

Museum of the Coastal Bend

Where Texas History Began –

The Virtual Exhibit

Explorer Guide



Welcome to the Museum of the Coastal Bend's Virtual Exhibit Explorer Guide. In this booklet are a variety of activities, coloring pages, and worksheets to help you explore the museum from home or from school.

Just follow along with a parent or teacher and visit the museum online. You'll explore artifacts displayed at the museum, see videos about archaeology, and explore the unique history of Texas's Coastal Bend.

Explore and have some fun!

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Museum of the Coastal Bend Archaeologists

Meet one of the archaeologists who currently works at the Museum of the Coastal Bend. She has taken time to answer a few questions to help you understand what they do at the museum and their role in archaeology.

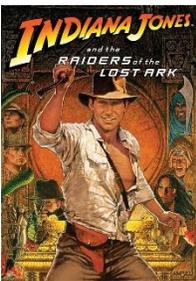


This is Heather Para. She's the museum's Exhibits and Collections Manager. Heather is a professional archaeologist who has a PhD from the University of Wales and outside of archaeology has worked as a professor and a museum staff person.

What does an archaeologist do?

An archaeologist studies past human activity by excavating, dating, and interpreting artifacts and sites of historical interest. They undertake excavations, preserve archaeological objects, and collect data to inform our understanding of the past.

How did you get interested in archaeology?



My father loved history, and we went all over the world visiting historic sites. He taught me to appreciate the many cultures of the world, past and present. Then when I was about 11, *Raiders of the Lost Ark* was a new film in theatres, and it occurred to me that this was exactly what I wanted to do.

Do you have a degree in archaeology?

I have a PhD in Archaeology, MAs in History and Museum Studies, and a BA in History and Native American Studies. And many years of field experience.

Where have you done archaeology?

I have done archaeology in Michigan, Pennsylvania, Oklahoma, Alaska, and Texas in the United States. Internationally I have worked in Wales, England, Ireland, and Greece.

Why do you like archaeology?

I like archaeology because it is both exciting (such as when you find an interesting artifact) and methodical (measuring and recording are important aspects of this work). I also like that when I do find an artifact, I am the first person to look at or touch it in perhaps thousands of years, and it gives me a sense of connection to the people who used it in the past.

Why is archaeology important?

Archaeology is important because it provides us a window (through material culture) into the past. We can study sites and objects to learn about people who didn't leave a written record.

What advice do you have for someone who wants to become an archaeologist?

Sign on to do some volunteer digs to ensure that it is what you really want to do. Then, go to a university with a solid archaeology program located in an area that has the kind of archaeology that interests you most.

Who Are You?

(Recommended for all grades)



Archaeology tells us about people who came before us and how they might have lived in the past. How does archaeology do this? People of the past often left behind objects that they made or owned which give archaeologists clues to understand who they were and how they lived. You might say that archeologists are detectives.

Activity: The objects left behind by people and the conditions that they are found can say a lot about who that person was. Answer the questions below about your room to show what an archaeologist would say about who you are if they found artifacts that you left behind.

1. List ten things in your room that would tell an archeologist about you.
2. Imagine that an archeologist found the ten things that you listed. What would he/she say about who you are?
3. What would an archeologist say about the conditions in which your items were found in your room? Are the items neat and organized or are they scattered in random places?
4. Why is it important for artifacts to be left in place at dig sites?

What is Stratigraphy?

Stratigraphy is the layering that occurs in the soil. These layers allow archaeologists to see how artifacts are related to each other and approximately how old the objects are as well. The layers of soil we walk on are the newest, and as we dig, we are reaching older and older soil areas.

Below are activities that will help you understand how archaeologists use stratigraphy.

Activity 1: Make your own stratigraphy

1. Flatten out 3-4 different colors of playdough. Each circle of playdough should be bigger than the first.
2. Lay the smallest down as your bottom layer. Then place the next largest layer on top of it.
*Make sure the second layer completely covers the first layer. *
3. Next put the last and largest layer over your other layers. You have now created stratigraphy.
4. Take a plastic spoon or knife and cut open your layers. This is what archaeologists use to help them understand how artifacts relate to each other.
5. Keeping in mind your layers, complete the following activities.

Activity 2: Determining Relative Age

Absolute age is knowing the exact age of something. For example, your age is your absolute age. The absolute age of artifacts can be found with carbon dating or geothermal dating. Relative age is what archaeologists can determine using stratigraphy. Artifacts found in the same layer are approximately the same age, artifacts further down are older and artifacts closer to the surface are newer. This is called relative dating. You will now test your knowledge and date artifacts using relative dating.

Activity 3: Uneven Layers

What happens when an archaeologist comes across layers that have been disturbed? They must use their skills as archaeologists to determine what happened. This can happen if there has been erosion, animal activity, or construction.

Stratigraphy Activity

(Recommended for grades 1-4)

As you have learned, archaeologists use the process of Stratigraphy to tell just how old an artifact is based on the layer and condition of soil in which it is found. Complete the activity below to see just how the layering of soil looks before it is excavated.

What you need:

- 3-4 different colors of kinetic sand.
- Clear plastic water bottle (peel off label)
- Masking tape
- Marker



Activity:

- Remove the cap from the water bottle and set it aside.
- Pour first color of kinetic sand into the water bottle until it makes about a two inch layer (Use a ruler if you wish).
- Pour the next color of kinetic sand into the water bottle on top of the first.
- Repeat previous step until all 3-4 layers have been poured into the water bottle.
- Place the cap back on the water bottle.
- Hold the bottle in one hand pat the top of the top of the water bottle with the palm of the other hand. This will make the sand settle and be more solid.
- Take your masking tape and cut out 3-4 three inch strips. (One strip for each layer)
- Place each strip of masking tape over each layer horizontally on one side of the bottle.
- Using your marker, number each piece of masking tape from 1 to 3 (or 4 if you have more layers) starting from top to bottom.
- On the bottom-most strip of tape, write the word “Oldest” and on the top-most strip, write the word “Youngest.”



Layer-By-Layer

As you have learned, Stratigraphy is the process by which layers of sediment are laid down upon each other over time. Archaeologists use this process of stratification to tell how old an artifact is based on where it is found in the sedimentary layers. The deeper the layer, the older the artifact.

Activity: You are an archaeologist and have uncovered some artifacts at a dig site. It is extremely important to keep track of where you found each of the artifacts so that you can determine their age. Using what you know about Stratigraphy, draw an arrow to connect the artifact to the right layer where it was found.



Cookie Excavation

When archaeologists excavate a site they must take note of the location of each artifact or feature at the site. But how do they do this? Archaeologists carry graph paper and each sheet is a different unit of excavation. What you will be doing today is a cookie excavation!

Everyone will get a single cookie and a sheet of graph paper.

1. Place your cookie in the middle of Grid A.
2. Note the coordinates of the top, bottom, left side, and right side of the cookie. Use them to sketch the perimeter of the cookie on Grid B.
3. Before excavating, note the coordinates of any chocolate chips you can see. Use them to sketch the chips onto Grid B.
4. Use a toothpick to excavate your cookie. As you find chocolate chips, note their coordinates and sketch them onto Grid B.
5. Did some areas of the cookie have more chocolate chips than others?

Grid A

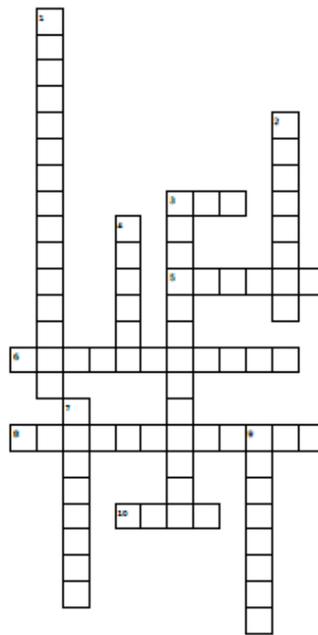
	A	B	C	D	E	F	G	H	I	J
1										
2										
3										
4										
5										
6										
7										
8										

Grid B

	A	B	C	D	E	F	G	H	I	J
1										
2										
3										
4										
5										
6										
7										
8										

Archaeology Crossword Puzzle

Grades 4 - 7



Down:

1. Ancient people who moved around constantly hunting animals and gathering plants.
2. To make a hole by digging up ground.
3. A person who studies human history and prehistory by digging up sites and artifacts.
4. Layers of archaeological material.
7. An item made by a human being that was left behind.
9. To maintain or keep intact.

