

20

Compare and contrast how two authors present facts on the same topic

Language Objectives

- Explain how the author uses facts to support an idea or claim.
- Describe how different text structures connect ideas.
- Use parts of speech and affixes to determine the meanings of new words.
- Compare and contrast two texts on the same topic.

Building Literacy

Comparing and contrasting texts will help students move beyond what is stated by an author by:

- generating questions to monitor comprehension.
- identifying information that should be clarified or further explored.
- analyzing how authors interpret facts to strengthen their viewpoints.
- determining whose interests are represented by the author.

Focus on Language

Display the following vocabulary words that students will encounter in these texts. Have students complete a T-chart with columns titled *Nouns* and *Verbs* by listing each vocabulary word in the correct column and writing a related word in the other column, such as *ventilate* (verb) for *ventilation* (noun). (Spanish cognates are in parentheses.)

- ventilation (ventilación)
- inhalation (inhalación)
- improve
- extract (extraer)
- connection (conexión)



ENGLISH LANGUAGE LEARNERS

Show your English learners photographs and video clips related to domain-specific vocabulary and topics encountered in classroom reading. Visual references help students make connections between English vocabulary and familiar words from their native language.



show me

In this lesson, students will compare and contrast a persuasive text about the dangers of mining with an informational text about the history of mining in order to evaluate how authors present different facts on the same topic.

Say: Today, you are going to compare and contrast facts from two texts on the same topic. A fact is a piece of information that can be proved true. It can be verified in other sources. However, different authors may interpret the same fact in different ways in order to support their viewpoint and purpose.

Present students with a simple fact about the community, such as, "Our town was founded in 1835." Assign small groups different claims about the town and ask students to discuss how an author might use the fact to support their claim. For example, someone who believes the town has a rich history might write, "Our town was founded in 1835, and we should be proud to celebrate our heritage." A writer with an opposing viewpoint might say, "Our town was founded in 1835, and our policies are still stuck in the 19th century." Ask for volunteers to share their ideas with the class.



guide me

Use the activity in guide me to help students practice examining how facts can be presented in different ways. Have a student volunteer read aloud the fact and Author 1's interpretation. Point out that the author has paraphrased the fact, or presented the same information his or her own words. He or she has not offered any new opinions.

Then, have student volunteers read the interpretations of Authors 2 and 3 and describe each as positive or negative. Ask students to identify words that reveal the author's viewpoint on mines. (Author 2— positive: "good news"; Author 3— negative: *Unfortunately*)

Finally, have partners work together to answer the questions. (all of them, Author 3)

20

Compare and contrast how two authors present facts on the same topic

show me

What are some ways to present facts?

guide me

example

Read the fact and the three different ways authors presented it. Then answer the questions.

Fact	In the United States, there were 1,435 active coal mines in 2008 and 671 active coal mines in 2017.
Author 1	The number of active U.S. coal mines in 2017 was about half of what it was in 2008.
Author 2	The good news is that the U.S. had fewer coal mines in 2017 than it did in 2008.
Author 3	Unfortunately, as of 2017, there were still 671 coal mines that remain active.

Which author or authors are correct? all of them

Which author presented the fact negatively? Author 3

COMPARING TEXTS 77

VISUAL LITERACY

Visual learners and struggling readers can use graphics as an entry point to new texts. Explain that the photograph on page 77 is related to the topic of the texts students will read. Have students work in small groups to discuss what the photograph shows and predict what the texts are about. Ask volunteers to share their ideas with the class.



work time

Introduce Vocabulary Write the following vocabulary words on the board: **ventilation, inhalation, improve**. Point out the cognates for *ventilation* and *inhalation*. Then, have students write out the words and circle any affixes they recognize, such as *-tion*, *in-*, and *im-*. Discuss how word parts can give clues about the word's meaning.

Read—Pause—Discuss Use the following interactive strategy to promote a strategic reading of the text.

Have student pairs take turns reading “The Mining Debate” aloud. After each student reads two paragraphs, have him or her pause to ask his or her partner questions about what they just read. Have them continue this process until they finish reading.

Analyze Author's Craft and Style: Loaded Words Have a student volunteer read the introduction aloud, then point out the author's claim that coal mining is a dangerous profession. Discuss that the author uses **loaded words**, such as “take their toll,” to emphasize negative ideas about mining.

