

Grade	4
Unit/Domain	Geology: This Rock You're Standing On
Copyright	Original
reference art	<a href="https://pinalgeologymuseum.org/glossary/fossil-reef/#:~:text=A%20fossil%20reef%20is%20a,the%20history%20of%20Earth's%20oceans.">https://pinalgeologymuseum.org/glossary/fossil-reef/#:~:text=A%20fossil%20reef%20is%20a,the%20history%20of%20Earth's%20oceans.</a> <a href="https://www.nps.gov/articles/nps-geodiversity-atlas-guadalupe-mountains-national-park-texas.htm#:~:text=Geologic%20Features%20and%20Processes,fossil%20sequences%20in%20the%20world.">https://www.nps.gov/articles/nps-geodiversity-atlas-guadalupe-mountains-national-park-texas.htm#:~:text=Geologic%20Features%20and%20Processes,fossil%20sequences%20in%20the%20world.</a> <a href="https://www.nps.gov/thingstodo/gumo_hike_guadalupe_peak.htm">https://www.nps.gov/thingstodo/gumo_hike_guadalupe_peak.htm</a> <a href="https://www.nps.gov/gumo/learn/nature/geologicformations.htm">https://www.nps.gov/gumo/learn/nature/geologicformations.htm</a> <a href="https://www.alamy.com/interpretive-exhibit-explaining-distant-past-of-carlsbad-caverns-national-park-new-mexico-usa-image418515009.html?imageid=FFF60C6C-60CC-40A1-A22F-C5552DA8C96E&amp;p=178375&amp;pn=1&amp;searchId=f8966800a665b2ef1cdfdc76076e1a6c&amp;searchtype=0">https://www.alamy.com/interpretive-exhibit-explaining-distant-past-of-carlsbad-caverns-national-park-new-mexico-usa-image418515009.html?imageid=FFF60C6C-60CC-40A1-A22F-C5552DA8C96E&amp;p=178375&amp;pn=1&amp;searchId=f8966800a665b2ef1cdfdc76076e1a6c&amp;searchtype=0</a> <a href="https://www.shutterstock.com/image-photo/female-hiker-on-guadalupe-peak-trail-2263734997">https://www.shutterstock.com/image-photo/female-hiker-on-guadalupe-peak-trail-2263734997</a>
Lexile/Average Grade Level	Unavailable at this time
Flesch Kincaid	7.1
Word Count	418
Title	Guadalupe Peak
Author	OER K-5 RLA



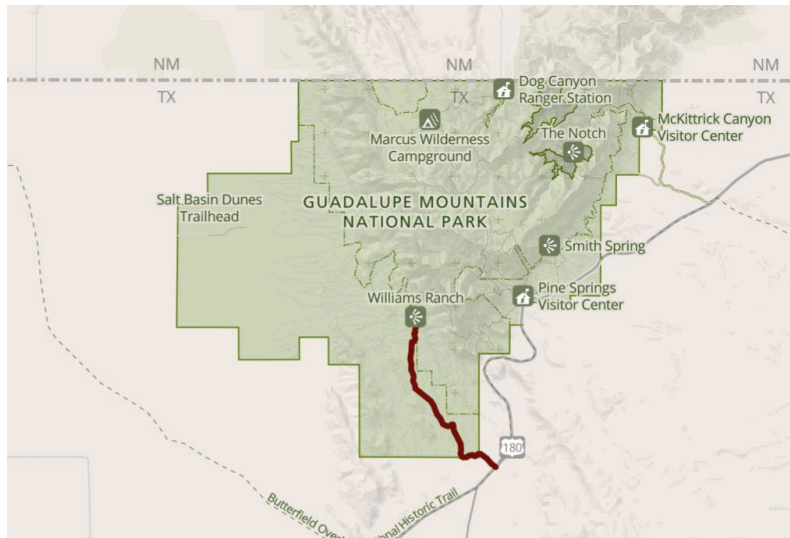
[Landscape Nature Mountain - Free photo on Pixabay - Pixabay](#)

Caption: Guadalupe Mountain Range

### **Guadalupe Peak**

(1) The highest point in Texas, Guadalupe Peak, is located in far West Texas and is part of the Guadalupe Mountain range. Hiking up the peak includes a 3,000-foot elevation gain. The view from the top stretches out for miles and miles and includes both high deserts and high elevation forests. But the views are just one reason people visit the area. Scientists from around the world come to Guadalupe Peak and the surrounding mountains to study the geologic features found there.

(2) The rocks that make up Guadalupe Peak were once underwater. In fact, the Guadalupe Mountains are home to the most exceptional example of an ancient fossil reef in the world. A fossil reef is a special geological formation. It was once a living reef underwater. A fossilized reef has been preserved in rock and provides a record of the life that existed when the reef was living. Scientists can also study this reef to learn about sea levels in ancient times. Fossil reefs even provide clues about the Earth's oceans.



[Maps - Guadalupe Mountains National Park \(U.S. National Park Service\) \(nps.gov\)](https://www.nps.gov/guadalupe-mtains/)

Caption: Map of Guadalupe Mountains National Park

(3) By studying the Guadalupe Mountains and the surrounding area, scientists have learned that there was once an inland sea there. This inland sea, the Delaware Sea, covered about 10,000 square miles of Texas and New Mexico. It was surrounded by a reef now called the Capitan Reef. As the environment changed, the inland sea was cut off from the ocean, and the water in the sea began to evaporate. More water left than water came into the sea. As the water evaporated, minerals were deposited on the sea floor. Over time, the ocean basin filled. The reef was covered up and the sea disappeared.

(4) After the sea vanished, the area experienced tectonic activity. During this time, part of the land was pushed up. Faults pushed the reef and the surrounding rock several thousand feet above the original sea floor. Guadalupe Peak is a part of that reef that rose up. Softer rock sediments that filled in the sea eroded away. The desert that can be seen today from the top of the peak is part of the sea that had been buried.