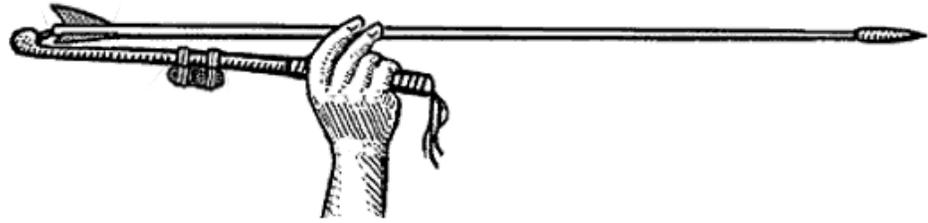
Across:

3. All-purpose pointed tool usually made of a long bone splinter used for punching holes in animal hide.
5. Stone area in front of a fireplace.
6. The study of human history and prehistory through the digging up of places and analysis of artifacts and human remains.
8. Layering that occurs in the soil over time.
10. The place where artifacts are found and recorded before being moved to the lab.

MuseumOfTheCoastalBend.org
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What is an Atlatl?

The word atlatl roughly translates to “spear-thrower.” Used by



early peoples, including those in Texas, the atlatl allows people to throw darts greater distances and with more force than just using their arm. But how does this happen? The throwing arm and the atlatl act as a lever. The extra length allows the thrower to put more energy into the throw.

The atlatls or atlatl like throwing devices have been used in parts of the world since the times of the ancient Greeks. Each one looked different and historians and archaeologists can tell where an atlatl came from based on the materials used as well as the design.



When the atlatl was first used in Texas, around 10,000 years ago, mammoth and mastodon still roamed the land. There were also species of bison larger than the ones that exist today. They would aim for the animal’s ribs, hoping to pierce the heart, lungs, liver, or major blood vessels. After the mammoth, mastodon, and

prehistoric bison went extinct, Texans used atlatls to hunt modern bison and deer.

Instructions from Project Archaeology.

1. Participants will make and practice using their own atlatls. For this, each participant will need two wooden paint stirrers, a pencil, duct tape, one Command hook and adhesive backing, one small stone, and a length of leather cordage. Distribute these materials.



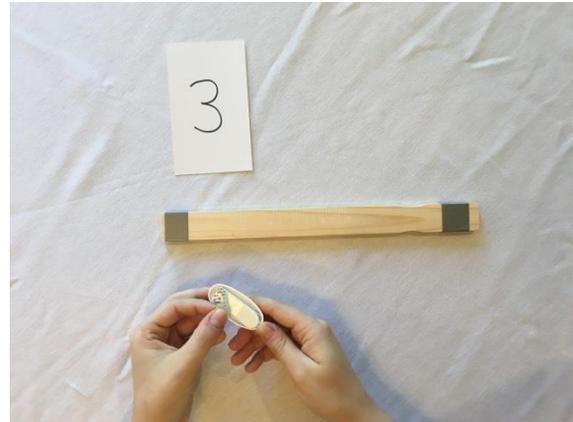
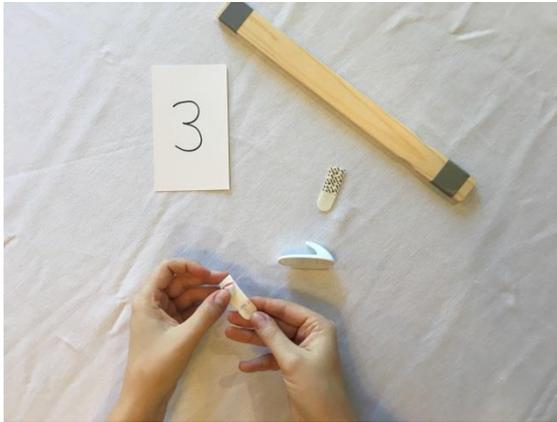
2. Participants will begin by taping together the two paint stirrers to make one thicker piece of wood. Place the two stirrers together and line up the edges.



Use the duct tape to secure the stirrers together on both ends.



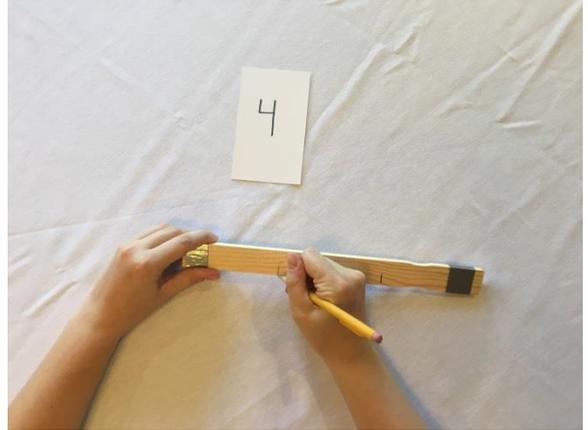
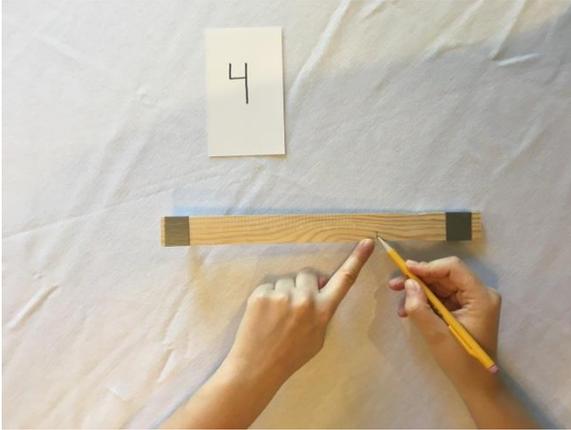
3. Prepare the Command hook by peeling away the red plastic on the adhesive strip. Place that side onto the hook, and press firmly. Peel away the black plastic on the other side.



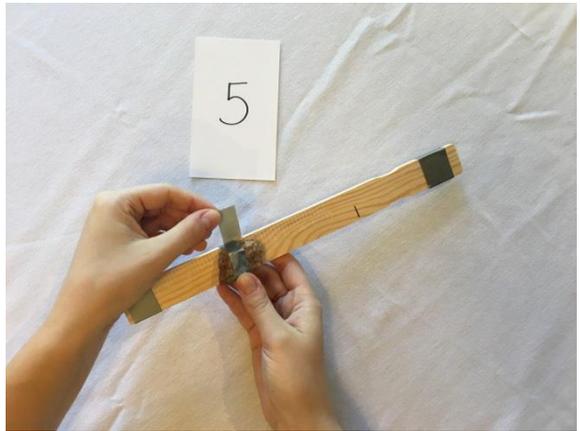
The paint stirrers have an indentation on one side. Locate the other (flat) end, and attach the Command hook to the wood with the point of the hook facing the length of the atlatl. Attach the hook to the wood by sticking it in place and pressing down firmly for 30 seconds.



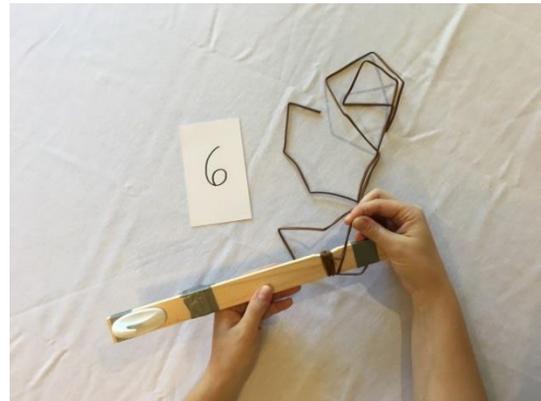
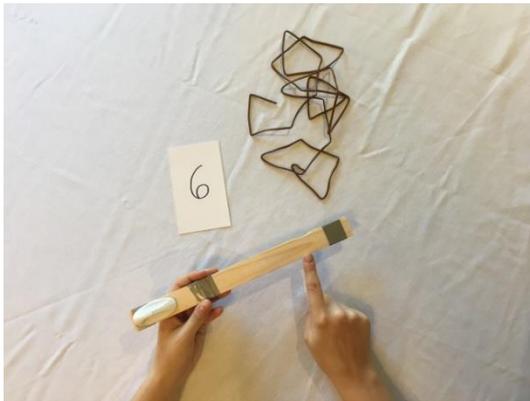
4. Hold the atlatl with the hook side facing down, and use the pencil to make marks on the wood to divide it into thirds. These do not have to be exact or measured thirds; estimate these marks.



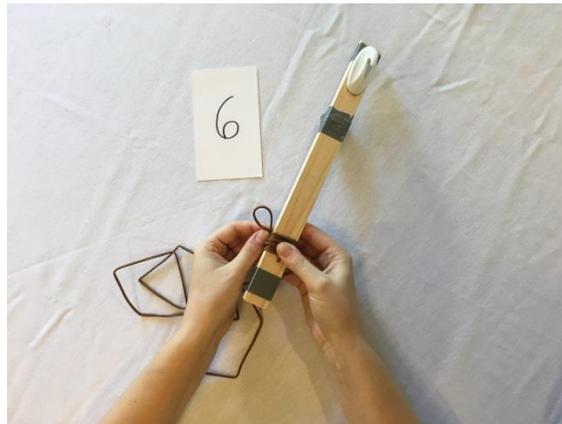
5. Find the mark that is closest to the end of the atlatl with the hook. Tape the small stone onto this mark with duct tape.



