

Kincaid Creatures



Subject and Grade Social Studies, Science, 4th Grade

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Time duration One or two 45-minute class periods

Objective To illustrate how archeologists use stratigraphy to help determine environmental changes in a specific area since the Pleistocene Era, and to point out that these changes have affected the animals living in that area.

TEKS ***Social Studies, Grade 4***

(1A), explain the possible origins of American Indian groups in Texas

(6A), identify, locate, and describe the physical regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains), including their characteristics such as landforms, climate, vegetation, and economic activities

(7A), explain the geographic factors such as landforms and climate that influence patterns of settlement and the distribution of population in Texas, past and present

(19C), organize and interpret information in outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps

(19D), identify different points of view about an issue, topic, historical event, or current event

(21A), use social studies terminology correctly

Science, Grade 4

(1F), construct appropriate graphic organizers used to collect data, including tables, bar graphs, line graphs, tree maps, concept maps, Venn diagrams, flow charts or sequence maps, and input-output tables that show cause and effect

(7A), examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants

Materials

- <https://www.texasbeyondhistory.net/kincaid/>
- Kincaid Shelter painting (included)
- Kincaid Shelter Stratigraphy student handout (2 pages – included)
- Kincaid Creatures Magic Squares student handout (included)
- Kincaid Creatures Magic Squares teacher answer key (included)

**Activities
and
procedures**

Part 1:

Step 1: Ask students to brainstorm nocturnal and diurnal wild animals they see in their neighborhoods. Make a list on the board as students name the animals.

Step 2: Inform students that they will be learning about the remains of animals found near a cave where humans lived 13,000 years ago. The cave was located in Southwestern Texas near the Sabinal River.

Step 3: Display painting of the Kincaid Shelter. Have students point out details and make inferences about what they see in the painting.

Step 4: Advise students if that had they lived in Texas during the "Great Ice Age" (Pleistocene Era), some 13,000 years ago, they would have seen a much different variety of animals than they see today.

Step 5: Distribute the "Kincaid Shelter Stratigraphy" handout (page 1) and display the stratigraphy diagram. Read the handout with students and explain that archeologists record their site findings in several ways, one of which uses stratigraphy. Point out that the zones or layers (also called strata) are numbered.

Step 6: Have students work with a partner or in small groups to answer the questions on page 2 of the "Kincaid Shelter Stratigraphy" worksheet. When done, have students volunteer to share their answers to questions #1, 7, & 8 with the class.

Step 7: Explain that during the next class period, students will search a Kincaid Shelter website for animals whose remains were found in different layers of the Kincaid Shelter site. They will then use the animal names to solve a puzzle.

Part 2:

Step 1: Remind students that in Part 1 of the lesson, they discussed wild animals found in their neighborhoods and were introduced to the stratigraphy of Kincaid Shelter, where remains of many wild animals were found.

Step 2: Distribute the "Kincaid Creatures Magic Squares" handout. Explain to students that in the grid they will see nine Magic Squares, each containing the name of one of the animals found at Kincaid Shelter. Below the grid they will see descriptions of the animals and will match the number of each description to the corresponding animals' name in each "magic" square. Explain that

students can check their work by adding up the numbers in the rows of squares both horizontally and vertically. Each row should add up to the same “magic” number. If their rows don’t add up to that number, they have an incorrect answer and must check their work. When their numbers add up correctly, they have discovered the “magic” number, which they will record on the worksheet.

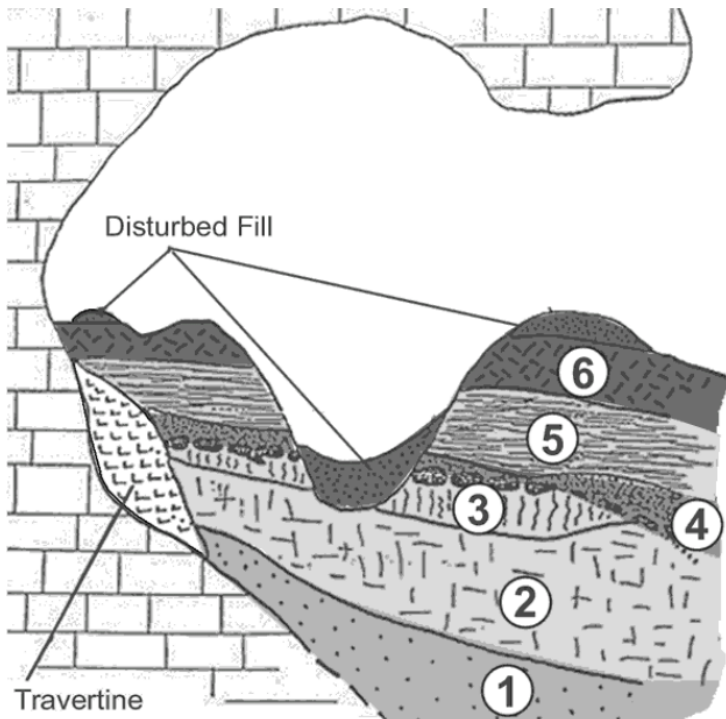
Step 3: Have students play “Meet the Critters” (<https://www.texasbeyondhistory.net/kincaid/kids/index.html>) or “Time Travel to an Ancient Rock Shelter” (<https://www.texasbeyondhistory.net/kincaid/kids/timetravel.html>) to learn more about the animals of Kincaid Shelter.

