Thinking Guide Activities – Expository

Title of the Selection: Desert Bighorn Sheep in Texas
Teaching Band Grades 3 - 5
Genre: Nonfiction – Informational, Magazine Article

The selection and Expository Thinking Guide are provided. The Expository Thinking Guide identifies the topic, central idea of the selection, and the main idea of each paragraph. In addition, the main ideas are clustered by color code to develop a meaningful summary.

- Desert Bighorn Sheep Selection
- Desert Bighorn Sheep in Texas Expository Thinking Guide
- Color-Coded Expository Thinking Guide and Summary

The Expository Thinking Guide is used to develop other fun and interactive activities. Fisher Reyna Education offers the following activities and test items:

- Matching Pre-Reading Activity
- Matching Activity Part 1
- Matching Activity Part 2
- Thinking Guide Cloze 1st Letter Activity
- Thinking Guide Cloze Blank Activity
- Thinking Guide Write Main Ideas Activity
- Vocabulary Activity
- Marked Selection Activity
- Test Questions and Answer Key

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Expository Thinking Guide
Content-Based Topic

Title of Selection Desert Bighorn Sheep in Texas

Topic of Selection	Desert Bighorn Sheep
Central Idea (Main Idea of Selection)	Texas restoration efforts of desert bighorn sheep
Main Idea of Each Paragraph	1. Fossil evidence about mountain sheep
	2. Introduction to the desert bighorn found in Texas
	3. Appearance of desert bighorn of Texas
	4. Weight and horns
	5. Bighorns live and breed in groups
	6. "Bachelor" groups
	7. Habitat
	History in Texas
	8. Historical range of the desert bighorn sheep in Texas
	9. Population had dwindled
	Reintroduction Efforts
	10. First wildlife management area - Black Gap WMA
	11. Second wildlife management area – Sierra Diablo WMA
	12. Third wildlife management area - Elephant Mountain WMA
	13. Recent transplant effort
	14. Restoration efforts have not been easy but are halfway to the pre-1880 numbers.

Color-Coded Thinking Guide and Summary

Clustering and Summary

Topic of Selection	Desert Bighorn Sheep
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	2. Introduction to the desert bighorn found in Texas
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Color-Coded Summary

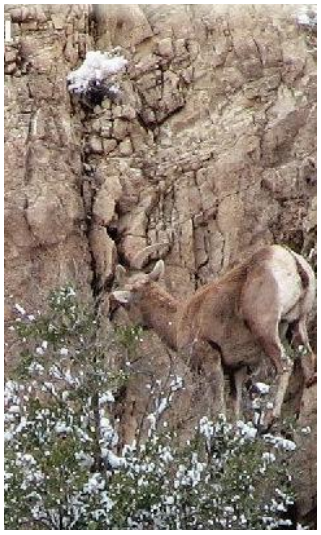
Clustering used to produce a meaningful summary

The main ideas are clustered by color-code to develop a meaningful summary.
The statements provided in the Thinking Guide and summary paragraph serve as only ONE way to paraphrase the story elements for this selection.

Restoration efforts of desert bighorn sheep in Texas are underway. According to fossil evidence, mountain sheep originated in Asia and have migrated to mountain ranges in North America. Desert bighorn sheep, a type of mountain sheep in Texas, have a unique appearance, behavior, and habitat. Historically, they have ranged through large areas of Texas, but their population has dwindled. Reinforcement efforts have not been easy but are showing success.

Matching Pre-Reading Activity

Directions and Activity Variations -
Students may work individually or with a partner. Teacher shows the titles, subtitles and photos with captions as a pre-reading activity to the Matching Activity.



Subtitles in Bold Print

History in Texas

Reintroduction Efforts

Matching Activity Part 1

Directions and Activity Variations
Students may work individually or with a partner.

1. Cut apart the main ideas and give one main idea to individual student or partners. Teacher reads the selection one paragraph at a time. Students identify when they have the matching main idea.
2. Provide the selection and cut-apart main ideas. Students read the selection and match cut-apart main ideas to paragraphs in the selection.
3. Provide cut-apart selection and cut-apart main ideas. Students match cut-apart paragraphs to the cut-apart main ideas.