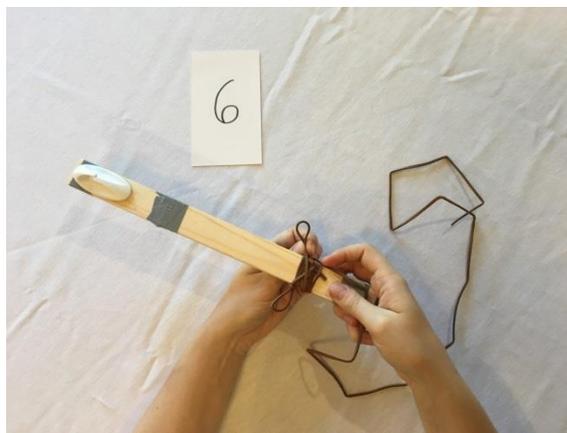
6. Finally, make a handle with the leather cord. Begin by locating the indentations on one end of the atlatl. Tie a knot to secure the cord around these dents and wrap it around to form a secure handle.



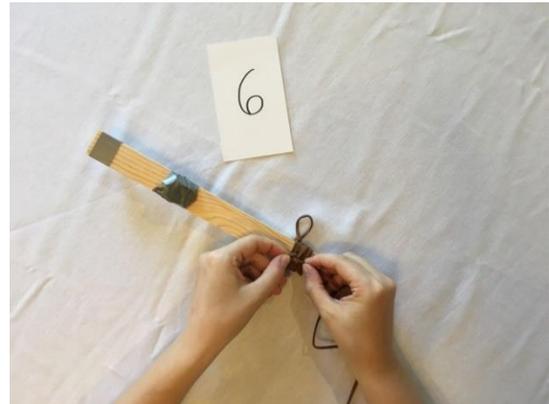
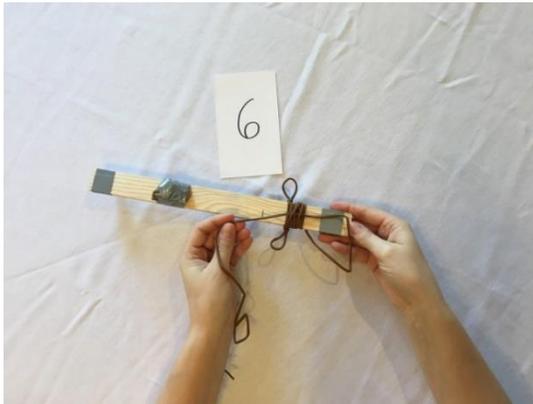
Create an inch-long loop on one side and securing it with a knot at the base. Test the size of this loop against your finger to make sure that it will make a secure grip.



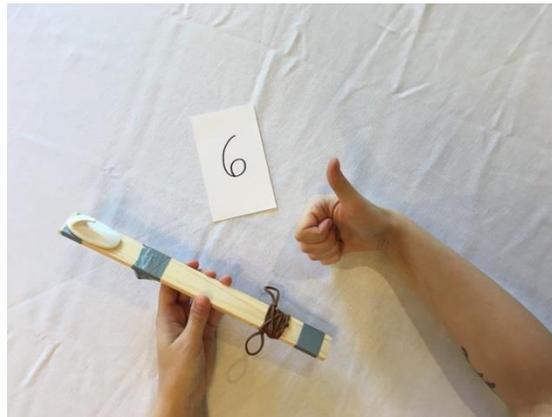
Loop the cord around to the other side, and create a second loop the same way. Secure this loop with another knot.



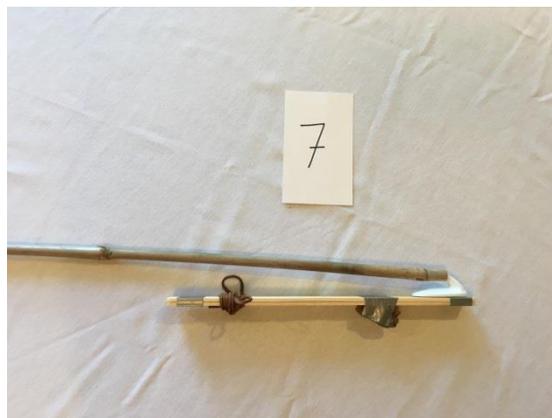
Tie off the handle by looping the remaining cordage back through some of the wrappings, then tie a knot to secure.



Test this handle by holding the atlatl with their index and middle fingers through these two loops. If needed, adjust the placement and size of the loops to better fit your hands.



7. When you are ready to use the atlatl, fit the hollow end of the bamboo stake onto the Command hook. Use the leather handle to grip the atlatl and steady the stake.



How Do We Survive?



Long ago in Texas, people had to use whatever they found in their environment to survive. These people had to use resources that they found in nature in order to have the basic necessities of life such as food, water, and shelter. The same can also be said for people today, although we survive in a different way than people long ago.

Activity: Answer the following questions about what people need to survive today and in ancient times. Think about how you survive today and compare it to how people lived long ago in ancient times.

1. What are some basic things that people need to live? (List them below)

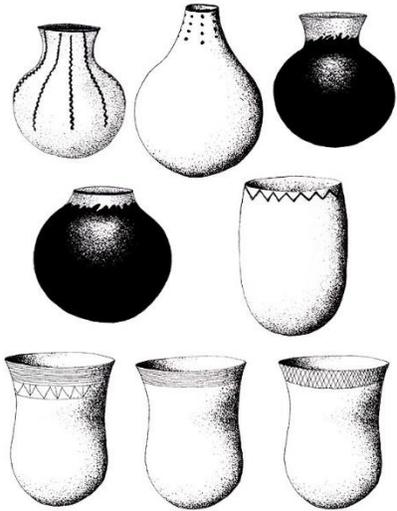
2. How do people today get the things that they need to survive? (Think about how you and your family survive)

3. How would a person who lived in ancient times in Texas, before stores and electronics, get the necessary things to survive?

4. How are the ways that people in ancient Texas survived similar to how we survive today?
How are they different?

5. Finding a place to live in early Texas was very important to people back then. How do you think they decided where to live? Give three reasons why.

Rockport Pottery



The Karankawa lived along the Gulf Coast of Texas from Galveston to Corpus Christi, and one artifact that is unique to the Karankawa peoples: Rockport pottery. This type of pottery can feature lines around the top of the pot or black designs made from tar, and rounded bottoms.

Why would the bottoms of their pottery be round instead of flat? Unlike the dishes and containers we use today, the ones the Karankawa used were not designed to sit on a table. Instead, Rockport pottery was often set in a fire for cooking so a round bottom would allow the pot to sit better in the fire, and allow for an even heating for cooking.