Then, have partners review paragraphs 2 through 5 and identify other negative words and phrases (“serious health problems,” “noxious chemicals,” “especially hazardous,” “extreme heat conditions,” “wipes out the plants,” “drives away animals,” “toxic chemicals,” “sicken and kill”). Prompt them to discuss how the language might affect readers' emotions and change their views about mining.

check for understanding by having students complete the analogy. (Quartz dust is to silicosis as high temperatures are to high blood pressure.)

work time

The Mining Debate

by Kristin Cashore

- 1 The mining of coal and other minerals is a dangerous profession. Mining deaths still make up the majority of work-related deaths in the United States. Falling rocks, collapsing tunnels, fires, and other dangers still take their toll on miners in our nation and worldwide.
 - 2 Mining often involves cutting and drilling through rock and metal, creating dust that can result in serious health problems. Sometimes, the cutting and drilling also releases noxious chemicals into the air, which is especially hazardous in an underground tunnel where proper ventilation is needed to keep the air clean and fresh.
 - 3 Many miners around the world have gotten sick from breathing coal dust. Other miners have become ill from breathing quartz dust, which can cause a lung disease called silicosis. Miners of gold, lead, zinc, iron, and copper are particularly at risk for silicosis. In the history of mining, many miners have died young due to dust inhalation.
 - 4 Air quality is not the only problem. Some gold mines in South Africa, for example, are so deep underground that the temperatures are very high. Miners working under these extreme heat conditions are at risk for high blood pressure.
 - 5 Finally, mining also changes the environment. For example, a forest may be leveled to make way for a mine, which wipes out the plants and drives away animals that once lived in the forest. Some types of mining require the use of toxic chemicals such as cyanide or mercury. If these chemicals are released into the water, they can sicken or kill people and other living things that use this water.
 - 6 However, we can improve mining practices and pass laws and stringent regulations to protect miners. We can educate people about the hazards of toxic materials. We can also encourage mining companies to avoid releasing toxic substances into the environment and to support and protect ecosystems near the mines.
 - 7 All over the world, people are working to improve mining, and this is a struggle in which we all have a part to play.
- check for understanding** Complete the analogy: Quartz dust is to silicosis as high temperatures are to _____.

CRITICAL LITERACY

One way to help students think critically is to question which details are missing from the text. For example, the author generally describes the negative effects of mining on workers and the environment, but she does not provide specific statistics, data, or case studies that could be verified in other sources.

Ask students to discuss why the author may have left out this kind of supporting evidence and how the readers' viewpoint toward mining might change if this information were included.

**work time**

Introduce Vocabulary Write the following vocabulary words on the board and point out their Spanish cognates: **extract**, **connection**. Then, have students act out the meaning of each word.

Read—Pause—Bookmark Use the following interactive strategy to promote a strategic reading of the text.

Have student pairs take turns reading “Riches from Our Earth” aloud. After each student reads two paragraphs, have him or her complete a bookmark about what was just read.

On the board, write a few ideas that students can use for each bookmark:

- words or phrases that indicate the author’s viewpoint
- an unfamiliar or confusing idea
- something they want to know more about
- a connection to “The Mining Debate”

Analyze Author’s Craft and Style: Text Structure

Though an author may choose a main structure to use in organizing their text, they may also use additional structures to connect ideas within paragraphs or sections. For example, ask a student volunteer read aloud paragraph 2, and point out that this paragraph uses a **problem-and-solution structure**. Have students identify the problem (“minerals were scarce and hard to extract”) and solution (“building great bonfires inside the mine”).

Explain that the author then presents another problem that this solution caused: “heat and fumes were dangerous and uncomfortable.” Ask a student volunteer to identify the solution to this problem in paragraph 4 (“air shafts”).

Then, have partners look for other text structures in paragraphs 4 (**compare and contrast**) and 5 (**sequence**). Ask volunteers to share their findings and explain how these structures help the author present factual details that support his or her claims.

check for understanding by having students explain why the author included facts about air shafts. (The author included facts about air shafts to show how steps were taken to improve the safety and health of miners.)

Compare and contrast how two authors
present facts on the same topic **20**

work time

Riches from Our Earth
by C. Truman Rogers

1 People have used rock and the minerals found in them since ancient times. The ancient Romans, for example, learned to exploit valuable minerals, such as gold and silver, whenever they could find them. The wealth of the Roman empire was built by trading tin, copper, gold, silver and other minerals.

2 Often, minerals were scarce and hard to extract, but the Romans overcame this problem by building great bonfires inside the mine. The intense heat, melted the gold or silver within the rock, making it easier to collect. For the workers in the mines, however, the heat and fumes were dangerous and uncomfortable.