(5) Other parts of the reef were pushed up in other parts of Texas and New Mexico. A cavern in New Mexico is also part of the reef system. Scientists continue to study the fossils found on Guadalupe Peak and the entire reef system. They learn more about the geology of the area and more about our Texas geologic history.

<b>Item #</b>	1
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology: This Rock You're Standing On
<b>TEKS</b>	TEKS 4.9.D.i Multiple genres: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student recognizes and analyzes genre-specific characteristics, structures, and purposes within and across increasingly complex traditional, contemporary, classical, and diverse texts. The student is expected to: (D) recognize characteristics and structures of informational text, including: (i) the central idea with supporting evidence.
<b>Objective</b>	Students will determine the central idea.
<b>DOK Level</b>	2
<b>Question Type</b>	Multiple Choice

#### PASSAGE

<b>Element</b>	<b>Value</b>
passage_link	
passage_title	Guadalupe Peak

#### QUESTION

<b>Element</b>	<b>Value</b>
stimulus	Refer to the passage, "Guadalupe Peak."
question_stem	Which sentence states the central idea of paragraphs 2-3?
prompt	<i>Select the <b>best</b> answer.</i>
randomize_answer_choices	yes
answer_a	The fossil reef in the Guadalupe Mountains provides valuable information to scientists about the history of Earth's oceans and the geological features of the area.
answer_b	Guadalupe Peak is in the Guadalupe Mountains in far West Texas, part of an ancient sea.
answer_c	Guadalupe Peak and the Guadalupe Mountains was formed as a result of tectonic activity that occurred over a period of time and caused faults to rise up above the original sea floor.
answer_d	Guadalupe Peak and the Guadalupe Mountains are part of a fossil reef that extends throughout parts of Texas and New Mexico.
correct_answer	a
correct_answer_rationale	The focus of paragraphs 2 and 3 is the information that scientists can gain from studying the fossil reef in which Guadalupe Peak and the Guadalupe Mountains is located.
incorrect_answer_1	b
incorrect_answer_1_rationale	This statement focuses on the central idea of the first paragraph, not paragraphs 2 and 3.

incorrect_answer_2	c
incorrect_answer_2_rationale	This statement focuses on the central idea of the fourth paragraph, not paragraphs 2 and 3.
incorrect_answer_3	d
incorrect_answer_3_rationale	This statement focuses on the central idea of the last paragraph, not paragraphs 2 and 3.
scoring	Exact match; 1 point

<b>Item #</b>	2
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology: This Rock You're Standing On
<b>TEKS</b>	TEKS 4.6G Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to: (G) evaluate details read to determine key ideas.
<b>Objective</b>	Students will identify details that support a key idea.
<b>DOK Level</b>	3
<b>Question Type</b>	Multiple Choice

#### PASSAGE

<b>Element</b>	<b>Value</b>
passage_link	
passage_title	Guadalupe Peak

#### QUESTION

<b>Element</b>	<b>Value</b>
stimulus	Refer to the passage, "Guadalupe Peak."
question_stem	Which sentence(s) from the article supports the idea that the Guadalupe Mountains was part of a vast reef system?
prompt	Select the <b>best</b> answer.
randomize_answer_choices	yes
answer_a	<i>The reef was covered up and the sea disappeared.</i> (paragraph 3)
answer_b	<i>Fossil reefs even provide clues about the Earth's oceans.</i> (paragraph 2)
answer_c	<i>This inland sea, the Delaware Sea, covered about 10,000 square miles of Texas and New Mexico. It was surrounded by a reef now called the Capitan Reef.</i> (paragraph 3)
answer_d	<i>The desert that can be seen today from the top of the peak is part of the sea that had been buried.</i> (paragraph 4)
correct_answer	c
correct_answer_rationale	These sentences emphasize the size of the reef system.
incorrect_answer_1	a
incorrect_answer_1_rationale	This sentence supports the idea that the reef system existed in the past.
incorrect_answer_2	b
incorrect_answer_2_rationale	This sentence supports the idea that studying the reef provides geological information.
incorrect_answer_3	d
incorrect_answer_3_rationale	This sentence supports the idea that tectonic activity caused the current mountain range.
scoring	Exact match; 1 point

<b>Item #</b>	3
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology: The Rock You're Standing On
<b>TEKS</b>	TEKS 4.7.C Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to: (C) use text evidence to support an appropriate response.
<b>Objective</b>	Students will use text evidence to support a response.
<b>DOK Level</b>	1
<b>Question Type</b>	Multiple Choice

#### PASSAGE

<b>Element</b>	<b>Value</b>
passage_link	
passage_title	Guadalupe Peak

#### QUESTION

<b>Element</b>	<b>Value</b>
stimulus	Refer to the passage, "Guadalupe Peak."
question_stem	Which sentence(s) from the passage best explains what caused the Guadalupe Mountain range?
prompt	Select the <b>best</b> answer.
randomize_answer_choices	yes
answer_a	<i>In fact, the Guadalupe Mountains are home to the most exceptional example of an ancient fossil reef in the world.</i> (paragraph 2)
answer_b	<i>By studying the Guadalupe Mountains and the surrounding area, scientists have learned that there was once an inland sea there.</i> (paragraph 3)
answer_c	<i>Faults pushed the reef and the surrounding rock several thousand feet above the original sea floor. Guadalupe Peak is a part of that reef that rose up.</i> (paragraph 4)
answer_d	<i>A cavern in New Mexico is also part of the reef system.</i> (paragraph 5)
correct_answer	c
correct_answer_rationale	These sentences emphasize the tectonic activity that caused the range.
incorrect_answer_1	a
incorrect_answer_1_rationale	This statement provides a descriptive detail about the mountain range but not its cause.
incorrect_answer_2	b
incorrect_answer_2_rationale	This statement describes what scientists can learn about the range but not its cause.