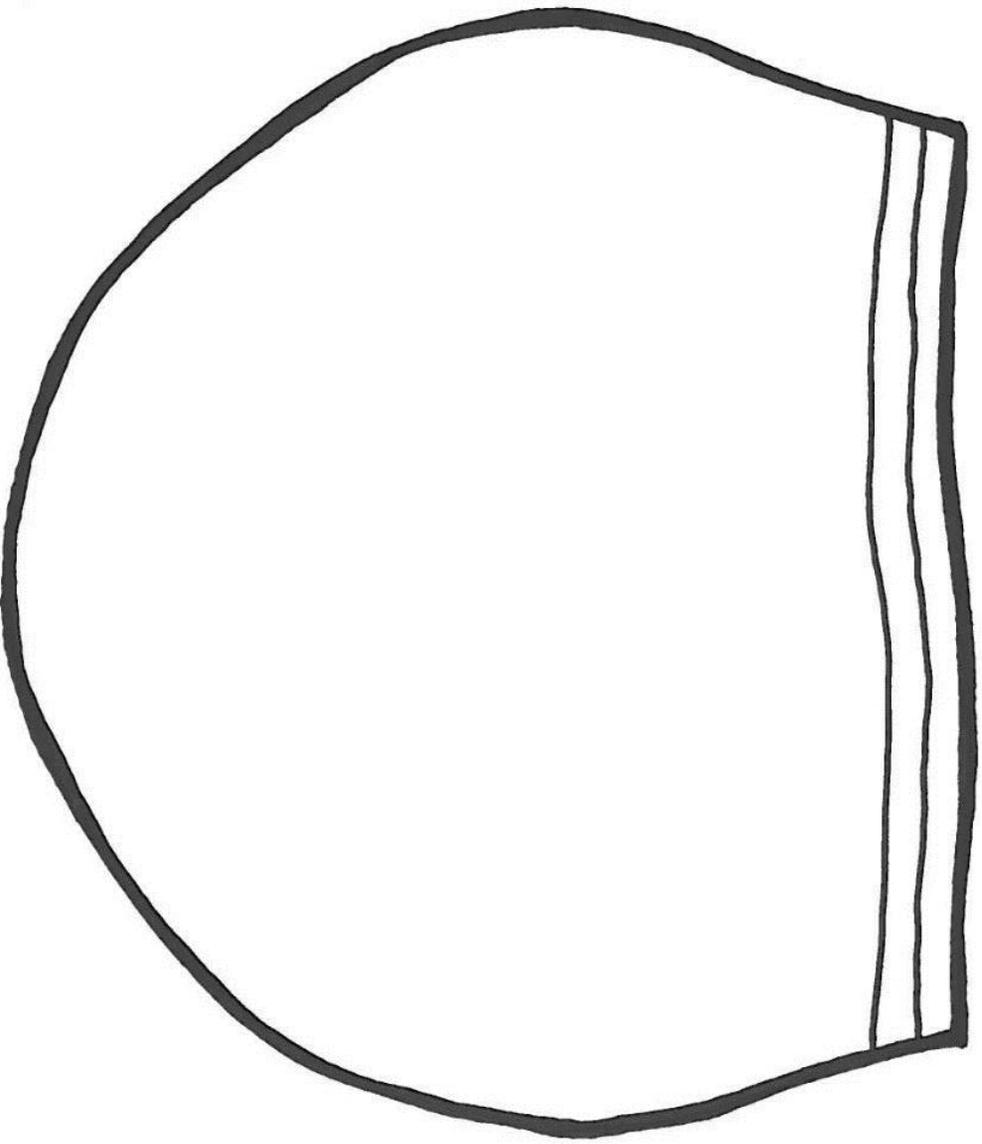
But how did early peoples fire their pottery? They had to make their own! These kilns looked different all over the United States, but most started with a hole dug in the ground. Rocks would usually be layered in the bottom of the kiln and a fire would be set on top of these rocks. When the rocks were hot and the fire had burned out, the pots would be set on the rocks and then covered with dirt, leaves, and wood. This covering traps the heat inside the kiln and hardens the pots.



Starting around 1200 AD,
people living in the
Coastal Bend made
a type of pottery called
Rockport ware. This pot
is an example.

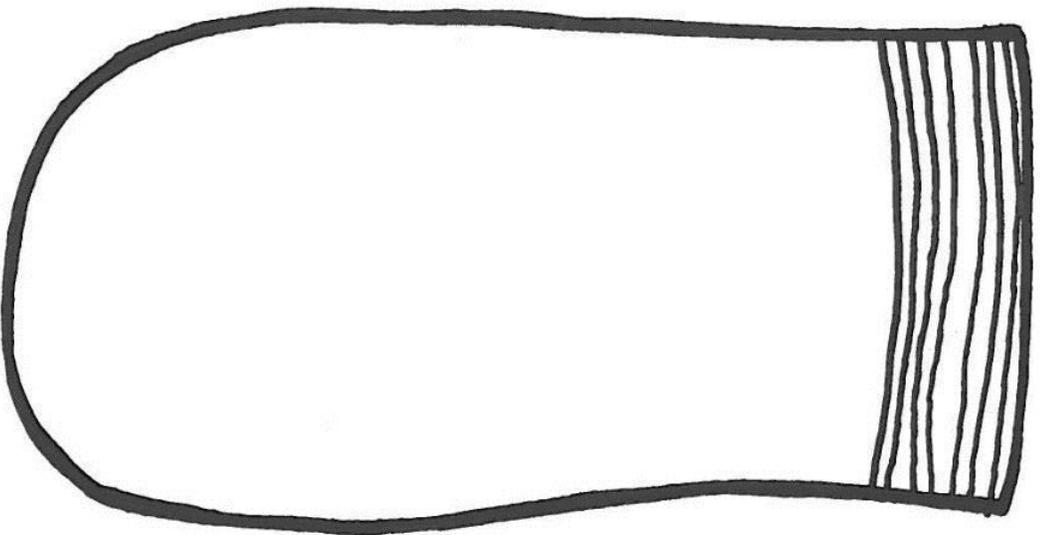
Decorate the pot however you
like. The people who made
Rockport ware often drew lines
around the rims of their pottery,
or covered it with tar to make it
waterproof.

Then, cut the pot into pieces.
Mix them up, and try to put
them back together.
Archaeologists have to solve
puzzles like this all the time!



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A Pot in a Pinch

(Recommended for any grade level)

Long ago, the Karankawa lived along the Gulf Coast of Texas and left behind unique artifacts that archaeologists have uncovered recently. One very special artifact that the Karankawa left behind was Rockport pottery. This type of pottery had lines around the top and used black tar to create designs. Also, the bottoms of the pottery were round in order to make them easier to place into a fire for heating. Just as people today use pottery and utensils for cooking, so did the Karankawa, although they had to make their own using sophisticated pottery techniques such as digging fire pits and using them as kilns as well as using crushed bone to make the pottery stronger and less likely to shatter. Each piece of pottery was decorated and had unique symbols and markings.

Activity: Making your own Pinch Pot

What you need:

- Air-Dry Clay
- Beads, seashells, and other desired decorating materials
- Toothpicks

Activity:

- Take fistful of air-dry clay and form it into a ball by rolling it between your palms.
- Take your thumb and press it into the middle of the clay ball in order to make an indentation.

- While keeping your thumb in the indentation, use your other fingers to pinch the clay in a circular direction to hollow out the clay. Try not to make the sides too thin.
- Continue to pinch and mold the clay until you have the pot shape that you like.
- Press your seashells and beads into the sides of the clay until they stick into the clay. Use as much as you like but do not put any on the very top.
- Using your toothpick, trace lines around the rim of your pinch pot. You can trace as many lines around the rim as you like, remember, it's your pot.
- Let the clay dry for a day.
- You may paint the pot if you wish after it has completely dried.



Lithic vs Modern

What does the word lithic mean? It means something related to stone. When we talk about lithic tools, we are talking about tools made of stone. But how similar are these lithic tools to the tools we use today? In this next activity we're going to see if you can match the lithic tool to the modern tool. Draw a line from the lithic tool to its matching modern tool.





Can You Dig It?

(Recommended for grades K-5)

Now it's your turn to be the archaeologist! You've just come upon a very promising dig site and need to start "excavating" to see what you can find. As you know, excavation is the process by which archaeologists dig up artifacts for study. Complete the activity below to start excavating your own dinosaur fossil.

What you need:

- Cornstarch
- Water
- Toy Dinosaur fossil skeletons or dinosaur figure
- Small plastic food storage container (preferably for lunchmeat storage)
- Small paint brushes
- Toy hammers and digging tools (plastic scraper or Play-do spatula would work well)
- Wax paper or cookie sheet

Activity:

- Mix up cornstarch and water in plastic food container. Be sure to mix up enough to fill the container 3/4s of the way up. Use 2 cups of cornstarch and 1 cup of water. (add more cornstarch if mixture is too soupy)
- Place dinosaur skeleton or figures in mixture covering them completely. Be sure to place it as deep into the mixture as possible.
- Place the container out in direct sunlight for 1-2 days until the mixture has hardened. (When cracks start to form, the mixture is ready)
- Place your wax paper or cookie sheet on a flat surface along with your excavation tools.
- Take the plastic container with the mixture and place it face-down on the wax paper or cookie sheet.
- Tap on the top of the container to loosen the mixture and remove the container after the solid block falls on the wax paper.

- Use your hammer to crack open and block and your Play-do spatula to start separating the block.
- Remove the dinosaur skeleton or figure and begin removing the dust particles using your paint brushes until it is all off.
- Left over bits of mixture are fun to play with after your dinosaur has been excavated.

Happy Excavating!

