** – dealing with facts or conditions without bias or interpretation
 - **point of view** – the author's perspective that helps the reader understand what they think about the topic
 - **topic** – the general subject of a text
-

Central Ideas

Informational text may educate us by introducing us to facts we do not know. It may educate us by revealing how to perform a task or improve our skills, or it may educate us by expanding our world and showing us new perspectives and viewpoints. Whatever its focus, informational text is always designed to educate—to increase our knowledge and improve our understanding of the world.

Read Strategically

The author's point of view in informational text is a powerful way to show their perspective about a topic, particularly when written from a first-person perspective. It gives a piece of informational writing immediacy and authenticity.



Source: Artur Szczybylo. Shutterstock

When you read first-person nonfiction, whether it is a memoir, an autobiography, an article, or an essay, keep a few things in mind:

- Rather than trying to be objective and impersonal, the author is writing from a particular point of view.
- Your experiences and beliefs may differ from those of the author, in which case your task is to determine how they differ and why.
- For a first-person essay, the question “Why did the author choose this topic?” can be even more important than it is when applied to a typical third-person informational article.

Always be aware that the narrator and the author are the same person in first-person nonfiction, and try to connect what you learn about the author to what the author tells about the topic.

Take Notes as You Read

As you read “In the Face of Anti-LGBTQ Rights Laws, My Students Give Me Hope,” think about how the personal point of view helps you gain a deeper understanding of the topic. Take notes in your Reading Log.

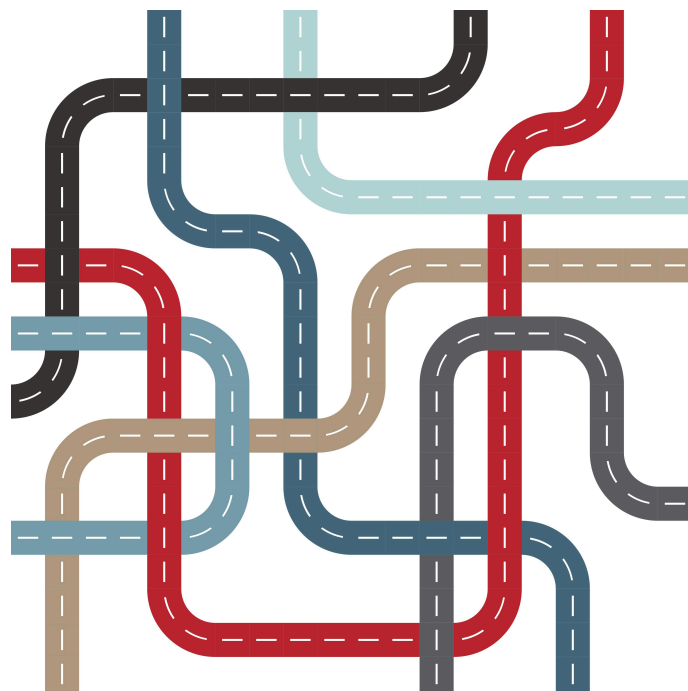
Useful Vocabulary

1. **ambiguity:** the quality of being open to more than one interpretation
 2. **denomination:** a branch of an existing religion
 3. **experiential:** cause to feel isolated or left out
 4. **frequented:** visited often
 5. **philanthropists:** people who donate time or money to help others
-

Central Ideas

Connect Details to the Central Idea

Some informational texts include a directly stated central idea in each clearly delineated section of text, but others require a reader to sift through interwoven details to determine the central idea or ideas.



Sophisticated readers approach such texts like puzzles, using their analytical skills to pull threads of text and determining where those threads intersect and develop into central ideas. Each example, anecdote, fact, or statistic connects back to a central idea in the text. The author steers the reader through the text, often offering guidance by way of a clarifying title and meaningful descriptions and perspectives.

Watch this video to see how one student locates details that support each central idea in “In the Face of Anti-LGBTQ Rights Laws, My Students Give Me Hope.”

Video cannot be displayed on Print Preview

Question 1

How did the author experience differences and ambiguity as a young student?

Reveal Answer

The author went from a school that lacked diversity to a public college that was extremely diverse and complex.

Question 2

How did the author experience psychological stress following the passage of HB 1523?

Reveal Answer

The author decided to leave the South because of the discriminatory law.

As you reread “In the Face of Anti-LGBTQ Rights Laws, My Students Give Me Hope,” watch for specific anecdotes and other details that correspond to each central idea in the text. Record them in your Reading Log.

Check-In

Use your understanding of the text to classify each detail.

Need a little extra support?

[Get Help Here](#)

Practice

Use the text as a whole to complete this activity.

Activity

Choose one of these central ideas from “In the Face of Anti-LGBTQ Rights Laws, My Students Give Me Hope” and analyze how the author uses anecdotal details and other references to shape and refine that idea over the course of the text:

- Experiencing differences and ambiguity can lead to acceptance of diversity.
- Anti-LGBTQ laws lead to psychological stress.

Reveal Answer

Sample answer: The author starts the essay by revealing that “these are my last few days in the South.” The author is leaving after 30 years to teach up North. This detail introduces the idea that the anti-LGBTQ laws in Mississippi may cause enough stress to force a Southerner out of the state.

The author expands on feelings of confusion and sorrow using the anecdote of the Greek-American father remarking that “Mississippi has been in the news,” referring to the new laws. The author replies, “Yeah, I’m not proud,” showing that the laws are leading to feelings of shame, another form of psychological stress.

After discussing how the South is a complicated place, the author points to an anecdote that shows how within the LGBTQ community, people make mistakes but they also forgive. Yet the author has trouble forgiving Mississippi, writing “in anger” but torn between caring for individuals in the state and hatred for the state as it is represented by its government and its laws. The final quote from “Absalom! Absalom!” shows the author’s tension between love and hate. The laws have caused enough stress to force the author’s departure, yet the author refuses to give up completely.

How Did I Do?

Assess your response to the Practice activity by completing this checklist. If necessary, go back and revise your work.

1. _____ I selected one of the central ideas to dissect and analyze.
 2. _____ I located specific anecdotes and other details from the text that support and refine that central idea.
 3. _____ I organized my response in a logical and articulate way.
-

Objective and Key Words

Objective

In this section, you will analyze the development of central idea(s) over the course of an informational text.

Key Words

- **allusions** – references to familiar people or things
-

Central Ideas

In addition to absorbing information about an unfamiliar topic, readers may choose to evaluate the author's presentation of that topic in an informational text. Such an evaluation may involve judging the vocabulary selected, the organization of ideas, and the inclusion of supporting details that strengthen the author's key points.

Read Strategically

Authors may use [allusions](#) to literary characters or plots to draw comparisons between something they are describing and a similar event in literature. The author of "Students Give Hope in Face of Anti-LGBTQ Rights Laws" uses an allusion to a character in a Southern novel whose title is itself an allusion. Knowing the referents can help you better understand the author's point in using the allusion.

Absalom, Absalom! is a book by William Faulkner that is narrated by Quentin Compson, a sensitive student at Harvard who is trying to explain the South of his childhood to his roommate. He does so by telling a dark and disturbing story that was told to him by two unreliable narrators, one of them his own father. His roommate wonders why Quentin seems to hate the South, whereupon Quentin bursts out unconvincingly that he doesn't hate it.