3 One solution the Romans devised to offset this problem was to install air shafts. The air shafts went deep into the mines, bringing in fresh air so that the workers would not choke or become overheated.

4 Today we have surface mines and deep, underground mines much like the Roman mines. Surface mines are used to extract minerals that lie close

to Earth’s surface, such as copper. Underground mines are generally for extracting precious metals, such as gold and silver, or nonmetallic minerals, such as diamonds.

5 Modern mines and processes are similar to those used in ancient mines, but today power-driven machinery extracts and transports ore. For example, the extraction of copper ore begins when holes are drilled into rock, which is then blasted with explosives. Next, huge mechanical shovels pick up the ore and load it into trucks that are taken to another part of the mine. There, the ore is crushed and exposed to chemicals that remove the copper. The copper is then melted and piped to a facility where it is made into pure copper. Gold and silver are also extracted from ore and made into bars.

6 There’s a sense of mystery around minerals, perhaps because they are hidden deep within the Earth. Perhaps we also feel a historical connection to the generations of people who mined the planet long before our time.

check for understanding Why did the author include facts about air shafts?

COMPARING TEXTS **79**

VISUAL LITERACY

Monitor students’ understanding after reading by having them draw the part of the text they find most interesting. Then, have them share their drawings with their classmates. Drawing activities engage visual learners while providing evidence of reading comprehension.

➞

check for understanding

Analyze Author’s Craft and Style Have students work with a partner to answer the **check for understanding** questions.

If students struggle to understand how a text represents a particular interest, use a Think Aloud to model how a critical thinker would approach the text.

Think Aloud I know that persuasive texts are written to persuade readers to agree with the author’s viewpoint. To figure out whose interest the author supports, I look for details that reveal the author’s viewpoint in “The Mining Debate.” She calls mining “a dangerous profession” and wants to “improve mining practices...to protect miners.” She also wants mining companies to “avoid releasing toxic substances into the environment.” So, I think she is writing to protect both mine workers and the environment.

Interpreting Facts Remind students that authors use facts to support their personal viewpoints, so they may choose to explain the fact in a positive or negative way.

To help students complete the matching activity, have them to scan the text for one phrase from the right column at a time. Encourage students to underline each phrase as they encounter it in the text, noting which fact it describes. Then have them write the letter of the phrase next to its related fact.

➞

reflect

Have students work in pairs to discuss why facts about modern methods are included in “Riches from Our Earth” but not “The Mining Debate.” Remind students to cite text evidence to support their opinions about the author’s decisions.

20 Compare and contrast how two authors present facts on the same topic

➞ check for understanding

1

Whose interest does “The Mining Debate” support? Explain using details from the text.

Possible response: It supports the miners and the environment. For example, miners experience work-related deaths and health problems.

2

How does each text provide information that is missing from the other text?

Possible response: “The Mining Debate” focuses on mining dangers, while “Riches from Our Earth” discusses the mining history and methods.

3

How do the body paragraphs of “The Mining Debate” contribute to the author’s development of ideas?

Possible response: Paragraphs about air quality, temperatures, and environmental impact develop the claim that mining practices need to improve.

4

How do the facts about ancient Rome and different types of mines support the author’s purpose in “Riches from Our Earth”?

Possible response: The facts give unbiased information about the history of mining and the purposes of mines today.

5

Match each fact from “The Mining Debate” with the phrase the author uses to interpret the fact.

B

Mines have high temperatures.

A

“especially hazardous”

C

Mines change the environment.

B

“at risk for high blood pressure”

A

Mines have noxious chemicals.

C

“drives away animals”

➞ reflect

With a partner, discuss why facts about modern methods were included in “Riches from Our Earth” but not included in the “The Mining Debate.”

80 COMPARING TEXTS

CRITICAL LITERACY

Students become good critical thinkers when they are able to look beyond the words on a page in order to examine the author’s decisions to include or exclude certain information.

Have students practice thinking critically by reflecting on these questions after reading “Riches from Our Earth”:

- Why does the author most likely leave out details about the dangers of modern mining?
- Which parts of the text would benefit from diagrams, photographs, or illustrations to clarify details?
- Why does the author focus on the Romans and not miners from other ancient cultures?

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➤ show me

What are some ways to present facts?