incorrect_answer_3	d
incorrect_answer_3_rationale	This statement is a detail about the reef system that includes the range, but it does not explain its cause.
scoring	Exact match; 1 point



<b>Item #</b>	4
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology: This Rock You're Standing On
<b>TEKS</b>	TEKS 4.7.C Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to: (C) use text evidence to support an appropriate response.
<b>Objective</b>	Students will use text evidence to support a response.
<b>DOK Level</b>	2
<b>Question Type</b>	Multiple choice

#### PASSAGE

<b>Element</b>	<b>Value</b>
passage_link	
passage_title	Guadalupe Peak

#### QUESTION

<b>Element</b>	<b>Value</b>
stimulus	Refer to the passage, "Guadalupe Peak."
question_stem	Which sentence from paragraph 3 best explains why the ancient sea disappeared?
prompt	Select the <b>best</b> answer.
randomize_answer_choices	yes
answer_a	<i>By studying the Guadalupe Mountains and the surrounding area, scientists have learned that there was once an inland sea there.</i>
answer_b	<i>This inland sea, the Delaware Sea, covered about 10,000 square miles of Texas and New Mexico. It was surrounded by a reef now called the Capitan Reef.</i>
answer_c	<i>As the environment changed, the inland sea was cut off from the ocean and the water in the sea began to evaporate.</i>
answer_d	<i>The reef was covered up and the sea disappeared.</i>
correct_answer	c
correct_answer_rationale	This sentence explains the cause of the sea's disappearance.
incorrect_answer_1	a
incorrect_answer_1_rationale	This sentence is a detail from the paragraph but does not explain why the ancient sea disappeared.
incorrect_answer_2	b
incorrect_answer_2_rationale	This sentence is a detail from the paragraph but does not explain why the ancient sea disappeared.
incorrect_answer_3	d
incorrect_answer_3_rationale	This sentence is a detail from the paragraph but does not explain why the ancient sea disappeared.

scoring	Exact match; 1 point
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<b>Item #</b>	5
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology: This Rock You're Standing On
<b>TEKS</b>	TEKS 4.7.D Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to: (D) retell, paraphrase, or summarize texts in ways that maintain meaning and logical order.
<b>Objective</b>	Students will summarize a text maintaining meaning and logical order.
<b>DOK Level</b>	3
<b>Question Type</b>	Multiple Choice

#### PASSAGE

<b>Element</b>	<b>Value</b>
passage_link	
passage_title	Guadalupe Peak

#### QUESTION

<b>Element</b>	<b>Value</b>
stimulus	Refer to the passage, "Guadalupe Peak."
question_stem	What detail needs to be included to make this a complete summary about how the Guadalupe Mountain Peak was formed?  Guadalupe Mountain Peak was once underwater and began as a living reef. This caused the minerals to drop to the sea floor, filling the ocean basin. The reef was covered up and the sea disappeared. After the sea vanished, the area experienced tectonic activity, creating a mountain range.
prompt	<i>Select the <b>best</b> order.</i>
randomize_answer_choices	yes
answer a	Ancient fossil reefs provide clues about the Earth's oceans.
answer b	When the environment changed, the water evaporated.
answer c	A cavern in New Mexico is also part of the reef system.
answer d	Hiking up the peak includes a 3,000 foot elevation gain.
correct answer	b
correct answer rationale	This detail is needed to provide information about what caused the reef to disappear.
incorrect answer 1	a
incorrect answer rationale 1	This detail does not fit into the summary as it is about how the reefs give us clues, but not how the peaks were formed.
incorrect answer 2	c

incorrect answer rationale 2	This detail provides information about a cavern that is a part of the reef system, but this detail is irrelevant to how the caves and peaks were formed.
incorrect answer 3	d
incorrect answer rationale 3	This detail is the result of the Guadalupe Mountains being formed and is irrelevant to the summary provided.
scoring	Exact match; 1 point

<b>Item #</b>	6
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology
<b>TEKS</b>	TEKS 4.3.B Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking --vocabulary. The student uses newly acquired vocabulary expressively. The student is expected to: (B) use context within and beyond a sentence to determine the relevant meaning of unfamiliar words or multiple-meaning words.
<b>Objective</b>	Students will determine the meaning of domain-specific words from a text.
<b>DOK Level</b>	2
<b>Question Type</b>	Multiple Choice

#### PASSAGE

Element	Value
passage_link	
passage_title	Guadalupe Peak

#### QUESTION

Element	Value
stimulus	Refer to the passage, "Guadalupe Peak."
question_stem	What does the word <u>evaporate</u> mean in paragraph 3?
prompt	<i>Select the <b>best</b> answer.</i>
randomize_answer_choices	yes
answer_a	dry up
answer_b	dissolve
answer_c	push away
answer_d	flow upstream
correct_answer	a
correct_answer_rationale	When water evaporates, it turns from a liquid to a vapor and loses its moisture.
incorrect_answer_1	b
incorrect_answer_1_rationale	<i>Dissolve</i> means to become a part of a liquid solution.
incorrect_answer_2	c
incorrect_answer_2_rationale	When something is pushed away, a force is acting on its movement.
incorrect_answer_3	d
incorrect_answer_3_rationale	The water vaporized; it did not flow upstream.
scoring	Exact match; 1 point

<b>Item #</b>	7
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology: This Rock You're Standing On
<b>TEKS</b>	TEKS 4.11.D.ix Composition: listening, speaking, reading, writing, and thinking using multiple texts--writing process. The student uses the writing process recursively to compose multiple texts that are legible and uses appropriate conventions. The student is expected to: (D) edit drafts using standard English conventions, including: (ix) capitalization of historical periods, events, and documents; titles of books; stories and essays; and languages, races, and nationalities.
<b>Objective</b>	Students will edit a sentence for correct capitalization.
<b>DOK Level</b>	1
<b>Question Type</b>	Inline choice