The title alludes to the biblical figure of Absalom, King David's third son, and a troubled soul who rebels against his father and is finally defeated. The tragedies of Absalom, of Quentin, and of the Southern heritage Quentin both loves and despises, weave their way into the final paragraph of Douglas Ray's essay.

Question

Why might Douglas Ray allude to the 1936 work of a famous Southern writer in an essay published in 2016?

Reveal Answer

Sample answer: The author may use the allusion because the audience might know it, or because it shows something important about change or lack of change in the South.

Take Notes as You Read

Keep your new understanding of the allusion at the end of the text in mind as you read “In the Face of Anti-LGBTQ Rights Laws, My Students Give Me Hope.” In your own words, explain the author’s meaning in your Reading Log.

Reading Log: Students Give Hope in Face of Anti-LGBTQ Rights Laws

Useful Vocabulary

1. **ambiguity:** the quality of being open to more than one interpretation
2. **denomination:** a branch of an existing religion
3. **experiential:** cause to feel isolated or left out

4. frequented: visited often

5. philanthropists: people who donate time or money to help others

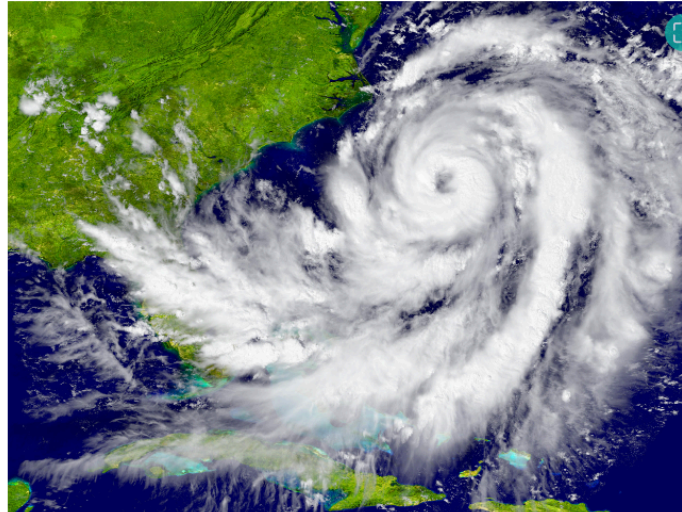
Central Ideas

Analyze the Development of Central Ideas

Before beginning to write, an author chooses a text structure that will support the development of a central idea or ideas over the course of the text. By carefully analyzing the text structure used and the details included, a reader should be able to trace the development of each central idea and determine whether that development is logical and effective.

The author of the text you are reading, “In the Face of Anti-LGBTQ Rights Laws, My Students Give Me Hope,” incorporates a cause-and-effect structure to show, among other things, the consequences of a law in his state.

Select the play button to see an example of a cause-and-effect chain of events.



The Coriolis force causes winds to rotate in a hurricane.



Source: 873391. Shutterstock; Meghan Pusey Diaz. 123rf.com; xuanhuongho. Shutterstock

As you reread “In the Face of Anti-LGBTQ Rights Laws, My Students Give Me Hope,” notice how the author connects personal experience to acceptance of diversity and anti-LGBTQ rights laws to psychological stress. Pay attention to how you feel about the author’s connections between causes and effects and ask yourself whether those connections are effective and logical. Record your observations in your Reading Log.

Check-In

Use this section of the text to answer the questions that follow.

Question 1

What is the effect of the boarding school's diversity and openness on the author's own patterns of behavior?

Reveal Answer

Sample answer: Because of their diversity, the author does not feel the need to “perform straight” for the students or for the community.

Need a little extra support?

[Get Help Here](#)

Question 2

How does the John Dewey citation help to support one of the author's central ideas in the text?

Reveal Answer

Sample answer: Dewey says that education is experiential, and the author finds that experiencing a diverse and complex world not only educates but leads to acceptance of differences.

Need a little extra support?

[Get Help Here](#)

Question 3

What details help to support the central idea that “Experiencing differences and ambiguity can lead to acceptance of diversity”? In your opinion, are the details effective in making the author’s point?

Reveal Answer

Sample answer: The author learned from being around diverse classmates. The author cites John Dewey’s notion that education is experiential. The author tells about the school in Alabama that features diversity of all kinds and shows that the students there are “infinitely more worldly wise and accepting of differences” than the author was growing up. The author’s experiences at college and as a teacher definitely give credence to the idea that experiencing differences can lead to acceptance.

Need a little extra support?

[Get Help Here](#)

Practice

Use “In the Face of Anti-LGBTQ Rights Laws, My Students Give Me Hope” to complete the activity.

Activity

Write a review of the author’s essay that includes an assessment of how well the author managed to develop the central ideas presented in the title of the text. Support your evaluation of the text with specific details from the essay.

Reveal Answer

Sample answer: The title of the text, “In the Face of Anti-LGBTQ Rights Laws, My Students Give Me Hope,” hints at the two central ideas. The first central idea has to do with the fact that the troubling laws in Mississippi have caused the author psychological stress, whereas the second has to do with the author’s hope that a younger generation can repair the damage done.

The author’s difficulties with the anti-LGBTQ rights laws manifest as he is leaving the South after many years. The author finds it terribly hard to forgive the state of his birth for making him feel “not proud” and for creating an atmosphere that causes him to feel unwelcome in his own native state. The most powerful expression of his emotions comes at the end, when he quotes Quentin Compson in *Absalom, Absalom!* Like Quentin, the author is torn between teeth-gnashing hatred for home and an overwhelming desire not to hate it.

At the same time, the author provides a hopeful tone with a recollection of the way in which college opened his eyes by introducing a diverse population that taught him about the complexities of the world. That connection between diversity and open-mindedness continues with the school where the author teaches in Alabama, a school that is trans-affirming and complex. The author uses two letters of recommendation to show how even the most conservative student can be accepting and how even a trans activist can be forgiving.

The students the author has taught provide him with an underlying belief that “the brilliance and big hearts” of young people can help to heal his own hurt in time. By weaving the positive, affirming lessons from his students into the story of his own disappointment and anger, the author seems to be trying to convince himself at the same time that he is convincing the reader. It is an effective strategy that makes the text compelling and expressive.

How Did I Do?

Assess your response to the Practice activity by completing this checklist. If necessary, go back and revise your work.

1. _____ I used specific details from the text to trace the development of central ideas.
 2. _____ I connected the central ideas to the title of the text.
 3. _____ I included my own evaluation of the author’s development of ideas.
 4. _____ I used a variety of sentence lengths in my review.
-

Developing Ideas

Unit Reading Information

In this unit, you will read *The Journey of Crazy Horse: A Lakota History* unless otherwise directed by your teacher.

Select the links to access the text and reading log.

The Journey of Crazy Horse: A Lakota History



Reading Log: The Journey of Crazy Horse: A Lakota History

Objective and Key Words

Objective

In this section, you will evaluate the effectiveness of the structure an author uses in expository text.