Indigenous People Word Search

T Q J I R J Y B K D O V H X C
H F X P N K O H F T J Z N Q N
D P W T A X F O S S I L O A V
N A O M P L R C L X Z G M R V
J E S L A A E V Q O Q T A C K
Q L O P I M L O T U I M D H A
X Q V L H T M E I B L Z I A R
A T M V I A H O O N X Q C I A
M K A I G T L I T L D N Y C N
R L T D C T H T C H I I Z Y K
P J L S B D F I U W P T A J A
E R A G M Z M L C M K N H N W
R R T Q X K Y M M W S Y O I A
S Z L B T Z G C T H B U I S C
O M I D D E N S A X R M C Q A

Paleolithic

Karankawa

Nomadic

Paleoindian

Archaic

Lithic

Neolithic

Middens

Atlatl

Asphaltum

Mammoth

Fossil

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La Salle's Voyage

La Salle's expedition set off from La Rochelle, France, at the end of July 1684. There were four ships: *La Belle* (the smallest), *l'Aimable* (the main supply ship), *Le Joly* (a warship escort), and *Le Saint-François* (which was captured before reaching Texas). The expedition arrived in Matagorda Bay in February 1685, about six and a half months after leaving France. (About two months of that time was spent ashore in Haiti, then known as Saint Domingue.) *Le Joly* returned to France after the expedition arrived, and *l'Aimable* sank while attempting to enter Matagorda Bay, so *La Belle* was the colony's last form of sea transportation. Then, in February 1686, *La Belle* sank during a storm.

What They Brought

When planning a journey across the Atlantic, it is important to consider what you will be bringing with you. La Salle's ships contained items to meet the basic needs of the people aboard the ship, extra supplies for when their colony was established, weaponry in case of attack, items to trade in the Caribbean and in the New World, and some items to remind them of home or to make their lives easier.

Life on a Ship

Fresh meat was a luxury for sailors. Their only way to obtain, once meat that was packed ran out, was to land the ship and hunt. Even then, meat was difficult to store. It had to be kept cool in order for it to not spoil. In most cases, the meat would be smoked so it would last longer. If water ran low, people on the ships would begin drinking wine, and then brandy if the wine ran out. In order to replenish water supplies, the ship had to land and people would fill the empty casks with

fresh water if they could find it. Fruits and vegetables were also scarce unless some could be found or traded for. Bread was taken to eat on the ship, and flour was saved for the new colony. Life on the ship was hard, and once they left France, the ships were on the open sea for 2 months before stopping in Haiti to trade and resupply.

Discovering and Excavating *La Belle*

Spanish expeditions looking for La Salle's colony had seen the wrecked remains of *La Belle*, and it was marked on various maps. However, the exact position was unknown, and it remained that way until 1995, when archaeologists found the ship under 12 feet of water and a layer of silt.

Because the water was too murky to conduct an effective underwater investigation, the team built a cofferdam—basically a hole in the bay, centered over *La Belle*, that they could pump the water out of. The dense, thick silt and mud of the bay had protected *La Belle* very well—things like worms and bacteria weren't able to eat away at the ship as they normally would.

Archaeologists were able to determine the location of cargo on the ship, and identify many items that were intended for consumption by the settlers as well as many trade items. Over 1 million artifacts were discovered.

A lot of decisions had to be made before La Salle's voyage began. It's your turn to make those decisions. You will need to decide how much food and what to take, and what you think you will need to start a colony in the New World. Use the following sheets to help you decide what you're going to take with you. Remember that La Salle spent months on his voyage and they arrived with nothing waiting for them. Also remember what they did not have available: phones, GPS, refrigerators, etc. Now, it's time for you to plan your voyage!

Items Commonly Used: French Exploration

For Clothing

Buttons

Needles

Thread

Cloth

For Food

Cups

Plates

Silverware

Water

Hardtack (made from water and flour)

Flour

Corn

Beans

Salt fish and beef

Butter

Lard

Bacon

Salt

Vinegar

Wine

Brandy

For Weaponry

Muskets

Swords and Bayonets

Shot (Ammunition)

Powder (for cannons and muskets)

Cannon balls

Cannons

Other

Hatchets

Pins

Beads

Off to See the Sea

(Recommended for grades 4-7)



During the 1600s, Rene-Robert Cavelier de La Salle was commissioned by King Louis XIV of France to set out with an expedition to explore the lands at the mouth of the Mississippi River and create settlements. Before setting off on his voyage, La Salle and his passengers had to make sure that they had everything that they would need in order to survive the voyage and settle the land that they would explore. Like any voyage during that era, a lot of supplies were needed to survive which included anything from clothing, food, and weapons.

You are preparing for a voyage at sea and have been put in charge of gathering supplies for your ship. Based on what you have learned, create a list of items that you would need to survive a voyage at sea. List at least 4 items per category.

Food

Weapons

Clothing (items to make clothing)

Other (cooking, building, etc.)

Build Your Own Boat

Boats come in all shapes and sizes and have transported people and goods for thousands of years. La Salle sailed to Texas on a boat called *La Belle*. This ship is different from most of the ones we look at because it was built from a kit. In this kit, all the pieces were labelled to make it easier to assemble. *La Belle* was supposed to be assembled once La Salle reached the Mississippi River; however, due to space, they needed to put it together before leaving France.

But why come to North America? It's 1684. Europeans are very interested in exploring North America. At this time, France has a lot of activity in Canada (which was then called "New France"); there's a lot of fur trading. But Canada gets cold in winter—the rivers and ports freeze over, and the small wooden ships that people had in the 17th century couldn't break through the ice. So shipping stopped over the winter. So France knew that it needed to gain control of a warm-water port in North America, a port that could carry out trade all year. King Louis XIV decided on the Mississippi River—if they had a colony at the delta, they'd be able to control a huge part of the interior of North America. He sent the explorer La Salle to start that colony on the Mississippi.

But La Salle's navigational tools weren't as accurate as ours are today, and instead of landing at the Mississippi, he landed basically here—in Matagorda Bay, 400 miles too far west. But he set up his fort anyway, here in Victoria.

Some of the artifacts found in each part of *La Belle*:

- Lazarette (small compartment at the stern): weaponry such as firepots and shot
- Aft hold: living area containing utensils, cups, game pieces, buttons
- Main hold: supplies such as trade materials (beads, rings, bells, axe heads), plates, petards
- Bow compartment: rope (a ship like *La Belle* would have had about 4-5 miles of rigging!)

This Boat Will Float

(Recommended for grades K-5)

During the time of La Salle's exploration, people generally travelled using wind power by way of sail boats. Ships were built to be solid and designed to harness the power of the wind and be aerodynamic to improve travel. The better your ships was designed, the more efficient your trip would be.

Activity: You will assemble your own boat to go on your own expedition using the following materials for construction:

- Pool noodle (color of your choice)
- Foam sheets (arts and crafts, any color)
- Flexible straws (any color)
- One-hole puncher
- Scissors



Directions

- Using your scissors, cut a 2-3 inch piece off one end of the pool noodle. This will be the hull of the ship.
- Take a piece of the foam sheet and cut it into a triangle about 2-3 inches tall and 2-3 inches wide. This will be the sail of your ship.
- Using your one-hole punch, punch a hole close to the point of your foam sheet triangle and another close to the bottom. Be sure that the holes line up vertically from top to bottom.
- Cut a 4 inch piece off of the end of one of the flexible straws. This will be used as the mast of your ship.
- Take the sharp end of your scissors and poke it into rim of your pool noodle piece. Do not poke all of the way through the pool noodle but just enough to make a 1 inch hole for the straw piece.

- Push one end of the straw piece through the hole that you made in the pool noodle. Make sure that the straw fits tightly and that it is able to stand straight up.
- Take your triangular piece of foam sheet and push the straw through the hole that punched on the base of the triangle and then through the one at the top. You should not be able to see the straw when your boat is facing forward.

Your boat is now ready to set sail. You can make it move by blowing on the back of the sail. You can also build more ships and have races to see whose ship is the fastest.



Fort Saint Louis Cannons



How did the cannons get to the museum? They came from France in 1684 with La Salle and his colonists. The supply ship sank, the cannons had been unloaded before the ship went down. So, luckily, the cannons were safely on land, at Fort St. Louis.

But there were no cannonballs! Now, the fort didn't last long. The Spanish found the fort and decided to bury the cannons so that if any French people came back, they couldn't use them to defend themselves. Later, the Spanish returned and built their own fort right on top of where Fort St. Louis had been, but they couldn't find the buried cannons. So the cannons stayed buried for more than three hundred years! Luckily, they were found again, in 1996, and in 2003 they came to the museum.

Cannon Crewmembers:

- The Wormer, who checks that the inside of the cannon is clear and then loads things inside
- The Rammer, who makes sure that the load is where it needs to be
- The Powder Monkey, who handles the powder and the cannonball
- The Primer, who prepares the cannon for firing
- The Cannoneer, who fires the cannon
- The Gun Captain, who leads the crew and gives the commands

Range of the Fort St. Louis cannons: about 1 mile with accuracy, closer to 2 miles if you don't really care where the cannonball goes. The cannons are not identical; some are three-pounders, some four-pounders, some six-pounders.

Cannon Commands:

“Search the piece.” This means checking to see that the inside of the cannon is clear.