1. Fossil evidence about mountain sheep
2. Introduction to the desert bighorn found in Texas
3. Appearance of desert bighorn of Texas
4. Weight and horns
5. Bighorns live and breed in groups
6. "Bachelor" groups
7. Habitat
8. Historical range of the desert bighorn sheep in Texas
9. Population had dwindled
10. First wildlife management area - Black Gap WMA
11. Second wildlife management area – Sierra Diablo WMA
12. Third wildlife management area - Elephant Mountain WMA
13. Recent transplant effort
14. Restoration efforts have not been easy but are halfway to the pre-1880 numbers.

Matching Activity Part 2

According to fossil evidence, mountain sheep originated in central Asia during the late Pliocene or early Pleistocene and crossed into North America over the Bering land bridge during the mid-Pleistocene. Changing climates forced the mountain sheep southward through the mountainous regions of the west and into their southern limits in Northern Mexico. Researchers believe that mountain sheep occupied suitable habitat through the course of these climatological changes, leading to two types of North American mountain sheep. These include the thinhorn or Dall sheep (*Ovis dalli*) and bighorn sheep (*Ovis Canadensis*). Thinhorns are found in Alaska, Yukon, and North British Columbia. The bighorn are found throughout most of the mountainous regions of western Canada, western United States, and northwestern and the Baja Peninsula of Mexico.

There are ten subspecies within the two types of sheep. The Dall's sheep (*O. d. dalli*), Stone's sheep (*O. d. stonei*), and Kenai sheep (*O. d. kenaiensis*) are three thinhorn sheep that occur in the northern region of North America. The bighorn varieties include the California bighorn (*O. c. californiana*), the Rocky Mountain bighorn sheep (*O. c. canadensis*), and the extinct Audubon bighorn (*O. c. audubonі*). In the southwest, desert bighorns include Nelson's bighorn (*O. c. nelson*), peninsular (*O. c. cremnobates*), Weem's (*O. c. weemsi*), and the Mexican bighorn (*O. c. Mexicana*). The desert bighorn is found in the arid mountains of the western and southwestern United States. We will focus primarily on the desert bighorn sheep.

Adaptations to harsh desert environments help describe the desert bighorns as "relatively short-legged and generally blocky in appearance". In Texas, their color ranges from light gray to tan or slightly brown in color, and having an obvious white rump. Female, or ewes, tend to be lighter in color while males, or rams, seemingly become darker or a chocolate color with age.

Rams average 170 lbs at maturity while ewes are slightly lighter in weight and average 120 lbs. Both rams and ewes have permanent horns, unlike antlers that shed periodically. The horns are used primarily for protection and fighting. Horn growth ceases during breeding season (primarily Jul.-Sept. in Texas) at which time a permanent ring, or growth ring, is formed. The growth ring can be used to determine age, much like growth rings on trees.

Because bighorn sheep are social animals, they remain in groups for much of the year. The largest groups are typically seen during the breeding season, or rut, as rams and ewes aggregate. Rams and ewes are considered sexually mature at 2-3 years of age. Ewes tend to become solitary 10-14 prior to lambing and remain so shortly after. Usually, a single lamb is produced, although twinning occurs on infrequent occasions.

Matching Activity Part 2 cont.

Rams that are 3 yrs old and older, form "bachelor" groups during the non-breeding season and live apart from the ewes in less suitable habitat, thereby reducing competition for available resources.

Desert bighorn sheep habitat can be described as rough topography with rock outcroppings, precipitous cliffs, and steep slopes broken up by benches and/or shelves and rugged canyons. This type of terrain provides a means of escaping predators through hiding and climbing.

The historical range of desert bighorn sheep in Texas included the arid mountains of the Trans-Pecos eco-region. Historical records indicate that 15-16 mountain ranges were inhabited by bighorn sheep. Bighorns were commonly seen in the Beach, Baylor, Sierra Diablo, Van Horn, Eagle, and Delaware Mountain ranges that occur in the northwestern part of their historical Texas range. Additionally, the southeastern range consisted of the Chinati, Chisos, Grand Canyon of the Rio Grande mountain ranges as well ranges surrounding present day Black Gap Wildlife Management Area (WMA), Big Bend National Park and Big Bend Ranch State Park.

The population in the 1880's was estimated at approximately 1,500 animals and possibly at least 2,500 prior to 1880. However, by the early 1900's bighorn numbers had dwindled down to less than 500 animals confined mainly to the northwestern parts of their home range. It is commonly agreed that unregulated hunting, diseases associated with the introduction of domestic livestock (i.e. sheep and goats) to the area, and the construction of net-wire fences which impeded movement and fragmented habitat among other factors, all contributed to the decline of desert bighorns.