Key Words

- **claim** – an assertion that something is true
 - **details** – facts, statements, and examples that add information
 - **evidence** – the facts and information that support an idea or analysis
 - **expository** – serving to explain or describe
 - **reasons** – statements that explain or justify a point of view
 - **text structure** – how a text is organized
-

Developing Ideas

Authors make a myriad of decisions as they contemplate beginning to write an informational text. They select the content they plan to cover and determine a means of delivering that content. Their choices include the words they use, the order of ideas, and the selection or rejection of certain details. It is the reader's job to not only extract meaning from the text but also to evaluate how well the author has presented that meaning.

Get Ready to Read

Before reading any informational text that is divided into sections, it is worthwhile to preview the headings or subheadings that divide the text. A quick glance at those headings will provide significant information that will help you:

- identify the author's key idea(s)
- predict the text's content
- analyze the text's structure

Question headings, such as those in “Why Are Yawns Contagious? We Asked a Scientist,” are especially helpful. The reader can anticipate that the text below each heading will provide details and evidence that answers the question posed by the heading.

Take Notes as You Read

As you preview “Why Are Yawns Contagious? We Asked a Scientist,” use your Reading Log to record the headings you see. Use those headings to predict the content you will find in each section. Then, read the text to confirm or refute your predictions.

Useful Vocabulary

1. **contagion:** quick communication of something from person to person
 2. **empathetic:** able to be sensitive to and feel others' emotions
 3. **neuroethicist:** a specialist in issues raised by new understandings of the brain
 4. **neurologist:** a specialist in the nervous system and brain activity
 5. **ward off:** to prevent or keep something from harming
-

Developing Ideas

Recognize and Evaluate Text Structure

In an expository text, an author chooses a text structure that helps to explain or describe something. In a text that asks why something happens, the logical text structure to use is cause-and-effect structure.

Real life is full of cause-and-effect relationships, and understanding why things happen is a critical characteristic of scientific study. In the photograph here, the effect is a closed road, and the cause is flooding.



Another way to scrutinize a cause-and-effect relationship is to recognize a why/because relationship. You might ask, “Why is the road closed?” (why did this effect happen?). The answer would be “Because there is flooding” (the cause is flooding).

In expository text that uses a cause-and-effect text structure, the author presents a claim that represents an effect and gives reasons to support that claim. The author supports the reasons themselves with additional evidence.

As you read “Why Are Yawns Contagious? We Asked a Scientist,” watch for the *why* and *because* structure that represents effects and causes. Observe whether the author provides sufficient reasons and evidence to allow you to evaluate and answer the question posed in the title, and record your thoughts in your Reading Log.

Check-In

Use this section of the text to complete the graphic organizer. Write the effect in the center of the organizer, and, in the surrounding boxes, record four potential causes that the author specifies. Then, answer the questions that follow.

Concept Web

Question 1

For which of the reasons, or causes, does the author provide the most evidence?

Reveal Answer

Sample answer: The author provides the most evidence for the reasons involving carbon dioxide and oxygen.

Need a little extra support?

[Get Help Here](#)

Question 2

Which of the reasons, or causes, provided in the text seem most probable to you, and why?

Reveal Answer

Sample answer: The first theory about expelling carbon dioxide seems to make sense, based on what I know about respiration.

Need a little extra support?

[Get Help Here](#)

Practice

Consider the text as a whole as you complete the activity.

Activity

Explain how the author uses a cause-and-effect text structure throughout “Why Are Yawns Contagious? We Asked a Scientist” and suggest a reason why the author might have chosen that structure. Then, evaluate how effectively the structure serves to present information in this text.

Reveal Answer

Sample answer: The author uses cause-and-effect text structure to try to answer specific questions about yawning. The structure was a logical choice, since the point of the text is to find out why something happens. In this text, the author hopes to find the causes both of yawning and the contagion of yawning.

The author begins with a section showing the possible causes of yawning, which vary depending on the scientist asked. This is clearly a subject for further study, but the suggestions provided show that scientists are thinking about the reasons behind this physiological effect.

The overarching question is the one asked in the title: Why are yawns contagious? The effect is well-known, but the cause is still under investigation. However, social mirroring linked to mirror neurons in the brain seems a likely cause.

The cause-and-effect structure the author uses is very effective in presenting information, even though the causes are not yet perfectly understood. By asking “why” questions in the title and in two sections of the text, the author guides the reader to the “because” answers that exist so far in scientific studies.

How Did I Do?

Assess your response to the Practice activity by completing this checklist. If necessary, go back and revise your work.

1. _____ I detailed how the author uses cause-and-effect text structure.
 2. _____ I suggested a reason for the author's choice of that structure.
 3. _____ I included my own evaluation of the author's use of cause-and-effect structure.
 4. _____ I used paragraphs effectively to link related ideas.
-

Objective and Key Words

Objective

In this section, you will evaluate the effectiveness of the structure an author uses in argumentative text.

Key Words

- **argumentative** – serving to persuade or convince
 - **claim** – an assertion that something is true
 - **thesis statement** – a sentence that summarizes the claim of a text
-

Developing Ideas

The purpose of a text drives the text's organization, the author's word choices, and the message the reader derives from the text. A coherent text has a structure that gives it unity. It uses words that are relevant to the topic and presents ideas with a logical flow that the reader can easily follow.

Get Ready to Read

Informational texts may deal with unfamiliar, specialized, or technical topics. The text you are about to read requires you to have at least a limited grasp of human genetics and DNA sequencing.

Did You Know?

Did you know that it took 32 years to map the genetic sequence of humans? The Human Genome Project was first discussed in the 1980s but did not officially launch until 1990. The Project used technology to sequence the precise order of bases in human DNA from blood samples—A for adenine, C for cytosine, G for guanine, and T for thymine. Thousands of researchers worked to construct the first map of human DNA, but when they finished in 2003, the map had gaps where the scientists could not accurately complete the sequence. Those gaps would not be completely filled until March of 2022.



Source: The Biochemist Artist. Shutterstock

Take Notes as You Read

As you preview “Genetic Research Has a White Bias, and it May Be Hurting Everyone’s Health,” notice where the author has explained the science and where the author has expected you to understand the science. If you have any remaining questions about the science, record them in your Reading Log to research online.

Useful Vocabulary

1. **algorithms:** sets of rules used in calculations
 2. **epidemiologist:** someone who studies how disease spreads
 3. **exacerbating:** making things worse
 4. **genome:** the complete set of genetic instructions found in a cell
 5. **infamous:** known for something bad
 6. **mutation:** a change in the usual DNA structure of a gene
 7. **polarized:** broken into opposing groups
 8. **subset:** a part of a larger group of related things
 9. **suppressing:** inhibiting the genetic expression of
-

Developing Ideas

Recognize and Evaluate Text Structure

An argumentative text presents a claim, which it supports with reasons and evidence, in an effort to persuade or convince the reader that the claim is correct. Often, the claim is stated directly in a thesis statement.

To evaluate an argumentative text, a reader must begin by considering the author's purpose in writing. If the writer has chosen a text structure that supports that purpose and has included reasons and evidence that are valid and believable, the text is probably successful in achieving its purpose of persuading the reader to agree with the claim.