“Sponge the piece.” Why would we want to sponge a cannon? Is it dirty, so we have to wash it? Well, it might be kind of dirty, but more importantly, there might still be tiny burning sparks inside from the last time that it was fired.

“Advance cartridge.” Before the cannonball gets put in, we need to put in something that will explode and force the cannonball out of the cannon really quickly! Something like gunpowder. That's what the cartridge is.

“Charge with cartridge.” That means to put the cartridge into the bore.

“Ram down cartridge.” Using the ramming end of the pole, the Rammer gently pushes the cartridge all the way down to the end of the bore.

“Advance the shot.” It means get the cannonball ready.

“Charge with shot.” The cannonball is carefully placed in the cannon.

“Ram down shot.” The cannonball is gently tamped down until it's snug against the cartridge so that there's no gap between them.

“Prick and prime.” This is how we prepare, or prime, the cannon so that fire can get to the place where we *do* want it to be. There is a tiny hole back here at the breech, called the vent. The Primer sticks a sharp wire down the vent to poke a hole into the cartridge that's inside the cannon. Then, the Primer pours some priming powder into the vent.

“Gauge the piece.” This is when the cannon gets aimed.

“Have a care.” This is the signal to the whole artillery team to be careful. Basically, it means watch out, cover your ears, we’re almost ready to fire!

“Give fire.” The Cannoneer, takes this tool called the linstock—it has a slow-burning fuse on it. When the Gun Captain gives the command, the Cannoneer touches the linstock to the priming powder and that sets off the gunpowder and makes the cannon shoot!

Cannon Vocabulary:

bore: the hole down the cannon, from the muzzle to the breech

breech: the back end of the cannon (the breech is closed in our cannons)

cannoneer: the member of the artillery crew who sets off the cannon

carriage: the cart that the cannon rests on, which can be rolled around in order to aim

cartridge: the powder and its container, loaded into the cannon before the shot

muzzle: the front end of the cannon (our cannons are muzzle-loaders)

piece: the whole arrangement of cannon and carriage

priming powder: the powder that is poured into the vent and acts as a “fuse” to ignite the cartridge

priming wire: a sharp wire or spike used to poke a hole through the vent into the cartridge

rammer: the tool used to push the cartridge and the shot into the bore of the cannon

sponge: woolen tool for swabbing out the bore and making sure that there aren’t any sparks

vent: the small hole at the breech used to prime and fire the cannon

wormer: a tool with two twisted spikes or prongs, used to clear debris from inside the cannon

Cannons are a Blast!

(Recommended for grades K-5)

When La Salle came to the New World, he brought cannons aboard his ships for defense purposes. Cannons were often used onboard ships to defend against attack and were also brought to shore to defend French settlements. Cannons were meant for long range attack and used a crew of sometimes up to six men to load and fire it.

Activity: You will construct your own cannon using air to launch the cannon ball. You will need the following supplies to create your very own air cannon:

- Plastic soda or water bottle with not cap (this will be the barrel of your cannon)
- Scissors
- Duck tape
- 1 balloon
- 1 sheet of construction paper (any color)
- Scotch tape
- Pom poms (1 inch in size) (these will be your cannon balls)



Directions:

- Using your scissors, cut about 2 inches off of the bottom of your plastic soda or water bottle. Discard the base of the bottle and keep the other half. (The part should be performed by an adult)

- Take your balloon and tie a knot in the nozzle to keep air from coming out. Cut about an inch off of the top of the balloon. Keep the piece that has the nozzle.
- Stretch the snipped end of the balloon and fit it around the end of your plastic bottle piece. Make sure that it is fitted around the large end and not the spout.
- Duck tape the balloon to the bottle. Make sure to wrap the duck tape completely around where the balloon and bottle meet to keep air from escaping.
- Cut out a strip of construction paper big enough to wrap the middle of the bottle. You will want to cover the part that has the ducktape on it and not cover the part that has the spout. You may decorate the construction paper with any design that you wish.
- Take a pom pom and place it in the spout of your cannon.
- Pull back the knot of the balloon and let it snap forward.
- The air inside of the bottle will propel the pom pom out of the spout like a cannon ball



The Spanish search for Fort St. Louis

During the time that La Salle's expedition was struggling in Victoria County, reports of their presence filtered through to the Spanish government in Mexico. At this time, Spain didn't have any settlements in Texas, and hadn't done much exploration of the territory. Knowing that France had started a colony in the southern part of North America prompted the Spanish government and its agents in Mexico to take a greater interest in Texas and lay a stronger claim to the land.

Several search parties were sent from Mexico into Texas to look for the French settlement. One party saw the wreck of *La Belle*, but didn't find Fort St. Louis. Finally, an expedition led by Alonso de León, the governor of Coahuila, discovered the fort in 1689. This was after the Karankawas had killed the last adult inhabitants of the fort and taken in the Talon children, so the Spanish didn't find any living people. They did find the remains of three people—a woman (Isabelle Talon, with a dress still clinging to her bones), a man (the Marquis de Sablonnière), and a boy (about 8-10 years old, unknown identity). The Spanish explorers wrote a poem for the dead, and buried them in a single grave. They burned the fort's buildings and buried the cannons.

Building the presidio and mission

In 1722, Spanish forces returned to Garcitas Creek to start a settlement. Presidio La Bahía was built on top of the remains of Fort St. Louis, and Mission Espíritu Santo was constructed about three miles away on the other side of the creek (in Jackson County).

The purpose of missions

Missions were self-contained communities established by the Spanish church and state to convert native peoples to Catholicism and the Spanish lifestyle. The goal was for the Indians to change their culture from a nomadic to a settled one, to be assimilated into Hispanic culture, and thus to be under the control of the Spanish government in New Spain. Additionally, native peoples could provide manual labor and production skills that would add to the economy. In the Texas frontier, Spanish authority needed to use every resource it had to claim that territory and carve out settlements.

Missions were intended to be temporary—once a group of Indians had been converted and assumed Hispanic lifeways, the mission was secularized, and the group would operate just like any other community. Or at least, that was the intention; most mission Indians never fully converted, and carried on the traditions that they'd grown up with for generations.

Mission life

Prayer and religious education were significant parts of life at a mission. The missionaries taught the indigenous people how to speak Spanish, and led them in religious observances.

The Indians and Spaniards living on a mission had the same daily activities that would be done in other communities. They cooked meals and tended to gardens. They cared for animals, including cattle, horses, goats, and sheep. Chores like washing and sweeping kept the mission clean; kitchen hearths needed a steady supply of firewood. Some people were carpenters or blacksmiths, and made repairs to buildings and tools. Others made candles and soap. They spun wool into thread and wove it into cloth, then sewed clothing and blankets. Seasonal activities

happened throughout the year, such as harvesting corn, grinding grain, picking and cleaning cotton, shearing sheep, and branding cattle.

Why did indigenous peoples live at the missions?

The Spanish government and missionaries didn't force the native people to enter missions, but once Indians had come, sometimes force kept them there. Presidio soldiers might go after people who left the mission and bring them back, whether they wanted to return or not.

Missions provided more abundant, year-round food supplies than indigenous lifestyles did. The missions' accompanying presidios were also an advantage to the Indians—different native groups sometimes fought with each other, so joining forces with a mission and its presidio meant that both native peoples and local Spanish settlers were defending their home territory against a common enemy. Many Indians stayed at the local mission only temporarily; they left to practice their traditions (things like hunting parties, or rituals known as *mitotes*) and came back when it suited their needs.

Mission Espíritu Santo

The mission's full name was Nuestra Señora del Espíritu Santo de Zúñiga (Espíritu Santo was the Spanish name of Matagorda Bay, and Báltasar de Zúñiga was viceroy of Spain at the time). It is one of the oldest missions in Texas, and one of the most successful in terms of relationships with indigenous peoples (although not with the Karankawa, its original intended congregation).

The mission moved several times—in total, it had four locations. The first site was on Garcitas Creek, not far from Presidio La Bahía (which was on top of Fort St. Louis); the mission

was there from 1722-1725. Next, it moved to a site in what's now Riverside Park in Victoria (1725-1726). Its third location in Mission Valley is now a private ranch; the mission was there from 1726-1749. Finally, the mission was moved to Goliad, where it still stands today (after careful reconstruction).

Originally the mission was intended to convert the Karankawas, but that group did not adopt Spanish culture. After moving away from Garcitas Creek, the mission served the Aranamas and Tamiques, who were more inclined to adapt to mission life.

Mission Espíritu Santo was the first large cattle ranch in Texas. Estimates of the number of cattle belonging to the mission are as high as 40,000 (at its final and present location in Goliad). Other resources produced at the mission included horses, mules, sheep, oxen, corn, cotton, melons, potatoes, peaches, and figs.