Initial reintroduction efforts began with the construction of captive propagation facilities on two Wildlife Management Areas. In 1954, the first facility was constructed in the form of a 427-acre sheep pasture on Black Gap WMA. The Black Gap sheep pasture was stocked, in a joint effort between the Texas Game & Fish Commission the state of Arizona, with 16 sheep from the Kofa Mountain Range between 1956 and1959.

Matching Activity Part 2 cont.

At the second management area, Sierra Diablo WMA, two facilities were constructed. The first was an 8-acre brood facility in 1970. The second, a 40-acre facility, was donated to the state by the Texas Bighorn society in 1983. The Black Gap WMA population had grown to 68 animals by 1970 and 21 sheep were released from the pasture onto the management area. Others were trans-located to the Sierra Diablo WMA. Additionally, the Sierra Diablo facilities were stocked with sheep form Utah, Nevada, Arizona and Mexico.

In 1985, Elephant Mountain Ranch was donated to the state to become Elephant Mountain WMA and the third WMA within the Trans-Pecos. Goals for Elephant Mountain WMA did not include the construction of a captive rearing facility; therefore bighorn sheep would be free ranging. In 1987, twenty bighorn sheep were transplanted from the Sierra Diablo brood pens to the new Elephant Mountain WMA. This herd grew to an estimated 140-160 bighorns by 2000. In December of that same year 45 sheep were captured and transplanted to Black Gap WMA. Elephant Mountain WMA now serves as the Texas free ranging desert bighorn sheep brood stock for potential capture/release projects back into their native habitat.

The most recent transplant occurred in December 2010 when 46 desert bighorns were captured via helicopter and netgun and transplanted to Big Bend Ranch State Park. Thirty-five out of the 46 were fitted with GPS receiver collars to facilitate the collection of data including movements, monitor survival and recruitment, and habitat use.

Though restoration efforts have not been easy, the program is halfway to achieving pre-1880 numbers. Currently, there are an estimated 1,500 desert bighorns inhabiting 8 of the 16 historical mountain ranges.

Expository Thinking Guide
Cloze – 1st Letter Activity

Title of the Selection Desert Bighorn Sheep in Texas

Directions
As selection is read, complete the words in the blanks with the first letter given.

Topic of Selection	Desert B_____ Sheep
Central Idea (Main Idea of Selection)	Texas r_____ efforts of desert bighorn sheep
Main Idea of Each Paragraph	1. Fossil evidence about m_____ sheep
	2. Introduction to the desert bighorn found in T_____
	3. A_____ of desert bighorn of Texas
	4. W_____ and h_____
	5. Bighorns live and b_____ in groups
	6. "B_____" groups
	7. H_____
	History in Texas
	8. Historical r_____ of the desert bighorn sheep in Texas
	9. Population had d_____
	Reintroduction Efforts
	10. First wildlife management area – B_____ G_____
	11. Second wildlife management area – S_____ Diablo
	12. Third wildlife management area – E_____ Mountain
	13. Recent t_____ effort
	14. Restoration efforts have n_____ been easy but are h_____ to the pre-1880 numbers.

Expository Thinking Guide
Cloze – Blank Activity

Title of the Selection__Desert Bighorn Sheep in Texas_____
Directions
As selection is read, fill in the blanks.

Topic of Selection	Desert _____ Sheep
Central Idea (Main Idea of Selection)	Texas _____ efforts of desert bighorn sheep
Main Idea of Each Paragraph	1. Fossil evidence about _____ sheep
	2. Introduction to the desert bighorn found in _____
	3. _____ of desert bighorn of Texas
	4. _____ and _____
	5. Bighorns live and _____ in groups
	6. "_____" groups
	7. _____
	History in Texas
	8. Historical _____ of the desert bighorn sheep in Texas
	9. Population had _____
	Reintroduction Efforts
	10. First wildlife management area – _____ _____
	11. Second wildlife management area – _____Diablo
	12. Third wildlife management area – _____ Mountain
	13. Recent _____ effort
	14. Restoration efforts have _____ been easy but are _____ to the pre-1880 numbers.