#### PASSAGE

<b>Element</b>	<b>Value</b>
passage_link	
passage_title	Guadalupe Peak

#### QUESTION

<b>Element</b>	<b>Value</b>		
stimulus	Refer to the passage, "Guadalupe Peak."  A student wrote the following sentence about the passage.  Choose the correct noun for the sentence.		
question_stem	The inland sea, called the	A Delaware Sea B delaware sea C Delaware sea D delaware Sea	covered thousands of miles.
prompt	Select the <b>best</b> answer.		
randomize_answer_choices	yes		
answer_a	Delaware Sea		
answer_b	delaware sea		
answer_c	Delaware sea		
answer_d	delaware Sea		
correct_answer	a		
correct_answer_rationale	This is the correct capitalization of the proper noun.		
incorrect_answer_1	b		
incorrect_answer_1_rationale	Both words are a part of the proper noun and therefore need to be capitalized.		
incorrect_answer_2	c		

incorrect_answer_2_rationale	Both words are a part of the proper noun and therefore need to be capitalized.
incorrect_answer_3	D
incorrect_answer_3_rationale	Both words are a part of the proper noun and therefore need to be capitalized.
scoring	Exact match; 1 point

<b>Item #</b>	8
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology: This Rock You're Standing On
<b>TEKS</b>	TEKS 4.11.D.x Composition: listening, speaking, reading, writing, and thinking using multiple texts--writing process. The student uses the writing process recursively to compose multiple texts that are legible and uses appropriate conventions. The student is expected to: (D) edit drafts using standard English conventions, including: (x) punctuation marks, including apostrophes in possessives, commas in compound sentences, and quotation marks in dialogue.
<b>Objective</b>	Students will edit a sentence to punctuate a compound sentence with a coordinating conjunction.
<b>DOK Level</b>	1
<b>Question Type</b>	Inline choice

#### PASSAGE

<b>Element</b>	<b>Value</b>
passage_link	
passage_title	Guadalupe Peak

#### QUESTION

<b>Element</b>	<b>Value</b>		
stimulus	Refer to the passage, "Guadalupe Peak."  A student wrote this sentence after reading the passage. How should this sentence be punctuated?		
question_stem	I do not know much about	A geology, and now B geology and, now C geology, and, now D geology and now	I want to learn more.
prompt	Select the <b>best</b> answer.		
randomize_answer_choices	yes		
answer_a	geology, and now		
answer_b	geology and, now		
answer_c	geology, and, now		
answer_d	geology and now		
correct_answer	a		
correct_answer_rationale	The correct answer is "I do not know much about geology, and now I want to learn more." When a coordinating conjunction, such as <i>and</i> , joins two complete sentences, a comma should come before the conjunction.		



incorrect_answer_1	b
incorrect_answer_1_rationale	The comma should come before the coordinating conjunction.
incorrect_answer_2	c
incorrect_answer_2_rationale	Only one comma is needed before the coordinating conjunction.
incorrect_answer_3	d
incorrect_answer_3_rationale	When a coordinating conjunction, such as <i>and</i> , joins two complete sentences, a comma should come before the conjunction.
scoring	Exact match; 1 point

<b>Item #</b>	9
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology: This Rock You're Standing On
<b>TEKS</b>	TEKS 4.2.B.i Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking --beginning reading and writing. The student develops word structure knowledge through phonological awareness, print concepts, phonics, and morphology to communicate, decode, and spell. The student is expected to: (B) demonstrate and apply spelling knowledge by: (i) spelling multisyllabic words with closed syllables; open syllables; VCe syllables; vowel teams, including digraphs and diphthongs; r-controlled syllables; and final stable syllables.
<b>Objective</b>	Students will demonstrate and apply spelling knowledge of final stable syllables.
<b>DOK Level</b>	1
<b>Question Type</b>	Multiple Choice

#### PASSAGE

<b>Element</b>	<b>Value</b>
passage_link	
passage_title	Guadalupe Peak

#### QUESTION

<b>Element</b>	<b>Value</b>
stimulus	Refer to the passage, "Guadalupe Peak."
question_stem	A student wrote the following sentence about the passage.  When people want to hike the Guadalupe Peak range, they can take the shuttle back down to the bottom.  What change should be made to this sentence?
prompt	<i>Select the <b>correct</b> answer.</i>
randomize_answer_choices	yes
answer_a	Change <i>enjoy</i> to <i>enjoys</i>
answer_b	Change <i>shutle</i> to <i>shuttle</i>
answer_c	Change <i>Peak</i> to <i>peak</i>
answer_d	Remove the comma after the word <i>range</i> .
correct_answer	b
correct_answer_rationale	When spelling a final stable syllable, the consonant after the short vowel must be doubled.
incorrect_answer_1	a
incorrect_answer_rationale_1	Enjoy is the correct verb in this case to ensure subject-verb agreement.

incorrect answer_2	c
Incorrect answer_rationale_2	Peak should be capitalized, as it is a proper noun in this sentence.
incorrect answer_3	d
Incorrect answer_rationale_3	The comma is appropriately placed after a dependent clause.
scoring	Exact match; 1 point

Item #	10
Discipline	ELA
Grade Level	4
Assessment Type	End of Unit
Unit/Domain Title	Geology: This Rock You're Standing On
TEKS	TEKS 4.3.A Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--vocabulary. The student uses newly acquired vocabulary expressively. The student is expected to: (A) use print or digital resources to determine meaning, syllabication, and pronunciation.
Objective	Students will determine the meaning of domain-specific words from a text.
DOK Level	2
Question Type	Multiple choice