In 1830, the mission was secularized—it stopped working to convert the native population. This was the fate of all the Spanish missions from around 1790 into the early 1800s.

A primary source:

The following passages are from a book written in 1787 by an unknown missionary who lived and worked at Mission Concepción in San Antonio. It was a set of instructions for someone who had never led a mission before. Although Mission Espíritu Santo probably had its own, different routines, this gives a good picture of how missions met their daily needs.

No. 23: “Every week the missionary must see to it that the supply of beef cattle is brought to be rationed for the sustenance of the Indians. To do this he must advise the foreman to bring the horses that are needed in due time, so that he with the cowboys, four or six in number, may go on

Thursday and be back with the cattle on Saturday. ...The cattle are brought on Saturday and slaughtered on Sunday morning, as needed, to supply all the Indians. Generally four or six are slaughtered when the natives are few, and one beef is given to the friary.”

No. 26: “Every Monday all the women come for their ration of corn which is given them by the fiscal [a public official chosen by the missionary]. The amount of corn given to each woman varies with the seasons; when an abundance of corn is harvested, the married women are given four *almudes* of unshucked corn [*almud* = about half a bushel], and two and a half or three *almudes* to the widow. When there is little corn, only three *almudes* are given to the married women and two to the widows. When shelled corn is available, two *almudes* are given. In order that the missionary may regulate the corn and decide whether the supply is large or small, he must keep in mind that regularly about 400 *fanegas* [*fanega* = about 1 ½ bushel] are needed each year to maintain the Indians, taking into account the number of persons in the pueblo and the *fanegas* the missionary can give out either as payment of salaries or for selling purposes.”

No. 32: “At harvest time one must ration the watermelons and other melons according to the quota of work whenever fruit is available. For this purpose the missionary is careful to order the seed to be collected and planted in due season. This is done so that food is not wanting to the members of the mission, and thus they do not search for food in other regions.”

No. 49: “When the fruit trees are ready, two or three gardeners are appointed to take care of the orchard so that the ripe fruit is not stolen. These gardeners with the *fiscal* gather the fruit for rationing and bring ripe fruit to the missionary every day. Likewise, when the corn is ripening,

one man is in charge of guarding the area every day. When the crows begin to arrive, three or four men are placed to scare them away and to see to it that they do not eat the corn.”

No. 53: “Each year during the month of October or November, the missionary sees to it that all who can go are sent to herd the cattle in the mission pasture and brand the unbranded cattle. He informs the other missions and the dwellers of the presidio in due time, so that they may separate their cattle from the rest. He cooperates with them in like manner when it is their turn to brand.”

No. 62: “While some do repair work, others are busy preparing the soil for the planting of cotton, fruit, chile, the seedlings having already been prepared. The beans are planted in June and there is a designated area for them in the field, or wherever the missionary directs. He must also provide for irrigation in due time, and for the hoeing and weeding. If the cotton has to be replanted, every effort should be made to have a good crop that year.”

Documents Relating to the Old Spanish Missions of Texas: Guidelines for a Texas Mission: Instructions for the Missionary of Mission Concepción in San Antonio, edited by Howard Benoist and Maria Eva Flores, CDP.

From *Los Mesteños: Spanish Ranching in Texas, 1721-1821*, by Jack Jackson:

“...when Fray Antonio Olivares submitted a requisition of items considered necessary and essential for the establishment of a mission on the San Antonio River, he wanted 18 yoke of oxen, 30 breeding cows, 3 bulls, 17 steers, 100 ewes, and 100 nanny goats, with the due number of rams and billy goats. The Querétaran minister, founder of the first mission at Béxar (San

Antonio de Valero—the Alamo), even specified that the 17 steers would be killed ‘to feed the Indians while the work is going on.’” (page 11)

“In the first half of the eighteenth century the missions of Texas—not the military or civilian elements of colonial society—conducted most of the stock raising carried out in the new land.” (page 12)

“A few retired soldiers might later become prosperous ranchers in Texas, but even then in terms of estancias—large ranching establishments—only the missions possessed the elements necessary to conduct operations successfully on such a scale: extensive grants of land, visionary leadership, and cheap labor.” (page 13)

“The stock was the means used to attract and hold Indians to the establishments for the obvious reason that it represented a dependable food supply.” (page 37)

“At La Bahía were the missions with by far the most extensive pastures. In 1759 the minister at Espíritu Santo applied for and received all the land lying between the Guadalupe and San Antonio rivers. The upper limit was named as half a league beyond El Cleto (modern Ecletto Creek), at which point began the ranch of Don Bernabé Carvajal. Generally speaking, Espíritu Santo’s pastures extended from the mouth of the Ecletto up to modern day Seguin and all the way down to the coast, taking in everything between the rivers.” (page 41)

Now it’s time for you to design your own mission!

A Little about Missions

There is one located in Goliad called Mission Espíritu Santo.

There were over 100 people living in the Mission at any time.

Its purpose was to convert the native peoples who lived in the area. They also provided them with food, taught them Spanish, and led them in religious observances.

People living in missions had work and chores, and made all their clothes, food, and other supplies.

Missions were usually complexes (they had different parts that were connected)

Jobs and Chores

Cook meals

Tend to gardens and livestock

Washing

Cleaning

Make candles, thread, and cloth

Make clothes

Harvest crops

Blacksmithing (horseshoes and other items)

Carpentry (wood working)

Preparing food for storage

Collect water

Presidio La Bahia Worksheet

(Recommended for Grades 4-7)

As you have learned, the Spanish explorers founded the mission known as the Presidio La Bahia, which is located near the Garcitas Creek.

Fill in the blank with the correct term using the wordbank below.

1. The Spanish were searching for a French settlement called _____ after finding wreckage of La Belle in Matagorda Bay in 1688.
2. The French settlers at Fort St. Louis were attacked by the _____.
3. The Spanish designed the Presidio La Bahia into a _____ shape with wooden walls.
4. The building inside of the presidio were huts of clay daub over wooden poles which were called _____.
5. On the outside of the fort, archaeologists found _____ that suggest the Karankawa lived outside of the forts walls.
6. Very few Spanish colonists were actually from _____.
7. Some Spanish soldiers brought their _____ to live with them in the presidio.
8. The women of the presidio used mano and matate to grind corn to make _____.
9. Many Spanish settlers wore _____ amulets that were worn as a symbol of protection from the evil eye.
10. The mission and presidio at Garcitas Creek were moved 3 times until it was finally located to _____.

Wordbank:

Tortillas

Jacales

Karankawa

Fort St. Louis

Spain

Wives

Mano Fica

Goliad

Artifacts

Star

Presidio La Bahia Poster Activity

(Recommended for grades 4-7)



Research a map of the Presidio La Bahia as shown above. Use what you have learned to recreate a map of the Presidio La Bahia on a poster board. You may use whatever drawing medium that you wish. Be sure to color and label the structures and landmarks within and around the fort.

Materials:

- Blank white poster board (22" x 28")
- Pencils, markers, paints, map colors (whatever you choose to create your map)

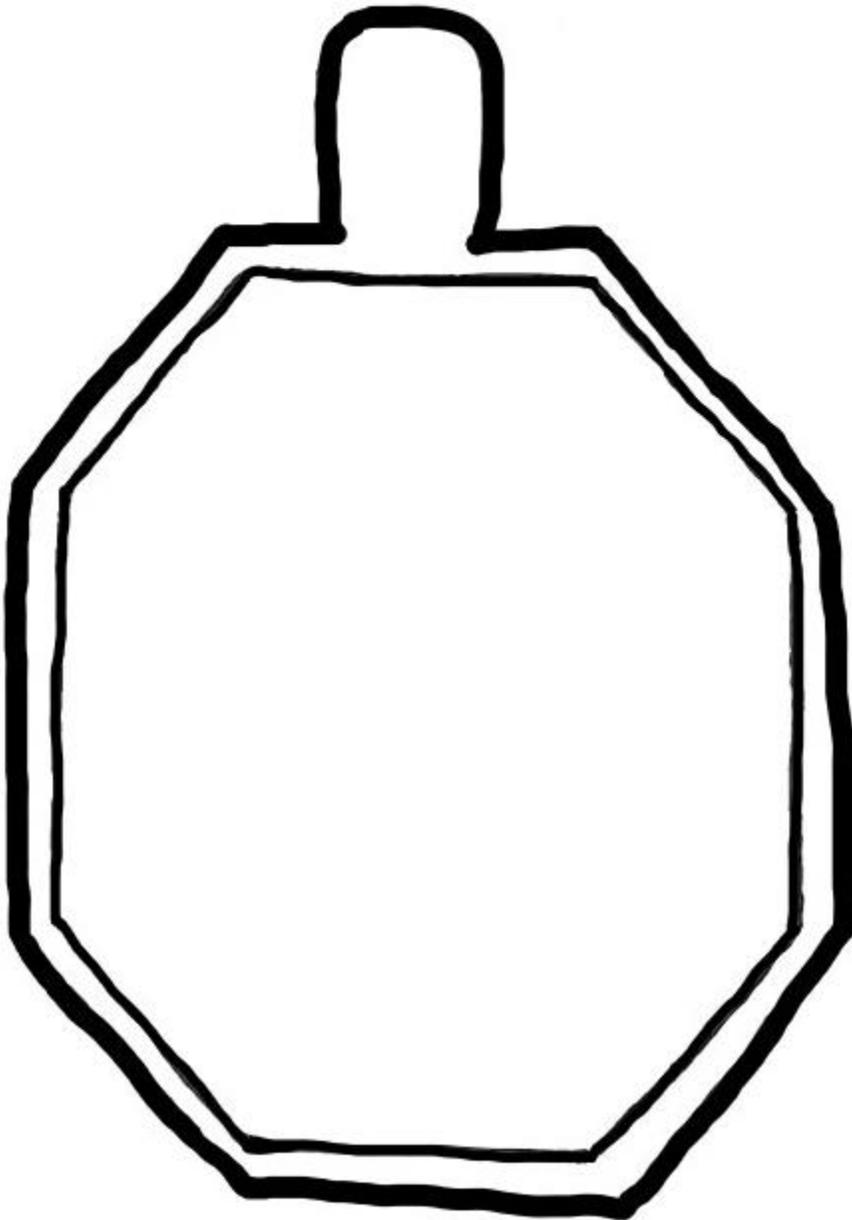
(This activity could also be used for a poster contest in a classroom setting)