Write Main Ideas Activity

Title of the Selection Desert Bighorn Sheep in Texas
Genre: Nonfiction – Informational, Magazine Article

Directions
Students take notes that include topic, central idea of the selection, and main idea of each paragraph. Paragraphs with implied main ideas increase the level of difficulty with this activity.

Topic of Selection	
Central Idea (Main Idea of Selection)	
Main Idea of Each Paragraph	1.
	2.
	3.
	4.
	5.
	6.
	7.
	8.
	9.
	10.
	11.
	12.
	13.
	14.

Desert Bighorn Sheep in Texas
Vocabulary – Using Context Clues

Directions: Display the following vocabulary list. Ask the students to define the words they recognize. Then read Desert Bighorn Sheep in Texas as the students listen for these words. After hearing one of the listed words in context, ask students to give its definition. The words are listed in the order in which they appear in the article.

Note: This vocabulary activity should be used after students have read the article.

1. suitable
2. varieties
3. arid
4. harsh
5. ewes
6. rams
7. chocolate
8. permanent
9. infrequent
10. contributed
11. trans-located
12. via

Marked Selection Activity

Title of the Selection__Desert Bighorn Sheep in Texas
Genre: Nonfiction – Informational, Magazine Article

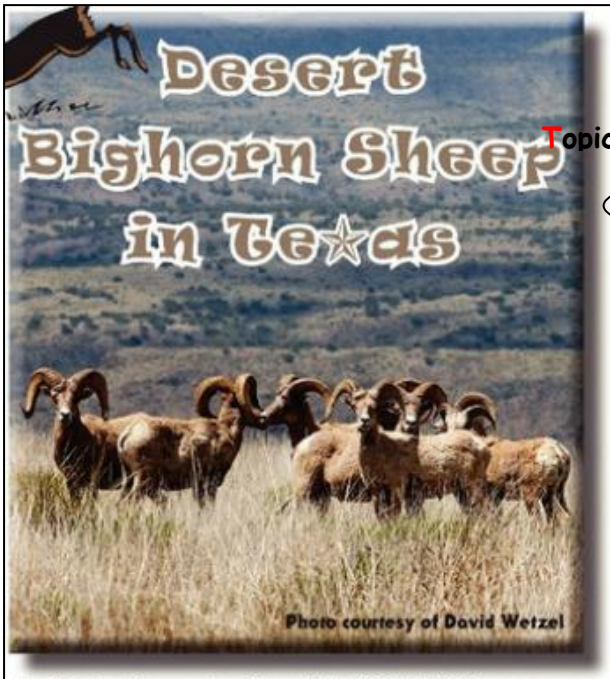
Directions

Students use marking strategies and complete the thinking guide as they read the selection. A marked selection is provided.

Marking codes are used to demonstrate comprehension strategies. Marking codes are necessary for the students to have a system for analyzing or processing what they read. This system of showing your work while working independently on a reading comprehension selection allows teachers to make effective instructional decisions. When the staff works as a team to provide instruction and monitor progress, it is important for everyone to require the same set of marking codes.

Students who consistently score 95% or better may not be required to show their work.

For more information on marking codes and comprehension strategies see our book titled,
Solution For Success: Reading
Lois Fisher & Rachel Reyna



Topic

by: Froylan Hernandez, Texas Parks & Wildlife Department, Desert Bighorn Sheep Program Leader

According to fossil evidence, mountain sheep originated in central Asia during the late Pliocene or early Pleistocene and crossed into North America over the Bering land bridge during the mid-Pleistocene. Changing climates forced the mountain sheep southward through the mountainous regions of the west and into their southern limits in Northern Mexico. Researchers believe that mountain sheep occupied suitable habitat through the course of these climatological changes, leading to two types of North American mountain sheep. These include the thinhorn or Dall sheep *(Ovis dalli)* and bighorn sheep *(Ovis Canadensis)*. Thinhorns are found in Alaska, Yukon, and North British Columbia. The bighorn are found throughout most of the mountainous regions of western Canada, western United States and northwestern Mexico and the Baja Peninsula of Mexico.

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Marked Selection

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5

Reintroduction Efforts

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Photo courtes of TPWD

2, 5

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Photo courte of TPWD

2, 5

The most recent transplant occurred in December 2010 when 46 desert bighorns were captured via helicoprer and netgun and transplanted to Big Bend Ranch State Park. Thirty-five out of the 46 were fitted with GPS receiver collars to facilitate the collection of data including movements, monitor survival and recruitment, and habitat use.