Watch this video to see how two students identify the text structure in “Genetic Research Has a White Bias, and it May Be Hurting Everyone’s Health” and evaluate its effectiveness in achieving the author's purpose.

Video cannot be displayed on Print Preview

Question

What is the relationship between the thesis statement and the title of the text?

Reveal Answer

Sample answer: The thesis statement expands on the problem established by the title. The title suggests that genetic research has a white bias that may harm health, but the thesis statement explains that it is biased genetic databases that lead scientists and doctors to develop treatments meant for Europeans that may not be relevant or accurate for people with other backgrounds.

As you read “Genetic Research Has a White Bias, and it May Be Hurting Everyone’s Health” notice how the author develops and clarifies the thesis with every section of text. Record your observations in your Reading Log.

Check-In

Use “Genetic Research Has a White Bias, and it May Be Hurting Everyone’s Health” to respond to the questions.

Question 1

How does the author introduce the problem in the opening two paragraphs of the text?

Reveal Answer

Sample answer: The author shows that genetic studies are dominated by a very small subset of human variation, the subset that left Africa and migrated around the globe.

Need a little extra support?

[Get Help Here](#)

Question 2

How does the author use information about the drug warfarin to illustrate the problem introduced in the opening paragraphs?

Reveal Answer

Sample answer: The author explains that small variations in the genetic code can affect how well a drug works, but those variations were only studied in Europeans, meaning that African Americans ended up with bad outcomes because doctors followed the European-based studies.

Need a little extra support?

[Get Help Here](#)

Question 3

Is the reference to the Human Genome Project an effective illustration of the problem suggested by the title of the text? Explain your answer.

Reveal Answer

Sample answer: Yes, the Human Genome Project turns out to be another study where the majority of the subjects were white Europeans, and as the author says, “its limitations are becoming more and more clear.” The white bias in the original study is limiting its helpfulness.

Need a little extra support?

[Get Help Here](#)

Practice

Consider the text as a whole as you complete the activity.

Activity

Imagine that you are testifying in Congress before the House Committee on Science, Space, and Technology in hopes of increasing funding for genetic studies of underrepresented people. Write a brief speech, using the most effective evidence from the text to explain to the committee members how “funding studies that investigate the genetics of scientifically underrepresented people around the globe” might solve a critical problem.

Reveal Answer

Sample answer: Thank you for inviting me. Going forward, we need to consider diversity and fund studies to investigate the genetics of underrepresented people. It is clear that when we fail to include ethnically diverse populations in our work, we may exacerbate health inequalities. In the past, we have focused on people with European backgrounds, but the products and processes that result from those studies can actually result in bad health outcomes for people outside that population.

It is clear that research with more variation can benefit not only minority populations but everyone. Studies of genetic mutations can improve our understanding regarding how diseases work and what treatments might succeed. We are often too polarized when it comes to discussing racial diversity. However, scientifically, if we are to improve health equality, benefit all through careful studies of diverse mutations, and improve the conversation on race, we need to support studying the genetics of scientifically underrepresented people. Please consider funding those studies in your next budget.

How Did I Do?

Assess your response to the Practice activity by completing this checklist. If necessary, go back and revise your work.

1. _____ I demonstrated how funding particular studies might solve a problem.
 2. _____ I used the most effective evidence from the text to support my speech.
 3. _____ I structured my speech logically and effectively.
-

Summarizing Informational Text

Unit Reading Information

In this unit, you will read *The Journey of Crazy Horse: A Lakota History* unless otherwise directed by your teacher.

Select the links to access the text and reading log.

The Journey of Crazy Horse: A Lakota History



Reading Log: The Journey of Crazy Horse: A Lakota History

Objective and Key Words

Objective

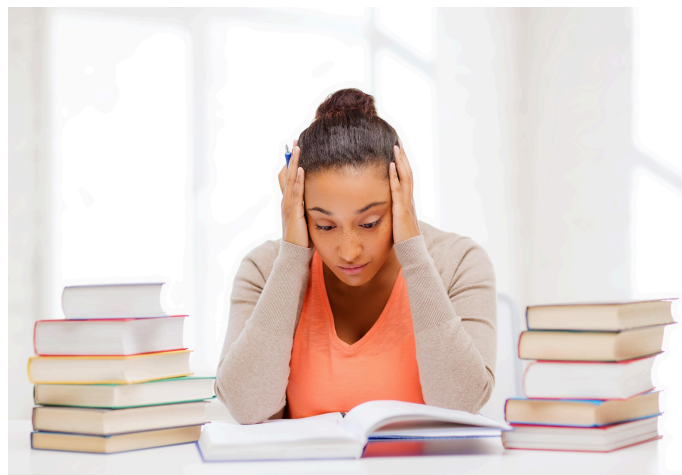
In this section, you will analyze a complex set of ideas by explaining how specific individuals, ideas, or events interact and develop over the course of the text.

Key Words

- **evidence** – the facts and information that support an idea or analysis
 - **text structure** – how a text is organized
-

Summarizing Informational Text

Educators assess text complexity in many ways, including by examining sentence length, difficult vocabulary, and concept load. Readers, on the other hand, may assess text complexity with two simple questions: Is this hard to read? Do I understand it?



Source: Syda Productions.Shutterstock

Reading material gets more difficult as you go through school. College texts and technical manuals are more complex than most of the reading you currently do. Learning to disentangle difficult concepts and ideas from complex text is a skill you will use most of your life.

Get Ready to Read

As you read text that is more and more complex, you may need to change the way you approach reading. When a text contains familiar concepts and vocabulary, you can read at your normal reading rate, but when a text features new, technical terms and complex ideas, you need to slow down your pace.

It is easy to tell when you are reading too quickly for the complexity of the writing. Look up after the first few paragraphs and try to paraphrase the information in your head. If that seems impossible, you need to adjust your reading rate. When your reading rate fits the complexity of the text, you will be better able to read fluently while comprehending what you read.

Take Notes as You Read

As you read “The Ant, the Butterfly and Their Chemical Warfare With the Oregano Plant,” notice where you need to adjust your reading rate or even reread a section of text. Record your observations in your Reading Log.