➤ guide me

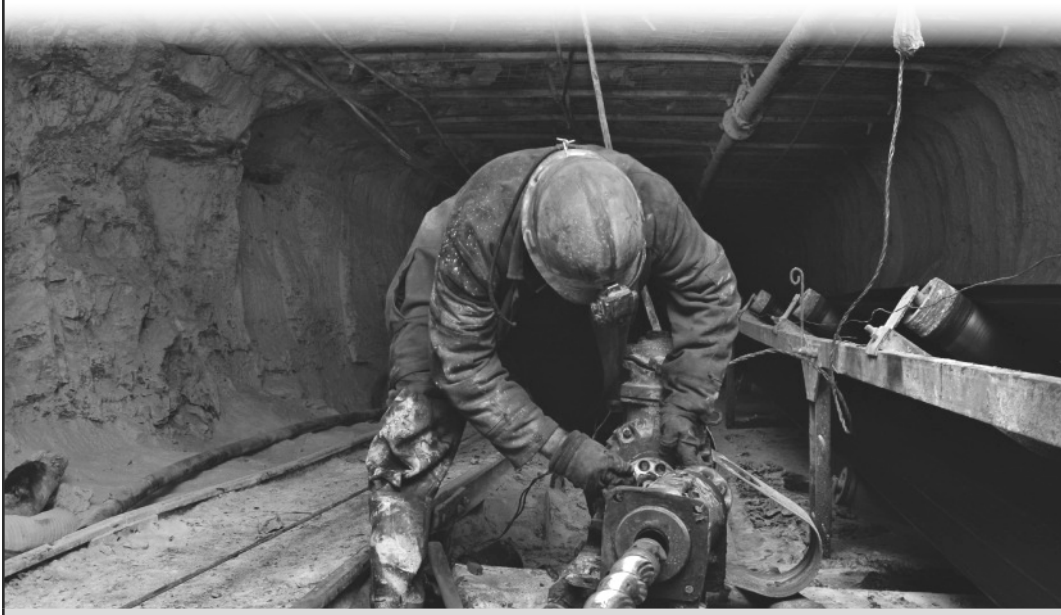
example

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Which author or authors are correct? _____

Which author presented the fact negatively? _____



work time

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- 6 However, we can improve mining practices and pass laws and stringent regulations to protect miners. We can educate people about the hazards of toxic materials. We can also encourage mining companies to avoid releasing toxic substances into the environment and to support and protect ecosystems near the mines.
- 7 All over the world, people are working to improve mining, and this is a struggle in which we all have a part to play.

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➤ **check for understanding** Complete the analogy: Quartz dust is to silicosis as high temperatures are to _____.

➤ **work time**

Riches from Our Earth

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- 3 One solution the Romans devised to offset this problem was to install air shafts. The air shafts went deep into the mines, bringing in fresh air so that the workers would not choke or become overheated.
- 4 Today we have surface mines and deep, underground mines much like the Roman mines. Surface mines are used to extract minerals that lie close to Earth's surface, such as copper. Underground mines are generally for extracting precious metals, such as gold and silver, or nonmetallic minerals, such as diamonds.
- 5 Modern mines and processes are similar to those used in ancient mines, but today power-driven machinery extracts and transports ore. For example, the extraction of copper ore begins when holes are drilled into rock, which is then blasted with explosives. Next, huge mechanical shovels pick up the ore and load it into trucks that are taken to another part of the mine. There, the ore is crushed and exposed to chemicals that remove the copper. The copper is then melted and piped to a facility where it is made into pure copper. Gold and silver are also extracted from ore and made into bars.
- 6 There's a sense of mystery around minerals, perhaps because they are hidden deep within the Earth. Perhaps we also feel a historical connection to the generations of people who mined the planet long before our time.

➤ **check for understanding** Why did the author include facts about air shafts?

➞ check for understanding

- 1 Whose interest does “The Mining Debate” support? Explain using details from the text.
- 2 How does each text provide information that is missing from the other text?
- 3 How do the body paragraphs of “The Mining Debate” contribute to the author’s development of ideas?
- 4 How do the facts about ancient Rome and different types of mines support the author’s purpose in “Riches from Our Earth”?
- 5 Match each fact from “The Mining Debate” with the phrase the author uses to interpret the fact.

___ Mines have high temperatures.	A “especially hazardous”
___ Mines change the environment.	B “at risk for high blood pressure”
___ Mines have noxious chemicals.	C “drives away animals”

➞ reflect

With a partner, discuss why facts about modern methods were included in “Riches from Our Earth” but not included in the “The Mining Debate.”