Though restoration efforts have not been easy, the program is halfway to achieving pre-1880 numbers. Currently, there are an estimated 1,500 desert bighorns inhabiting eight of the 16 historical mountain ranges.

6

Test Questions

1 The author includes two headings in bold print to –

A explain why the article was written

B describe why the photos were included in the article

C show which words are most important

D tell about information in each section

---

2 The pictures in the section "Reintroduction Efforts" are included in the article to –

A show what desert bighorn sheep look like

B provide information about how the desert bighorn sheep population is being increased

C explain why desert bighorn sheep populations decreased

D show how desert bighorn sheep escape predators

---

3 Which words in paragraph 4 help the reader understand the meaning of <u>shed</u>?

A *protection and fighting*

B *permanent horns, unlike antlers*

C *horn growth ceases*

D *growth ring*

4 Read this sentence from paragraph 2.

> *Historical records indicate that 15-16 mountain ranges were inhabited by bighorn sheep.*

The imagery in these lines appeals most to the reader's sense of –

A sight

B smell

C taste

D touch

---

5 The pictures in the selection show desert bighorn sheep -

A and fossil evidence of mountain sheep

B in their natural habitat

C captive in two WMA facilities

D escaping predators by hiding and climbing

---

6 What can the reader conclude about the restoration efforts?

A The desert bighorn sheep population has declined.

B Desert bighorn sheep escaped Wildlife Management Areas.

C Increasing desert bighorn sheep populations has been challenging.

D Restoration efforts have been completed.

Question and Answer Strategies

1 The author includes <u>two headings</u> in bold print to –

E explain why the article was written

F describe why the photos were included in the article

G show which words are most important

H tell about information in each section

---

2 The pictures in the section "Reintroduction Efforts" are included in the article to –

E show what desert bighorn sheep look like

F provide information about how the desert bighorn sheep population is being increased

G explain why desert bighorn sheep populations decreased

H show how desert bighorn sheep escape predators

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3 Which words in paragraph 4 help the reader understand the meaning of <u>shed</u>?

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The imagery in these lines appeals most to the reader's sense of –

E sight
F smell
G taste
H touch

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5 The pictures in the selection show desert bighorn sheep -

E and fossil evidence of mountain sheep
F in their natural habitat
G captive in two WMA facilities
H escaping predators by hiding and climbing

---

6 What can the reader conclude about the restoration efforts?

E The desert bighorn sheep population has declined.
F Desert bighorn sheep escaped Wildlife Management Areas.
G Increasing desert bighorn sheep populations has been challenging.
H Restoration efforts have been completed.

Note: The evidence used to support correct answers may not be the only supporting evidence.

Texas Essential Knowledge and Skills
English Language Arts and Reading
Reading/Comprehension of Informational Text/Expository Text

3.13 Students analyze, make inferences and draw conclusions about expository text and provide evidence from text to support their understanding. Students are expected to:

(A) identify the details or facts that support the main idea;
(B) draw conclusions from the facts presented in text and support those assertions with textual evidence;
(C) identify explicit cause and effect relationships among ideas in texts; and
(D) use text features (e.g., bold print, captions, key words, italics) to locate information and make and verify predictions about contents of text.

4.13 Students analyze, make inferences and draw conclusions about expository text and provide evidence from text to support their understanding. Students are expected to:

(A) identify the details or facts that support main idea
(B) draw conclusions from the facts presented in text and support those assertions with textual evidence;
(C) identify cause and effect relationships among ideas in texts; and
(D) use text features to locate information and make and verify predictions about contents of text

5.11 Students analyze, make inferences and draw conclusions about expository text and provide evidence from text to support their understanding. Students are expected to:

(A) summarize the main ideas and supporting details in a text in ways that maintain meaning and logical order;
(B) determine the facts in text and verify them through established methods;
(C) analyze how the organizational pattern of a text (e.g., cause-and-effect, compare-and-contrast, sequential order, logical order, classification schemes) influences the relationships among the ideas;
(D) use multiple text features and graphics to gain an overview of the contents of text and to locate information; and
(E) synthesize and make logical connections between ideas within a text and across two or three texts representing similar or different genres.