#### PASSAGE

Element	Value
passage_link	
passage_title	Guadalupe Peak

#### QUESTION

Element	Value
stimulus	Refer to the passage, "Guadalupe Peak"
question_stem	Read the dictionary entry. <b>deposit</b> <i>noun</i> 1. money put in a bank 2. material dropped by moving water  <i>verb</i> 3. to put money in a bank 4. to lay down  Which definition best shows the meaning of the word <u>deposited</u> as it is used in the passage?
prompt	Select the <b>best</b> answer.
randomize_answer_choices	no
answer_a	Definition 1
answer_b	Definition 2
answer_c	Definition 3
answer_d	Definition 4
correct_answer	d
correct_answer_rationale	The answer is "to lay down." From the context of the sentence, it is clear that minerals were laid down over time.
incorrect_answer_1	a

incorrect_answer_1_rationale	This choice does not make sense in the context of the sentence. The passage does not discuss money or banks.
incorrect_answer_2	b
incorrect_answer_2_rationale	This meaning of <i>deposit</i> is related to the meaning used in the passage, but this answer choice is a noun. <i>Deposit</i> is used as a verb in the passage.
incorrect_answer_3	c
incorrect_answer_3_rationale	This choice does not make sense in the context of the sentence. The passage does not discuss money or banks.
scoring	Exact match; 1 point

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Unit/Domain	Geology: This Rock You're Standing On
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Source(s)—List source of/link to public domain text or sources referenced for factual content.	<a href="https://oceanexplorer.noaa.gov/facts/stalactite.html">https://oceanexplorer.noaa.gov/facts/stalactite.html</a> <a href="https://www.britannica.com/science/stalactite">https://www.britannica.com/science/stalactite</a> <a href="https://books.google.com/books?id=OxTbDgAAQBAJ&amp;pg=PT33&amp;lpg=PT33&amp;dq=The+White+Chamber+in+Lebanon&amp;source=bl&amp;ots=ST-V6G26JU&amp;sig=ACfU3U3--uuBJOucbeRuw4ThL51tr3jJ2w&amp;hl=en&amp;sa=X&amp;ved=2ahUKEwixyOLQkbXhAhVOXK0KHfk-CDcQ6AEwHHoECAwQAQ#v=onepage&amp;q=The%20White%20Chamber%20in%20Lebanon&amp;f=false">https://books.google.com/books?id=OxTbDgAAQBAJ&amp;pg=PT33&amp;lpg=PT33&amp;dq=The+White+Chamber+in+Lebanon&amp;source=bl&amp;ots=ST-V6G26JU&amp;sig=ACfU3U3--uuBJOucbeRuw4ThL51tr3jJ2w&amp;hl=en&amp;sa=X&amp;ved=2ahUKEwixyOLQkbXhAhVOXK0KHfk-CDcQ6AEwHHoECAwQAQ#v=onepage&amp;q=The%20White%20Chamber%20in%20Lebanon&amp;f=false</a> <a href="https://news.nationalgeographic.com/2017/12/cave-discovery-montreal-st-leonard-ice-age-spd/">https://news.nationalgeographic.com/2017/12/cave-discovery-montreal-st-leonard-ice-age-spd/</a> <a href="https://www.nps.gov/ozar/learn/education/speleothems.htm">https://www.nps.gov/ozar/learn/education/speleothems.htm</a> <a href="https://www.nationalgeographic.com/animals/mammals/g/giraffe/">https://www.nationalgeographic.com/animals/mammals/g/giraffe/</a> <a href="https://www.sciencefocus.com/planet-earth/how-long-does-it-take-stalagmites-and-stalactites-to-form/">https://www.sciencefocus.com/planet-earth/how-long-does-it-take-stalagmites-and-stalactites-to-form/</a> <a href="https://pixabay.com/photos/cavern-tennessee-forbidden-caverns-169140/">https://pixabay.com/photos/cavern-tennessee-forbidden-caverns-169140/</a>
Lexile/Average Grade Level	Unavailable at this time
Flesch Kincaid	6.6
Word Count	390
Title	Stalactites and Stalagmites
Author	Greta Gard

### Stalactites and Stalagmites

(1) Stalactites and stalagmites are mineral deposits that grow in caves. Minerals are the chemicals that combine to make rocks.

(2) Stalactites and stalagmites are very similar, but there is one important difference. Stalactites hang from the top or sides of caves. You can remember their name because they must hold “tight” to the cave to stay in place. Like an icicle hanging from a roof, a stalactite is wider at its base where it is attached to the cave ceiling and tapers into a point. Stalagmites are shaped like stalactites, but they grow upward from the cave floor. You can remember their name because the word *stalagmite* has a *g* in it, and stalagmites grow from the *ground*. Often stalactites and

stalagmites are found in pairs. Over time, as these pairs grow, they may join to form a single column that runs all the way from the ceiling to the floor of the cave.

(3) How do stalactites and stalagmites form? The process begins with rainwater on Earth's surface. This water filters down through the dirt and rocks underground. As it does, it dissolves minerals such as calcite from limestone. If the water reaches the ceiling of a cave, it will begin to drip. As the water drip, drip, drips to the floor of the cave, a small amount of the dissolved calcite is left behind on the ceiling. As layer after layer of calcite builds up, a stalactite forms. At the same time, a layer of calcite begins to build on the floor of the cave where the dripping water lands. These processes are very slow. Scientists estimate that it takes about a thousand years for a stalactite or stalagmite to grow just a few centimeters.

(4) Stalactites and stalagmites are found in caves around the world. The Jeita Grotto in Lebanon contains some of the world's most spectacular examples of these formations. The grotto is home to the world's second longest stalactite, which is 8.2 meters in length. That is taller than an adult giraffe! Because of its great beauty, the Jeita Grotto is sometimes called a natural wonder. People come from all over the world to see it.



Caption: Can you identify the stalactites and stalagmites in this cave?

<https://pixabay.com/photos/cavern-tennessee-forbidden-caverns-169140/>

(5) Stalactites and stalagmites can also be found closer to home, in central and west Texas.