Closure: Ask students this question: How can archeologists help us better understand the ways humans and animals interacted in the past and how animals might have become extinct over time?

Assessment Students will correctly complete the “Kincaid Shelter Stratigraphy” handout questions and the “Kincaid Creatures Magic Squares” handout.

Kincaid Creatures Stratigraphy

Page 1



Zone 6: Midden deposit of loose ashy dust, charcoal, burned rock, and artifacts of Archaic, Late Prehistoric, and Historic period.

Zone 5: Silty “midden” deposit with remains of modern animals and debris left by Early, Middle, and Late Archaic peoples.

Zone 4: Major culture-bearing deposit of Pleistocene age with bones of extinct animals and evidence of stone toolmaking by Clovis peoples more than 13,000 years ago. Deposit consists of pond clay, flood-borne limestone grit, and travertine from seep springs. Rock Pavement: Stone floor constructed by Paleoindian peoples.

Zone 3: Pond deposit of travertine and clay containing bones of many species of extinct animals. Pond fed by a seep spring flowing down back wall of the shelter, filling slight depression in surface of Zone 2

Zones 1 and 2: Fluvial (water-borne) deposits in which excavators found no evidence of human occupation.

Some 13,000 years ago, humans lived in the Kincaid Shelter in the Hill Country of Central Texas. Exploring the shelter’s stratigraphy (see definition below), archeologists found the remains of many animals, some of which are now extinct.

Generally, stratigraphy is the layering of the earth that makes up an archeological site and includes the fossils and artifacts contained in each level of a site. In general, younger layers (strata) are deposited on top of older layers and younger, or newer, artifacts are found above older artifacts.

Use the above diagram and explanations to answer the questions on the following page.

Name _____ Date _____ Class _____

Kincaid Creatures Stratigraphy

Page 2

The diagram on the previous page illustrates the layers (zones) excavated at the Kincaid Shelter archeological site in Central Texas, where ancient humans lived and hunted different animals as long ago as 13,000 years. Using the stratigraphy diagram on page 1, answer the following questions.

1. If you were an archeologist, which of the zones would be the most interesting to research? Explain your answer in complete sentences.
2. Which zone in the diagram is the oldest?
3. List 2 pieces of information from the diagram that helped you answer question #2.
4. Information in Zone 4 mentions extinct animals. What does extinct mean?
5. List 3 reasons to explain why animals might become extinct.
6. Name one animal alive today that is in danger of becoming extinct.
7. Do you think efforts to save endangered animals are worthwhile? Explain your answer in complete sentences.
8. Of all the wild animals in your neighborhood, which would you most hate to see become extinct? Explain your answer.

Kincaid Creatures Magic Squares

Directions: At the Kincaid Shelter in central Texas, we know that many different animals visited the site over the last 13,000 years. Use the website (<https://www.texasbeyondhistory.net/kincaid/layers.html>) to correctly identify nine of these animals. In each square, write the number of the description that describes the animal named in that square. Write the sum of the numbers from each row on the line outside the grid. Numbers in all rows, horizontal and vertical, should add up to the same "magic" number.

1. Reptile that lived in and around the ancient Sabinal River
2. Mammal whose remains came from the oldest layer at Kincaid
3. Also called Mylodon
4. Its African relative is sometimes called "King of the Jungle."
5. Ancient relative of today's dogs
6. Modern version of this mammal was hunted by plains Indians such as the Comanche.
7. Hump-backed mammal with modern relatives in Middle Eastern deserts
8. Related to today's elephant
9. Animal remains found in the youngest (most recent) layer at Kincaid site

The magic number is _____.

Camel	Sloth	Dire Wolf	
—	—	—	—
Horse	American lion	Deer	
—	—	—	—
Bison	Mammoth	Alligator	
—	—	—	—
—	—	—	

**Kincaid Creatures Magic Squares
Answer Key**

Camel 7 —	Sloth 3 —	Dire Wolf 5 —	 15 —
Horse 2 —	American lion 4 —	Deer 9 —	 15 —
Bison 6 —	Mammoth 8 —	Alligator 1 —	 15 —

15
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15
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15
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