Useful Vocabulary

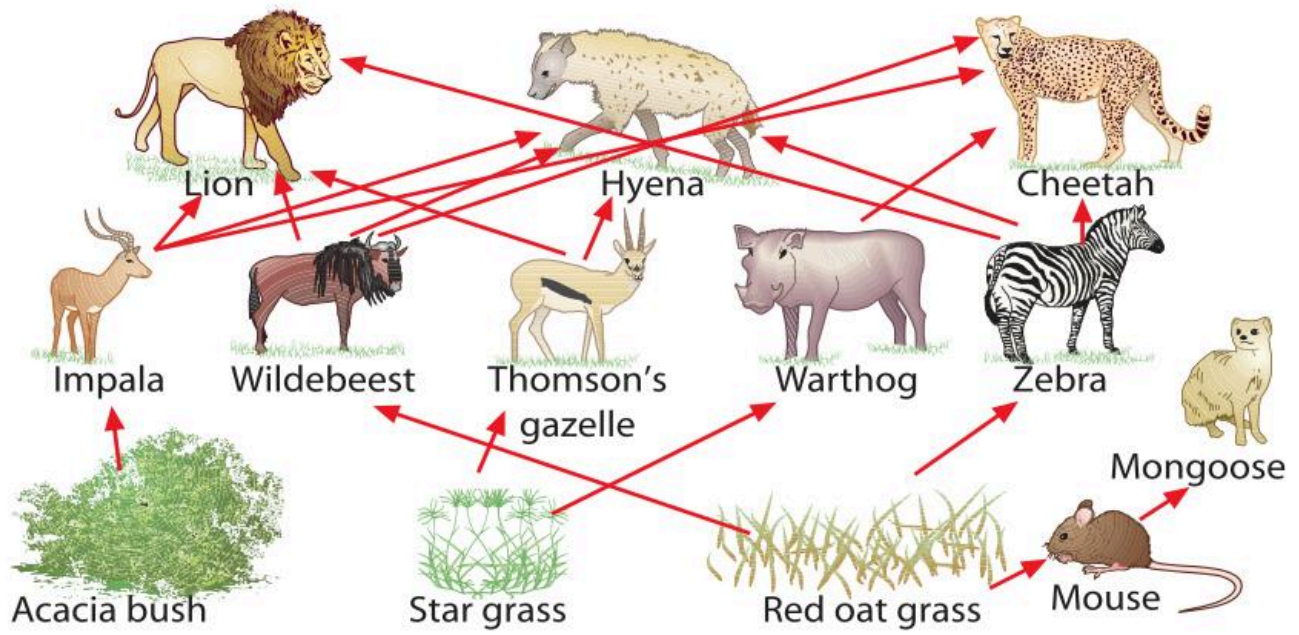
1. **agent:** something that produces an effect
 2. **azure:** brilliant blue
 3. **bombardier:** a member of a bomber crew who releases the bombs
 4. **duress:** pressure or constraint
 5. **glean:** to gather information about
 6. **mutualistic:** having a relationship beneficial to both organisms
 7. **parasites:** organisms that derive nutrients at another organism's expense
 8. **patsies:** those who are taken advantage of
 9. **pungent:** sharp smelling
-

Summarizing Informational Text

Analyze Complex Ideas

Some informational texts explore the interactions between or among two or more people, things, ideas, or events. To show readers those complex relationships, the author must provide evidence that clearly indicates their connections, using words and text structure that clarify the interactions.

In scientific writing, such interactions are important when text describes ecosystems or food chains. Sometimes the interactions are simple and linear, but other times, they are quite complex, as in this food web diagram.



Source: Oxford Designers & Illustrators Ltd. Pearson Education Ltd

Watch this video, in which a student explains the complex interactions of three species as developed over the course of an informational text.

Video cannot be displayed on Print Preview

Peer Model Video Transcript

Question

In what way are the interactions described more complex than a simple food web?

Reveal Answer

Sample answer: The interactions don't just show who eats whom; they show how different species use chemicals to attract or repel other species.

As you read “The Ant, the Butterfly and Their Chemical Warfare With the Oregano Plant,” think about how the author helps you visualize the relationships among the three species. Write your interpretations of those interactions in your Reading Log.

Check-In

Read the excerpt from “The Ant, the Butterfly and Their Chemical Warfare With the Oregano Plant.” Then answer the questions to show how the species interact.

Question 1

How does the author demonstrate that the Large Blue caterpillars are not a dangerous menace to the oregano plant?

Reveal Answer

Sample answer: The author points out that they only gain 1 to 2 percent of their body weight from nibbling leaves and that the plant only loses a “small, non-lethal” number of leaves to the caterpillars.

Need a little extra support?

[Get Help Here](#)

Question 2

How does the author demonstrate that the ants are not in lethal danger of being wiped out by the butterflies?

Reveal Answer

Sample answer: The author says that the ants are so invasive that their population is not at risk.

Need a little extra support?

[Get Help Here](#)

Question 3

How does the author demonstrate that the oregano plants assist the butterflies in helping them fight off ant invasions?

Reveal Answer

Sample answer: The author says that the plants give off scents when they fight the ants, and the butterflies use those scents to find ants to eat.

Need a little extra support?

[Get Help Here](#)

Practice

Use the entire text to respond to the activity below.

Activity

Imagine that you are telling a friend what you learned from this text. Use evidence from the beginning, middle, and end of the text to explain how Large Blue butterflies, *Myrmica* ants, and oregano plants interact. End by explaining the author's contention that all of this is "part of a delicate dance that restores balance to the ecosystem."

Reveal Answer

Sample answer: The Large Blue butterfly, the *Myrmica* ant, and the oregano plant have a fascinating relationship. The butterfly larvae produce a scent that makes the ants think they are ants, too, which gives the larvae access to the ant nest, where the larvae feed on ant grubs.

Finding the *Myrmica* ants is a matter of finding their oregano hosts. When any ants make nests among oregano, the oregano makes a chemical agent that tries to kill the ants. *Myrmica* ants, unlike other ants, are immune to that chemical. The butterflies sense the chemical and head for those plants, knowing that their prey will be there. They want *Myrmica* ants instead of other ants, because other ants are much more likely to eat their larvae than vice versa.

The interaction among the three species balances out because the butterflies save the oregano roots from ants while not destroying all ants in the process.

Meanwhile, the oregano provides a place for both ants and butterflies to feed, and the butterflies do not damage it severely.

How Did I Do?

Assess your response to the Practice activity by completing this checklist. If necessary, go back and revise your work.

1. _____ I used specific information from the beginning, middle, and end of the text to analyze the interaction among three species.
 2. _____ I included facts about the relationships between each pair of organisms.
 3. _____ I explained how the interactions might be considered acts that restore balance to the ecosystem.
-

Objective

Objective

In this section, you will analyze a sequence of events by explaining how specific individuals, ideas, or events interact and develop over the course of the text.

Summarizing Informational Text

Reading complex text demonstrably improves your mind in that it increases your comprehension, grows your vocabulary, and expands your knowledge. Science has shown, though, that not only does reading improve your mind, but it also affects your brain in positive ways, strengthening networks, building white matter, and preventing cognitive decline in old age. You may want to think of challenging reading material as vitamins for your brain!

Read Strategically

When a scientific text alludes to concepts that you do not fully understand, it is up to you to decide whether (1) the text contains enough context to clarify the concepts, (2) you can disregard the difficult concepts and still understand the text, or (3) you could benefit from some outside research.

“The Ant, the Butterfly and Their Chemical Warfare With the Oregano Plant” mentions two interactions between species: *mutualism* and *parasitism*. Along with *commensalism* (and sometimes predation and competition are included as well), those are relationships that scientists classify as *symbiosis*—the interactions between organisms. Review these photos and captions to see examples of each.



Oxpeckers pull ticks off water buffalo in a display of **MUTUALISM**. The ox provides food for the birds, and the birds help the ox.