<b>Item #</b>	11
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology: This Rock You're Standing On
<b>TEKS</b>	TEKS 4.6.G Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to: (G) evaluate details read to determine key ideas.
<b>Objective</b>	Students will evaluate details read to determine a key idea.
<b>DOK Level</b>	2
<b>Question Type</b>	Hot Text

#### PASSAGE

<b>Element</b>	<b>Value</b>
passage_link	
passage_title	Stalactites and Stalagmites

#### QUESTION

<b>Element</b>	<b>Value</b>
stimulus	Refer to the passage, "Stalactites and Stalagmites."
question_stem	Select the sentence that supports the key idea that evidence of stalactites and stalagmites are found all over the world.  [Stalactites and stalagmites are found in caves around the world.] [The Jeita Grotto in Lebanon contains some of the world's most spectacular examples of these formations.] [The grotto is home to the world's longest stalactite, which is 8.2 meters in length.] That is taller than an adult giraffe! Because of its great beauty, the Jeita Grotto is sometimes called a natural wonder. [People come from all over the world to see it.]
prompt	Select the <b>best</b> answer.
correct_answer	[The Jeita Grotto in Lebanon contains some of the world's most spectacular examples of these formations.]
correct_answer_rationale	The correct answer is "The Jeita Grotto in Lebanon contains some of the world's most spectacular examples of these formations." The details in the paragraph provide more information about the "spectacular" formations—the stalactites and stalagmites—at the Jeita Grotto.
incorrect_answer_1	[Stalactites and stalagmites are found in caves around the world.]
incorrect_answer_1_rationale	This is the first sentence in the paragraph, and is actually the central idea. The details in the paragraph are not focused on caves around the world.



incorrect_answer_2	[The grotto is home to the world's longest stalactite, which is 8.2 meters in length.]
incorrect_answer_2_rationale	This sentence provides an example. It is a detail that supports the main idea in the paragraph.
incorrect_answer_3	[People come from all over the world to see it.]
incorrect_answer_3_rationale	This sentence provides evidence. It is not the main idea, but a way of showing that the main idea is true.
scoring	Exact match; 1 point

<b>Item #</b>	12
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology: This Rock You're Standing On
<b>TEKS</b>	TEKS 4.9.D.i Multiple genres: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student recognizes and analyzes genre-specific characteristics, structures, and purposes within and across increasingly complex traditional, contemporary, classical, and diverse texts. The student is expected to: (D) recognize characteristics and structures of informational text, including: (ii) features such as pronunciation guides and diagrams to support understanding.
<b>Objective</b>	Students will recognize details that support a central idea in a paragraph.
<b>DOK Level</b>	3
<b>Question Type</b>	Multiple Choice

#### PASSAGE

<b>Element</b>	<b>Value</b>
passage_link	
passage_title	Stalactites and Stalagmites

#### QUESTION

<b>Element</b>	<b>Value</b>
stimulus	Refer to the passage, "Stalactites and Stalagmites."
question_stem	The photograph in this text is included to -
prompt	<i>Select the <b>best</b> answer.</i>
randomize_answer_choices	yes
answer_a	give key information about where to visit one of these caves.
answer_b	describe the process of the columns being formed.
answer_c	tell why the cave has been found.
answer_d	show how stalactites and stalagmites form in different ways.
correct_answer	d
correct_answer_rationale	The correct answer is to show how the stalactites grow from the ceiling of the cave and how the stalagmites grow up from the ground. This photograph helps the reader understand how these formations look as they grow in different directions.
incorrect_answer_1	a
incorrect_answer_1_rationale	The photograph provides no information about where this cave is located.
incorrect_answer_2	b
incorrect_answer_2_rationale	The photograph does not explain the process of the formation, it shows what the formations look like once they are formed.

incorrect_answer_3	c
incorrect_answer_3_rationale	The photograph gives no information as to why this cave was discovered.
scoring	Exact match; 1 point

<b>Item #</b>	13
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology: This Rock You're Standing On
<b>TEKS</b>	TEKS 4.7.C Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to: (C) use text evidence to support an appropriate response.
<b>Objective</b>	Students will use text evidence to support an inference.
<b>DOK Level</b>	2
<b>Question Type</b>	Multipart

#### PASSAGE

<b>Element</b>	<b>Value</b>
passage_link	
passage_title	Stalactites and Stalagmites

#### QUESTION

<b>Element</b>	<b>Value</b>
stimulus	Refer to the passage, "Stalactites and Stalagmites."
question_stem	This question has two parts. First, answer Part A. Then, answer Part B.  Part A  Based on the details in the passage, what can you infer about the formation of, "stalactites and stalagmites?"
prompt	<i>Select the <b>best</b> answer.</i>
randomize_answer_choices	yes
answer_a	Every stalactite is different from every other stalactite.
answer_b	Stalactites and stalagmites always grow towards each other.
answer_c	The largest stalactites and stalagmites are in Lebanon.
answer_d	Stalactites have wider bases than stalagmites.
correct_answer	a
correct_answer_rationale	A stalactite forms as water drips over time. Stalactites are studied and compared, suggesting that each is different.
incorrect_answer_1	b
incorrect_answer_1_rationale	The passage states that stalactites and stalagmites are often found together; this does not provide enough evidence to suggest that they always grow towards each other or are always found in pairs.
incorrect_answer_2	c
incorrect_answer_2_rationale	While the second tallest stalactite is in Lebanon, there is not enough evidence to infer that this means Lebanon is home to the biggest stalactites and stalagmites in the world

