



Teacher's Guide  
Can You Dig It?  
Make the Connection Hands on Tour  
Grade : 3<sup>rd</sup>-8<sup>th</sup>

## Museum of the Gulf Coast

### Description

Ever wonder what it's like to be an archaeologist or paleontologist? What do giant sloths and armadillos, tropical rainforests, and lush grasslands have in common? They are all part of southeast Texas natural history! Go deep into the wonders of Southeast Texas through fun crafts and hands-on activities. Investigate what fossils, shipwrecks, and relics of past civilizations can teach us about the past and the future and discover what makes Southeast Texas so unique.

### Texas TEKS

Social Studies and Native American History

Grade 3: 113.14 (b)(1), (2),(3), (4), (12), (16), (17), (18), (19)

Grade 4: 113.15 a(1),(2), (3); b(1),(2), (19),(21), (22), (230)

Grade 5: 113.16 a(1),(2),(3);b(1)

Grade 6: 113.18 a(1)(2),(3),(5); 2(a), 2(b), 15

Grade 7: 113.19 a(1), (2); b(1), b(2)

### Concepts/Goals

- Recognize the importance of artifacts in interpreting history
- Understand the use of artifacts to hypothesis about past cultures, historical events, and natural history.
- Students will understand the basic principles of archeology and paleontology.
- Students will understand that archeology is a scientific process and that it involves research and precision. They will know why archeologists excavate a site and why it is sometimes better not to excavate. The students will learn the steps involved in archeology
- Students will recognize various tools used in the life of Paleo Indians
- Students will learn about the two main tribes of early Native Americans in Southeast Texas, the Atakapans and the Karankawa.
- Students will various types of stories (how/what to do, explanation)
- Students will see the connection between the stories and the life of the Indians of Southeast Texas

## Vocabulary

**Pirates**-those who engage in the act of piracy are called pirates. Piracy is any act or robbery or violence on the sea.

**Privateering**- was a private person or ship authorized by a government by letters of marque to attack foreign vessels during wartime. Privateering was a way of mobilizing armed ships and sailors without having vessels be commissioned into regular service as warships.

**Excavation**- exposure, processing and recording of archaeological remains. An excavation site or "dig" is a site being studied. Such a site excavation concerns itself with a specific archaeological site or a connected series of sites, and may be conducted over as little as several weeks to over a number of years.

**Artifacts**- an object formed by humans, particularly one of interest to archaeologists

**Mammoth**-The Columbian Mammoth is the mammoth that was found in the Southeast Texas region. It entered North America via the Bering Land Bridge. The range was from Alaska, and the Yukon across the mid-western United States south into Mexico and Central America. It was a huge animal standing 14-feet at the shoulder and weighing 8-10 tons. The Columbian mammoth could consume about 700 pounds of vegetation a day.

**Fossils**- are the preserved remains or traces of animals, plants, and other organisms from the remote past.

**Atlatl**- was used by the Paleo Indians to hunt the mammoth

**Projectile Points**- Projectile points are tips fastened to the ends of spears, darts, and arrow shafts. Arrow points are the smallest projectile points and are, as the name suggests, attached to arrow shafts. Dart points are larger than arrow points, fastened to a wooden shaft, and propelled with a spear thrower or atlatl. Spear points are generally larger than dart points and are hafted to longer shafts that were thrown by hand at the intended target.

**Archeology**- The scientists who study archeology are called archeologist. Archeologists study the life and culture of ancient peoples

**Paleontology**-is the study of the history of life. Scientists who study paleontology are called paleontologists. Paleontologists use fossils to try to figure out three main things: Identify the origin of the fossil, find out what the environment the animal/plant lived in, and what can the fossil tell us about the history of the earth

## Pre-Visit Activity: Cookie Excavation

### *Objective(s):*

Students will demonstrate an understanding of the process of excavating artifacts

### *Materials:* Each student should be provided the following

- 1 toothpick
- 1 small plate
- 1 chocolate chip cookie or M&M cookie

### *Background*

Excavation is the process and method which archeologist and paleontologist use to extract artifacts and fossils from the ground. The work is very difficult and detail oriented.

There are no “do-overs.” If the scientist destroys the very thing he/she is trying to remove all is lost. It is also impossible for the archeologist and/or paleontologist to know exactly what is underneath the ground. He/she must be VERY careful not to damage the artifact and/or fossil they cannot see while trying excavate the ground around it.

#### *Procedure*

1. Pass out materials to each student: 1 cookie, 1 toothpick, 1 paper plate
2. Tell the students they are archeologist and their job is to extract artifacts (chocolate chips from their site (cookie)).
3. After allowing enough time, stop the class and find out how many students were successful in extracting the chips from the cookie while not destroying the chocolate itself.
4. Older students can use the Cookie Excavation Grid
  - a. Have students sketch the cookies on the Cookie Excavation Grid worksheet or a piece of graph paper. Have them sketch on the graph paper where the chocolate chips or the M&M's are.
  - b. As they excavate the cookie they record each thing they find. If they are using colored candies, the colors can be assigned different artifact categories. For example, yellow can be pottery shards, green can be food remains, blue can be stone tool, red can be shells. The categories can be changed depending on what type of site you are excavating.

#### *Discussion*

1. What problems did they encounter while excavating their chips?
2. Was it easy to determine where the chips were in the cookie?
3. Did anyone discover that when they excavated one chip, they sacrificed one below?

#### *Modifications*

Younger children can use M&M cookies because the candies tend to pop right out. Older students may enjoy the challenge of a granola bar or extreme chocolate chip cookie.

## **Post Visit Activity: Bag O' Artifacts**

#### *Objectives*

Students will exam a selection of artifacts and demonstrate the ability to provide a verbal or written description of the integrity of the archeological record and its effect on interpretation.

#### *Materials*

Artifacts-replicas, collections, “junk” representing different time periods and/or technologies, bags or containers (one bag per group)

#### *Background*

Only a small percentage of an archeologist or paleontologist time is actually spend in field work. Most of the time is spend in the lab interpreting and researching what was recovered. Sometimes artifacts can not be fully understood until the whole picture is put together weeks,

months or even years after the excavation. Scientists will look at materials, manufacture technologies, decorations, etc to establish time period, culture, occupation, gender, age, economic status, etc. of the people that occupied the excavation site.

Even artifacts can't tell the whole story. Not all materials survive the excavation process and some have been lost to history or damaged beyond recognition. These missing pieces could change how scientists view a site and interpret the story.

### *Procedure*

1. Divide the class into small groups
2. Give each group a bag of artifacts and allow the groups to observe the artifacts and discuss the contents.
3. Below are three ways that students can use critical thinking to interpret the contents of the bag.
  - a. Discuss what survives in the archeological record: Why are some items thrown out while others are passed down from generation to generation? How does the environment affect preservation? What biases do we bring to interpreting a dig site?
  - b. Sort the artifacts into different categories: Discuss the chronology of the artifacts and the time period each represents. Use this and other information (color, materials, manufacture techniques, technology, etc) to basic statistical analysis. What questions are answered through these analyses? Can the materials be manipulated?
  - c. Conduct classroom discussions or have students write interpretations of the artifacts included in the bag. Students need to include time period, ethnic group, gender, age, economic status, trade/occupation, etc of the people who may of owned the artifacts. Have them apply knowledge of history to interpret the artifacts.