Source: oohwhoadesign.
Shutterstock



Mosquitoes and their prey are an example of **PARASITISM**. The mosquito gains, but the host is harmed.

Source: Mircea Costina.
Shutterstock



Orchids get nutrition and water from decaying matter on a host tree in an example of **COMMENSALISM**. The orchid gains, and the tree is neither helped nor harmed.

Source: Kate Ivanova.
Shutterstock

Take Notes as You Read

Apply what you learned from the photos shown in Read Strategically to your reading of “The Ant, the Butterfly and Their Chemical Warfare With the Oregano Plant” to confirm your enhanced understanding of mutualism and parasitism. Record any new observations in your Reading Log.

Useful Vocabulary

1. **agent:** something that produces an effect
 2. **bombardier:** a member of a bomber crew who releases the bombs
 3. **mutualistic:** having a relationship beneficial to both organisms
 4. **parasites:** organisms that derive nutrients at another organism's expense
 5. **patsies:** those who are taken advantage of
-

Summarizing Informational Text

Analyze Sequences of Events

Some informational texts explore the interactions between or among two or more people, things, ideas, or events. These interactions may take place in chronological order across a linear sequence of events. The author typically provides evidence that clearly indicates the connections and relationships among individuals, ideas, or events.

Even when the overall text structure of an informational text is not sequential, certain events may be presented in chronological order. The reader may rely on dates or transition words to reassemble those events and determine how they interrelate.

Watch the flipbook to see how individuals and events may interact during a sequence of events in a scientific study.

Video cannot be displayed on Print Preview

Question 1

How would you describe or define the interaction between Dr. Bock and W. T. Grant?

Reveal Answer

Sample answer: Grant helped to fund Bock's research.

Question 2

How would you describe or define the interaction between Dr. Bock and Dr. Vaillant?

Reveal Answer

Sample answer: Dr. Vaillant brought in new people to add diversity to Dr. Bock's study.

As you read "The Ant, the Butterfly and Their Chemical Warfare With the Oregano Plant," consider the sequence of events that comprised Thomas's and Barbero's research studies. If you wish, construct a brief timeline in your Reading Log so that you can analyze the events in order.

Check-In

Reread the excerpt from “The Ant, the Butterfly and Their Chemical Warfare With the Oregano Plant” and answer the questions to show the sequence of events that make up Barbero's first experiment.

Question 1

What was the goal of the initial experiment?

Reveal Answer

Sample answer: The goal was to determine how the butterflies locate the ants.

Need a little extra support?

[Get Help Here](#)

Question 2

What did the scientists already know about the butterflies' behavior?

Reveal Answer

Sample answer: They knew that the butterflies neither spotted the ants from above nor followed a chemical trail left by the ants.

Need a little extra support?

[Get Help Here](#)

Question 3

What did the scientists already know about the plants' behavior?

Reveal Answer

Sample answer: They knew that the plant could produce chemicals to ward off invaders.

Need a little extra support?

[Get Help Here](#)

Question 4

What experimental process did Barbero use to gather information that would answer her research question?

Reveal Answer

Sample answer: She grew oregano in terrariums with *Myrmica* ants and collected chemical scents from the plants.

Need a little extra support?

[Get Help Here](#)

Question 5

What was the result of this initial experiment?

Reveal Answer

Sample answer: The plants with *Myrmica* ants produced twice as much carvacrol as plants without *Myrmica* ants.

Need a little extra support?

[Get Help Here](#)

Practice

Refer to the text as necessary as you respond to the activity.

Activity

To receive funding for their projects, scientists often are required to defend their research to a committee or in an application. Imagine that you are ecologist Jeremy Thomas or entomologist Francesca Barbero. In a brief speech to be delivered to a committee, defend the importance and significance of your research using your analysis of discoveries into the Large Blue butterfly and its interactions with ants and oregano plants. Use language that is likely to persuade your audience.

Reveal Answer

Sample answer: Our research has clarified an unusual relationship among three species—the Large Blue butterfly, the *Myrmica* ant, and the oregano plant. While observation has long told us that these ant-loving butterflies have larvae that feed on ants that are found in nests near oregano roots, until we determined the chemical attractants that enabled this to happen, no one knew just how these relationships overlapped.

What we discovered is that not only do oregano plants produce chemicals that harm most ants, but also *Myrmica* ants have developed an immunity to those chemicals. For that reason, Large Blue butterflies who sense that chemical can be relatively sure to find active *Myrmica* nests. The oregano is thus attracting butterflies as part of an indirect defense strategy.

Perhaps even more astonishing is the chemical that the Large Blue caterpillars produce, one that fools the ants into accepting the caterpillars into their nests. By studying these chemical interactions and their evolution over time, we have managed to unravel a mystery of nature. It opens the way to further study on chemical interactions among species.

How Did I Do?

Assess your response to the Practice activity by completing this checklist. If necessary, go back and revise your work.

1. _____ I wrote a brief speech defending a series of scientific discoveries.
 2. _____ I reviewed the interactions among species in the research studies.
 3. _____ I explained the significance of the study in my own words.
 4. _____ I used language designed to influence and convince my audience.
-

Objective and Key Words

Objective

In this section, you will provide an objective summary of an informational text.

Key Words

- **central idea** – the most important idea in a text; the key point the author wants to communicate
 - **details** – facts, statements, and examples that add information
 - **objective** – dealing with facts rather than personal feelings or opinions
 - **paraphrasing** – expressing the meaning of a text in one's own words
 - **summarize** – to give a brief statement of the main points of a text
 - **summary** – a brief statement of the main points of a text
 - **topic** – the general subject of a text
-

Summarizing Informational Text

Our brains function somewhat as complex file cabinets, with information managed and stored, preferably in some kind of logical order. As we accumulate more and more information through reading and learning, we need to find sensible ways to incorporate that information into what we already know without overwhelming our “filing system.”



Source: gualtiero boffi. Shutterstock

Read Strategically

As you read informational text about a particular topic, you may find that you need to reassess what you thought you knew. Here is an example of that reassessment in action.

Gabe read “The Ant, the Butterfly and Their Chemical Warfare With the Oregano Plant.” Read what he has to say after reading the text:

- I thought that butterflies were basically vegetarian since they flutter from plant to plant and sip nectar and pollinate other plants.
- I knew that caterpillars turned into butterflies, but I never thought much about what caterpillars eat other than plants.
- After reading, I now know that caterpillars may eat leaves, but they may also eat grubs, meaning that they are omnivores.

Gabe’s new knowledge does not sit alongside his old knowledge; it supersedes it. He no longer thinks that butterflies are vegetarian, because he knows that their larvae may be omnivorous.

Take Notes as You Read

As you read “The Ant, the Butterfly and Their Chemical Warfare With the Oregano Plant,” take notes in your Reading Log about any new facts and information that supersede and replace old knowledge you had about the topics in the text.