incorrect_answer_3	d
incorrect_answer_3_rationale	The passage does not address this sufficiently to make an inference.
scoring	Exact match; 1 point
question_stem	Part B Which sentence from the article best supports the answer to Part A?
answer_a	<i>Stalactites and stalagmites are mineral deposits that grow in caves.</i> (paragraph 1)
answer_b	<i>Stalactites and stalagmites are very similar, but there is one important difference.</i> (paragraph 2)
answer_c	<i>As the water drip, drip, drips to the floor of the cave, a small amount of the dissolved calcite is left behind on the ceiling.</i> (paragraph 3)
answer_d	<i>The grotto is home to the world's second longest stalactite, which is 8.2 meters in length.</i> (paragraph 4)
correct_answer	d
correct_answer_rationale	This detail suggests that every stalactite is unique.
incorrect_answer_1	a
incorrect_answer_1_rationale	Although this is a detail in the passage, it does not support the response in Part A.
incorrect_answer_2	b
incorrect_answer_2_rationale	Although this is a detail in the passage, it does not support the response in Part A.
incorrect_answer_3	c
incorrect_answer_3_rationale	Although this is a detail in the passage, it does not support the response in Part A.
scoring	Exact match; 1 point

<b>Item #</b>	14
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology: This Rock You're Standing On
<b>TEKS</b>	TEKS 4.3.B Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--vocabulary. The student uses newly acquired vocabulary expressively. The student is expected to: (B) use context within and beyond a sentence to determine the relevant meaning of unfamiliar words or multiple-meaning words.
<b>Objective</b>	Students will determine the meaning of domain-specific words from a text.
<b>DOK Level</b>	2
<b>Question Type</b>	Multiple Choice

#### PASSAGE

Element	Value
passage_link	
passage_title	Stalactites and Stalagmites

#### QUESTION

Element	Value
stimulus	Refer to the passage, "Stalactites and Stalagmites."
question_stem	Which statement helps the reader understand the meaning of the word <u>column</u> ?
prompt	<i>Select the <b>best</b> answer.</i>
randomize_answer_choices	yes
answer_a	a stalactite that is so long it almost reaches the floor of a cave
answer_b	a mineral deposit that begins at the floor of a cave and extends up to Earth's surface
answer_c	a tall, thin rock formation that is shaped like a tube
answer_d	a mineral deposit that is created when a stalactite and a stalagmite grow together
correct_answer	d
correct_answer_rationale	The correct answer is "a mineral deposit that is created when a stalactite and a stalagmite grow together." The stalactite reaches down from the ceiling, and the stalagmite grows up from the floor. When they join they form a single column.
incorrect_answer_1	a
incorrect_answer_1_rationale	A column is formed from more than just a stalactite, and it connects the floor and ceiling.
incorrect_answer_2	b
incorrect_answer_2_rationale	A column connects the floor and ceiling of a cave, but it does not extend through the cave to Earth's surface.

incorrect_answer_3	c
incorrect_answer_3_rationale	This answer choice describes what a column may look like. However, a column is not a rock formation.
scoring	Exact match; 1 point

<b>Item #</b>	15
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology: This Rock You're Standing On
<b>TEKS</b>	TEKS 4.3.B Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking --vocabulary. The student uses newly acquired vocabulary expressively. The student is expected to: (B) use context within and beyond a sentence to determine the relevant meaning of unfamiliar words or multiple-meaning words.
<b>Objective</b>	Students will determine the meaning of domain-specific words from a text.
<b>DOK Level</b>	2
<b>Question Type</b>	Multiple Choice

#### PASSAGE

Element	Value
passage_link	
passage_title	Stalactites and Stalagmites

#### QUESTION

Element	Value
stimulus	Refer to the passage, "Stalactites and Stalagmites."
question_stem	What does the word <u>grotto</u> mean in paragraph 4?
prompt	<i>Select the <b>best</b> answer.</i>
randomize_answer_choices	yes
answer_a	a cave
answer_b	a country
answer_c	a column
answer_d	a ceiling
correct_answer	a
correct_answer_rationale	The correct answer is "a cave." The passage is about stalactites and stalagmites, which grow in caves. From context, it is clear that the Jeita Grotto is a cave.
incorrect_answer_1	b
incorrect_answer_1_rationale	The grotto is located in the country of Lebanon, but the grotto is not itself a country.
incorrect_answer_2	c
incorrect_answer_2_rationale	A column is a kind of mineral formation. It may be found in the Jeita Grotto, but the grotto is not itself a column.
incorrect_answer_3	d
incorrect_answer_3_rationale	Stalactites grow from the ceiling of the grotto, but the grotto is more than just its ceiling.
scoring	Exact match; 1 point



<b>Item #</b>	16
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology: This Rock You're Standing On
<b>TEKS</b>	TEKS 4.11.C Composition: listening, speaking, reading, writing, and thinking using multiple texts--writing process. The student uses the writing process recursively to compose multiple texts that are legible and uses appropriate conventions. The student is expected to: (C) revise drafts to improve sentence structure and word choice by adding, deleting, combining, and rearranging ideas for coherence and clarity.
<b>Objective</b>	Students will combine sentences for coherence and clarity.
<b>DOK Level</b>	1
<b>Question Type</b>	Short Constructed Response

#### PASSAGE

<b>Element</b>	<b>Value</b>
passage_link	
passage_title	Stalactites and Stalagmites

#### QUESTION

<b>Element</b>	<b>Value</b>
stimulus	Refer to the passage, "Stalactites and Stalagmites."
question_stem	A student wrote the following sentences after researching the Jeita Grotto.  The Jeita Grotto contains magnificent stalactites. The Jeita Grotto contains magnificent stalagmites too.  In the box provided, combine the ideas in the sentences to create one clear and effective sentence.
prompt	<i>Write your response in the box provided.</i>
sample answer	The Jeita Grotto contains magnificent stalactites and stalagmites.
scoring	1 point