Useful Vocabulary

1. **agent:** something that produces an effect
 2. **azure:** brilliant blue
 3. **bombardier:** a member of a bomber crew who releases the bombs
 4. **duress:** pressure or constraint
 5. **glean:** to gather information about
 6. **mutualistic:** having a relationship beneficial to both organisms
 7. **parasites:** organisms that derive nutrients at another organism's expense
 8. **patsies:** those who are taken advantage of
 9. **pungent:** sharp smelling
-

Summarizing Informational Text

Write a Summary

The purpose of a summary is to give the reader a brief, objective overview of a longer text. An effective summary answers the following questions: “What is the central idea of the text?” and “What are the important details that support that central idea?” We may summarize a text to make it easier to remember, as in notes for an exam, or to interest another reader in reading the text, as in a book review.

An effective summary uses paraphrasing rather than direct quotations, and it omits details that are interesting but not vital to the central idea.

To summarize a scientific article, provide enough context for the results of an experiment to explain why the experiment took place and why it is important. Depending on the length of the original text, a summary may be anywhere from a sentence to several paragraphs long.

Read this paragraph from “The Ant, Butterfly, and the Oregano Plant.”

Now, read the summary.

The Large Blue butterfly helps to balance its ecosystem by saving oregano plants from the *Myrmica* ants that damage their roots.

Notice that the summary is objective and includes the most important information from the paragraph, restated in the person’s own words.

Question

What interesting but inessential details did the summary omit?

Reveal Answer

Sample answer: It omitted the description of the butterfly as azure-winged and fragile, and it omitted the idea that it is a bombardier aiming at ants' nests.

As you reread “The Ant, Butterfly, and the Oregano Plant,” think about which facts and details would rate inclusion in a summary. Take notes in your Reading Log.

Check-In

Reread these paragraphs of text from “The Ant, Butterfly, and the Oregano Plant,” and complete the activities that follow.

Activity 1

Record details from the excerpt as “Essential” or “Nonessential” on this graphic organizer.



T-Chart Answers

Need a little extra support?

Get Help Here

Activity 2

Use your T-chart from Activity 1 to write a two- or three-sentence summary of the excerpt.

Reveal Answer

Sample answer: Large Blue butterfly caterpillars fool *Myrmica* ants with their scent, leading the ants to carry the caterpillars into the ants' nest. Once there, the caterpillars eat ant grubs for 11 months, eventually destroying the nest.

Need a little extra support?

Get Help Here

Practice

Refer to the entire text as you complete the activity below.

Activity

Imagine that your purpose is to explain to another student the “chemical warfare” that oregano plants and caterpillars use to battle ants. Summarize the text in a few sentences to show what the scientists learned about this three-way interaction.

Reveal Answer

Sample answer: The scientists observed that oregano plants seemed to attract Big Blue butterflies, which in turn saved the plants by feeding on the ants that damaged their roots. They discovered that the plants used a chemical that killed some ants but also attracted the pregnant butterflies. When the butterflies’ eggs hatched, the caterpillars used a different chemical to convince the ants to welcome them into the nest, where the caterpillars soon consumed the ants’ grubs, thus protecting the plant from damage.

How Did I Do?

Assess your response to the Practice activity by completing this checklist. If necessary, go back and revise your work.

1. _____ I wrote a brief summary that explains the chemical warfare used to battle ants.
 2. _____ I wrote sentences including essential details from the text in an order that made sense.
 3. _____ I kept my summary objective and used my own words to summarize ideas.
-

Studying Informational Text Apply

Unit Reading Information

In this unit, you will read *The Journey of Crazy Horse: A Lakota History* unless otherwise directed by your teacher.

Select the links to access the text and reading log.

The Journey of Crazy Horse: A Lakota History



Reading Log: The Journey of Crazy Horse: A Lakota History

Studying Informational Text: Apply

Objective

In this section, you will apply skills learned throughout the unit.

Show What You Know

In this unit, you have focused on skills and strategies necessary to comprehend and analyze informational texts by implementing these learning goals:

- Provide strong and thorough textual evidence to support analysis of explicit meanings and inferences drawn from an informational text, including where the text leaves matters uncertain.
- Use context and common grade-appropriate morphological elements to determine the meaning of a word or phrase.
- Verify the preliminary determination of the meaning of a word or phrase, or use general and specialized reference materials to find a word's pronunciation or determine or verify its part of speech or its etymology.
- Provide a statement of the meaning of words or phrases as they are used in an informational text, including how meaning is refined over the course of a text or how specific word choices impact the overall meaning and tone of the text.
- Determine the central ideas of an informational text and analyze how the central idea emerges, is shaped, and refined by specific details.
- Evaluate the effectiveness of the structure an author uses in expository and argumentative text.

- Analyze a complex set of ideas and sequence of events by explaining how specific individuals, ideas, or events interact and develop over the course of the text.
- Provide an objective summary of an informational text.

Now you will have an opportunity to show what you have accomplished and apply your learning to the unit text, *The Journey of Crazy Horse*. If you haven't already done so, take time now to finish reading the text.

Then, spend a few minutes discussing your reading with your Learning Coach, using these questions as a guide. Notice that the questions are open-ended; there are no “correct” answers—but they will help you to focus on the text as you get ready to apply the learning goals you have mastered in this unit.



Source: turtix / Shutterstock

- Explain to your Learning Coach how reading *The Journey of Crazy Horse* helped you understand an issue from an Indigenous perspective that is potentially very different from your own. Use details from the text to support your ideas.
- Describe how Marshall's use of language affected your understanding of Crazy Horse's life and westward expansion's effect on Indigenous people. Choose examples of language that you considered especially effective, explaining why the language was effective and what it conveyed.

- Choose one part (The Early Years, The Rites of Passage, The Warrior Leader, and The Road to Camp Robinson) that particularly affected you, and in your own words, explain why it was so effective and how it may have given you a different understanding of the world.

Finally, review your notes and get ready to answer the text-related questions that follow.

Studying Informational Text: Apply

Show What You Know

Assess your application of the learning goals from this unit by answering the questions that follow.

The Journey of Crazy Horse: A Lakota History



Question 1

Explain how you would use your understanding of morphemes to figure out the meaning of *unerring* in paragraph 2 of page 15. Then, use a dictionary to check your guess.

Reveal Answer:

Sample answer: I recognize the base word *err*, which I know is a verb that means to make a mistake. I also see the prefix *un-*, which means not or the opposite of. The suffix *-ing* makes the word an action. This makes me think that when Marshall refers to Crazy Horse's unerring marksmanship, this means he never made a mistake when shooting his bow and arrow. The dictionary definition of *unerring* is "always accurate," so my reasoning was correct.

Question 2

Read the paragraph on page 62 that begins with “The raid had been successful. . . .”

What does Marshall mean when he describes the violence of combat as *unfettered*?

Reveal Answer:

Sample answer: He means that fighters can lose their sense of time and place and become unrestricted in their violence during combat. This is how Light Hair ended up killing a woman during the battle.

Question 3

Read the last sentence of the second paragraph on page 83. Using details from the text, explain how Light Hair/Crazy Horse proved this statement to be true in his life. How did he show humility?

Reveal Answer:

Sample answer: He never boasted of his accomplishments on the battlefield. In chapter 9, even though Light Hair had saved his men during battle, he did not tell any tales of how he did it. It was after this battle that he received the name Crazy Horse. Another example is in chapter 12. Crazy Horse received a staff from his uncle to commemorate his success in battle. But he chose not to carry it or show it off even during special occasions.

Question 4

On page 108, Marshall reflects that the Lakota did not view White settlers as the same type of enemy as other Indigenous enemies such as the Pawnee. This idea is mentioned in other ways throughout the text. Explain what this means.

Reveal Answer:

Sample answer: The Lakota viewed White settlers as enemies because they did not respect Indigenous traditions or the land they relied on. This was different than fighting with the Pawnee, who they believed fought with honor and for reasons the Lakota understood.

Question 5

Read the last paragraph on page 113. Explain why *incursion* is used to describe the expedition of Lewis and Clark from the perspective of Crazy Horse and the Lakota. How is this different from how this journey is usually described in non-Indigenous stories? Use a dictionary if you are unsure of the meaning of *incursion*.

Reveal Answer:

Sample answer: An incursion is usually used to describe when someone or something has forced themselves into a place. From the perspective of Crazy Horse and the Lakota, this is what they felt Lewis and Clark and other White settlers were doing. This is very different from the perspective of many non-Indigenous stories about Lewis and Clark in which they are described as heroes who helped pave the way for westward expansion.

Question 6

In the last paragraph on page 203, why is the word *languishing* used to describe the people living on the agencies? How does this reflect how Crazy Horse felt about their choice to rely on the U.S. government?

Reveal Answer:

Sample answer: *Languishing* means to become weak or ineffective. I think Crazy Horse thought that the people living on agencies were cowardly and weak for doing so. He believed there were too many men able to fight that were not fighting because they relied too much on the U.S. government.

Question 7

On page 185, Marshall reflects on the question of whether leaders are born or created. Using examples from the text, explain if Crazy Horse was born a leader or if the events of his life led him in that direction.

Reveal Answer:

Sample answer: I think it is a combination of both. Like all Lakota boys and young men, he was brought up in a way meant to create great warriors and leaders. Also, Crazy Horse seems to have been humble and courageous from birth. When he was young and was called Light Hair, he never seemed to let it bother him when others made fun of his differences. He was also always willing to take a risk, like when he tried to win the heart of Black Buffalo Woman when his chances were small. But he also had many unique experiences that helped mold him into a legend. From the lessons and prophecies of his visions to his experiences with Long Knives, he learned many lessons that made him humble, strong, courageous, and full of conviction. These were all things that made people want to follow him.

Question 8

Explain how Marshall structures the text and evaluate the effectiveness of the structure in explaining the importance of Crazy Horse and his connection to modern Indigenous cultures and America as a whole.

Reveal Answer:

Sample answer: Marshall tells the story as a narrative in four parts. Each part is a different time in Crazy Horse's life. Within each part, you learn about the traditions and beliefs of the Lakota and how they felt about encroaching European Americans. At the end of each part there is a reflection from Marshall, a modern Lakota man. Within these sections, you get to see Crazy Horse through the eyes of someone who grew up idolizing the man, and the effect his legacy had on his people. You also learn the importance of Crazy Horse's struggle because his tireless fighting allowed Lakota traditions, language, and beliefs to continue today.

Question 9

Write a summary of the events that led to Crazy Horse's death in chapter 20.

Reveal Answer:

Sample Answer: In Chapter 20, Crazy Horse and the Lakota are dealing with the aftermath of the victory at Little Bighorn. It describes the frustration he felt over continued failed peace talks and the fact that too many Lakota had become dependent on the agencies and power given to them by the U.S. government. It also describes his heartbreaking decision to surrender his band of Lakota to an agency at Camp Robinson to save the lives of his people. While his people were camped just north, Crazy Horse entered Camp Robinson and was surrounded by U.S. soldiers and killed at the end of a bayonet.

Self-Assess

Compare your answers to questions 1-9 with the sample answers. If you did well, move on to Try This. If you need more practice or review, use this chart to review the sections mentioned.

Question Missed	Section to Review
1	Word Meaning
2	Word Meaning
3	Central Ideas
4	Developing Ideas
5	Informational Text and Word Choice
6	Informational Text and Word Choice
7	Developing Ideas
8	Central Ideas
9	Summarize Informational Text

Studying Informational Text: Apply

Try This

Activity 1

The Journey of Crazy Horse is not just a story about the man, but a story that teaches the importance of respecting other people's ways of life. In one or two paragraphs explain how Marshall's decision to include details about Lakota traditions and beliefs supports the central ideas of freedom and sovereignty.

Activity 2

One of the underlying themes Marshall explores in *The Journey of Crazy Horse* is the importance of fighting for what you believe in, even when it is difficult. In an essay of 300 to 500 words, analyze how Marshall develops this idea over the course of the text. Consider Crazy Horse's adverse experiences both amongst his people and with White settlers and the U.S. Army. Discuss how his beliefs motivated him and evaluate how these beliefs led him to do courageous things in the face of adversity. Use specific quotations and evidence from the text to support your analysis. Organize your essay clearly and follow the rules of English grammar and punctuation.

Self-Assess

Use the rubric to decide whether your essay for Activity 2 fulfills the standards of ideas/purpose; analysis; organization; comprehension; and grammar, conventions, and spelling.

Studying Informational Text Apply Rubric

Studying Informational Text Review

Unit Review

Today you will review all topics you've learned in this unit and complete a unit online practice. Review the unit introduction and the list of lessons in the course tree to engage with the topics from this unit. Make sure you feel confident about each topic before taking the assessment. If there are any topics that you forget or think you need to practice, go back and review those lessons now.

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Review

Read the information on the page with your student. Guide your student to review the major concepts in each unit by looking at the unit introduction and lessons.

Your student should identify the target concepts where additional practice may be needed before completing the unit's online practice.

Unit Reflect

Write a reflection about your learning in this unit. Your reflection should be at least five sentences in length. Use the following questions as a guide:

- What topics did you find most interesting in this unit?
- What skills or concepts were hard for you?
- What strategies or activities helped you to better understand a concept?
- What do you think you may need more practice with?
- What questions would you like to ask now that you have a better understanding of what you will find on the assessment?

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Reflect

Guide your student to reflect on how well they've mastered the content in the unit. Have your students use the questions provided as a guide for writing a reflection. Help your student to determine the next steps for review based on the responses given for the questions.

Study Tips

Once you have taken the unit online practice, use your results to determine if there are any topics that you need to go back and review. You may find the following approach useful while studying:

1. Review your results on lesson practice activities and assessments from throughout the unit.
2. As you review, make a list of the major concepts found in each lesson.
3. Write a summary of these concepts and place a star next to those you feel you have mastered.
4. Review the concepts that may need a bit more practice using strategies such as summarizing, making flash cards to test yourself, writing sentences with key vocabulary, working out problems or activities, or teaching a concept to a friend or family member. If other study methods work better for you, use those instead.
5. As you become more comfortable with each concept, place a star next to it and move on to the next until you are ready to complete the assessment.

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Study Tips

Read the study tips with your student and help identify what will be most helpful in reviewing the content from the unit. If needed, help your student brainstorm additional study tips that better fit their learning preference.

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Studying Informational Text Unit Test