<b>Item #</b>	17
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology: This Rock You're Standing On
<b>TEKS</b>	TEKS 4.11.D.x Composition: listening, speaking, reading, writing, and thinking using multiple texts--writing process. The student uses the writing process recursively to compose multiple texts that are legible and uses appropriate conventions. The student is expected to: (D) edit drafts using standard English conventions, including: (x) punctuation marks, including apostrophes in possessives, commas in compound sentences, and quotation marks in dialogue.
<b>Objective</b>	Students will punctuate a compound sentence containing a coordinating conjunction correctly.
<b>DOK Level</b>	2
<b>Question Type</b>	Multiple Choice

#### PASSAGE

<b>Element</b>	<b>Value</b>
passage_link	
passage_title	Stalactites and Stalagmites

#### QUESTION

<b>Element</b>	<b>Value</b>
stimulus	Refer to the passage, "Stalactites and Stalagmites."
question_stem	A student wrote this sentence after reading the passage. This sentence is missing a comma.  I want to see stalactites and stalagmites but I am not sure I want to go in a cave.  Which answer corrects the student's sentence?
prompt	<i>Select the <b>best</b> answer.</i>
randomize_answer_choices	yes
answer_a	I want to see stalactites and stalagmites but, I am not sure I want to go in a cave.
answer_b	I want to see stalactites and stalagmites, but I am not sure I want to go in a cave.
answer_c	I want to see stalactites, and stalagmites but I am not sure I want to go in a cave.
answer_d	I want to see stalactites and stalagmites but I am not sure, I want to go in a cave.
correct_answer	b
correct_answer_rationale	The correct answer is "I want to see stalactites and stalagmites, but I am not sure I want to go in a cave." When a coordinating conjunction, such as <i>but</i> , joins two complete

	sentences, a comma should come before the conjunction.
incorrect_answer_1	a
incorrect_answer_1_rationale	This answer choice places the comma after the coordinating conjunction <i>but</i> . A comma should go before the coordinating conjunction.
incorrect_answer_2	c
incorrect_answer_2_rationale	This choice uses the comma to divide the sentence in the wrong place. Although “I want to see stalactites” is a complete thought, placing the comma after “stalactites” creates an incomplete thought on the other side of the comma.
incorrect_answer_3	d
incorrect_answer_3_rationale	Placing the comma here changes the meaning of the sentence. In this answer, the student does want to go in a cave.
scoring	Exact match; 1 point

<b>Item #</b>	18
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology: This Rock You're Standing On
<b>TEKS</b>	TEKS 4.11.D.xi Composition: listening, speaking, reading, writing, and thinking using multiple texts--writing process. The student uses the writing process recursively to compose multiple texts that are legible and uses appropriate conventions. The student is expected to: (D) edit drafts using standard English conventions, including: (xi) correct spelling of words with grade-appropriate orthographic patterns and rules and high-frequency words.
<b>Objective</b>	Students will edit a draft to correctly spell words.
<b>DOK Level</b>	2
<b>Question Type</b>	Multiple Choice

#### PASSAGE

Element	Value
passage_link	
passage_title	Stalactites and Stalagmites

#### QUESTION

Element	Value
stimulus	Refer to the passage, "Stalactites and Stalagmites."
question_stem	A student wrote the following sentence after reading the passage.  I wonder if stalactites grow in any other condishuns?  What change is needed in this sentence?
prompt	<i>Select the <b>best</b> answer.</i>
randomize_answer_choices	yes
answer_a	Change <b>grow</b> to <b>grows</b>
answer_b	Change <b>condishuns</b> to <b>conditions</b>
answer_c	Change <b>wonder</b> to <b>wondering</b>
answer_d	Change the question mark to a period.
correct_answer	b
correct_answer_rationale	The correct answer is "conditions."
incorrect_answer_1	a
incorrect_answer_1_rationale	The subject-verb agreement is correct as is. By changing the word grow to grows, it would make the agreement incorrect.
incorrect_answer_2	c
incorrect_answer_2_rationale	Wonder is the correct verb tense. Adding –ing to wonder would change the tense of the verb incorrectly.
incorrect_answer_3	d
incorrect_answer_3_rationale	The question mark is correct, as the statement poses a question.

scoring	Exact match; 1 point
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<b>Item #</b>	19
<b>Discipline</b>	ELA
<b>Grade Level</b>	4
<b>Assessment Type</b>	End of Unit
<b>Unit/Domain Title</b>	Geology: This Rock You're Standing On
<b>TEKS</b>	TEKS 4.9.D.iii Multiple genres: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student recognizes and analyzes genre-specific characteristics, structures, and purposes within and across increasingly complex traditional, contemporary, classical, and diverse texts. The student is expected to: (D) recognize characteristics and structures of informational text, including: (iii) organizational patterns such as compare and contrast.
<b>Objective</b>	Students will identify the organizational pattern of the article.
<b>DOK Level</b>	2
<b>Question Type</b>	Short Constructed Response

#### PASSAGE

<b>Element</b>	<b>Value</b>
passage_link	
passage_title	Stalactites and Stalagmites

#### QUESTION

<b>Element</b>	<b>Value</b>	
stimulus	Refer to the passage, "Stalactites and Stalagmites."	
question_stem	How is the information in paragraph 2 organized?	
prompt	<i>Write your response in the box provided.</i>	
sample answer	The author uses a compare-and-contrast structure to organize the information in paragraph 2. For example, the author notes that there is one important difference between stalactites and stalagmites. Stalactites hang from the top or sides of the cave, but stalagmites grow upward from the floor of the cave.	
scoring_rubric	<b>Points</b>	<b>Content Development</b>
	2	To obtain full credit (2 points) the student will correctly explain how the author organizes paragraph 2 using a compare-and-contrast organizational pattern and use supporting evidence from the article.
	1	To obtain partial credit (1 point) the student will correctly identify the organizational pattern, but does not include supporting evidence from the article or the student cites relevant text evidence with an accurate answer to what type of organizational pattern is used.

	0	Students will receive 0 points if the response is incorrect, not passage based, or missing completely.
scoring	See rubric for scoring information	

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