Mano Fica Amulets

(Recommended for grades K-5)

Spanish settlers brought with them traditions from the Old World which included such items as the mano fica amulets. These amulets were part of Spanish Christianity and were said to be worn for protection against the evil eye, or “ojo” in Spanish culture.

Use what you have learned about the mano fica amulets and design and color your own using the picture below.



The Colombian Exchange

(Recommended for grades 4-7)

As you have learned, the Colombian Exchange was a crossroads between the Old World and the New World in which European explorers encountered indigenous people. During the Colombian Exchange, Europeans and indigenous people were exposed to each other's technology, customs, religion, and culture that had a lasting effect. Europeans took back many ideas and customs from the New World to the Old World and many Old World customs and ideas were adopted by the indigenous inhabitants of the Americas.

Using what you know about the Colombian Exchange, fill in the blank next to each term listed below as to whether or not it came from the New World or Old World.

Gold _____

Guns _____

Farming _____

Pigs _____

Corn _____

Chicken Pox _____

Alphabet _____

Rice _____

Christianity _____

Silver _____

Turkeys _____

Sheep _____

Horses _____

Colonists _____

Coffee _____

Pumpkins _____

Clover _____

Rubber _____

What's Cooking?

(Recommended for grades 2-5)

The Columbian Exchange brought about many changes to the New World and Old World that can still be seen today. One of the most obvious examples is the food that we eat every day. Without the Columbian Exchange, would we be able to enjoy the food that we have today?

Instructions:

Part 1: Pick a food that you like.

Part 2: Think of one of your favorite foods that you enjoy and break it down into its ingredients. Example: Hamburgers (Flour, water, beef, cheese, lettuce, tomatoes, etc.). List the ingredients for each part in the table below.

Part 3: Research where the ingredient is from. *Hint:* Search “Where is _____ native to” to get the best search results. Some ingredients are found in both the New World and Old World, so write “both.” Use your search results to fill out the two other columns below.

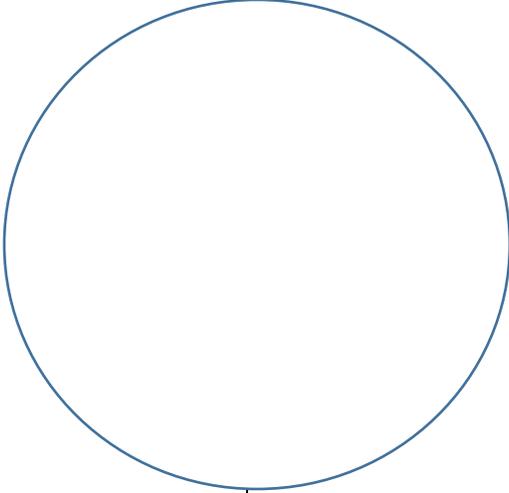
My favorite food is _____

Ingredients	What continent/region is it native to?	Is that place in the Old World or New World?

COULD I EAT _____ WITHOUT THE COLUMBIAN EXCHANGE?

Part 4: Sort and Draw

Sort and draw each ingredient into the correct column and draw a picture of the meal in the middle circle.

OLD WORLD	NEW WORLD
	

Could you eat this meal without the Columbian Exchange? _____

Columbian Exchange Word Scramble

CIUALONMB ECNHXEGA _____

ALTCOAHCERO _____

AKHW ELSBL _____

ASSLG ASBDE _____

IVIVENSA ESCIPES _____

NKHIWAG _____

AEDTR _____

OOSGD _____

ODL WDROL _____

NEW LDOWR _____

Branding in Texas

Cattle and ranching are a Texas tradition as well as an important part of the Texas economy.

Livestock, including cattle, was first introduced to Spanish Texas when the Spaniards began their colonizing efforts. The missions and forts had ranches to maintain their livestock herds.

As disputes over Texas land occurred over time, the Spaniards' livestock numbers were depleted.

During this time, Americans were traveling westward in search of land opportunities. The

Americans began modeling their own ranching techniques after that of the Spaniards. Many of the skills, words, and equipment that American cowboys use today have been adapted from the Spanish *Vaqueros*.

Branding is one of the most important lessons the Spaniards taught the American cowboys.

Cattle branding was very important on the plains of Texas before fencing became available.

Ranchers used brands as a way to identify their cattle on the open plains. The American cowboys modified the designs of the more intricate Spanish brands and created unique designs of their own.

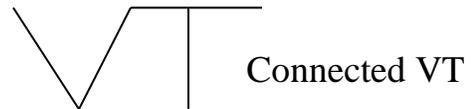
The brands that ranchers used became a symbol of a specific ranch and was considered a signature of the cattle owner. Below you will find a chart to help you read different brands. After you read the chart, create your own brand! You'll need pip cleaner, scissors, and a piece of paper.

When reading a brand you need to follow these three rules –

1. Read from left to write.
2. Read from top to bottom.
3. Read from the outside in.

Some symbols are easy to identify, while others are a bit more tricky. Here are some of the common marks that you might see on a brand.

Two letters touching are called “Connecting” -



A half circle on the bottom is “Rocking” -



A half circle on the top means “Swinging” –



Letters sharing a part are “Combined” -



Feet can be added to show “walking” -



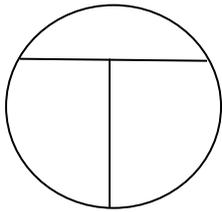
If they were turned around they would be “dragging” and if they were on top like wings they would be “flying.”

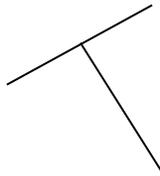
A shape around a letter is used in the name – for example, the Circle J would be a circle with a J inside.

Another common brand has a “bar” connecting two letters (J Bar T).
A letter on its side would be “lazy” and one tilted might be “tumbling.”

You can also reverse letters, make them upside down, use symbols and letters combined and also use numbers. There is a huge variety of possibilities! Most brands created today have 2-3 letters or numbers since there are so many brands already in use.

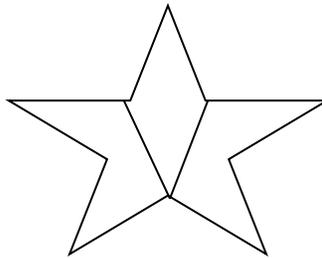
Let’s try out some of your new knowledge of branding!

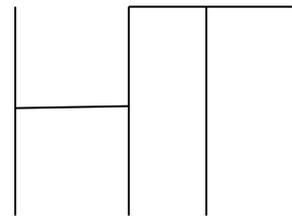












It's All About the Brand

(Recommended for grades 1-7)



As you have learned, the branding of cattle was extremely important to cattle ranching in Texas. Branding was way for ranchers to identify their cattle on the open plains. Cattle brands represented a specific ranch or rancher's initials. The practice of branding was especially important before the fencing in of ranching property.

In the space below, use what you have learned about cattle brands and create your own brand for your own ranch. Remember that most ranchers used their initials as well as symbols to represent their ranching business. In the lines below, explain why you chose your brand and what it means.

Why Cowboys use Spurs

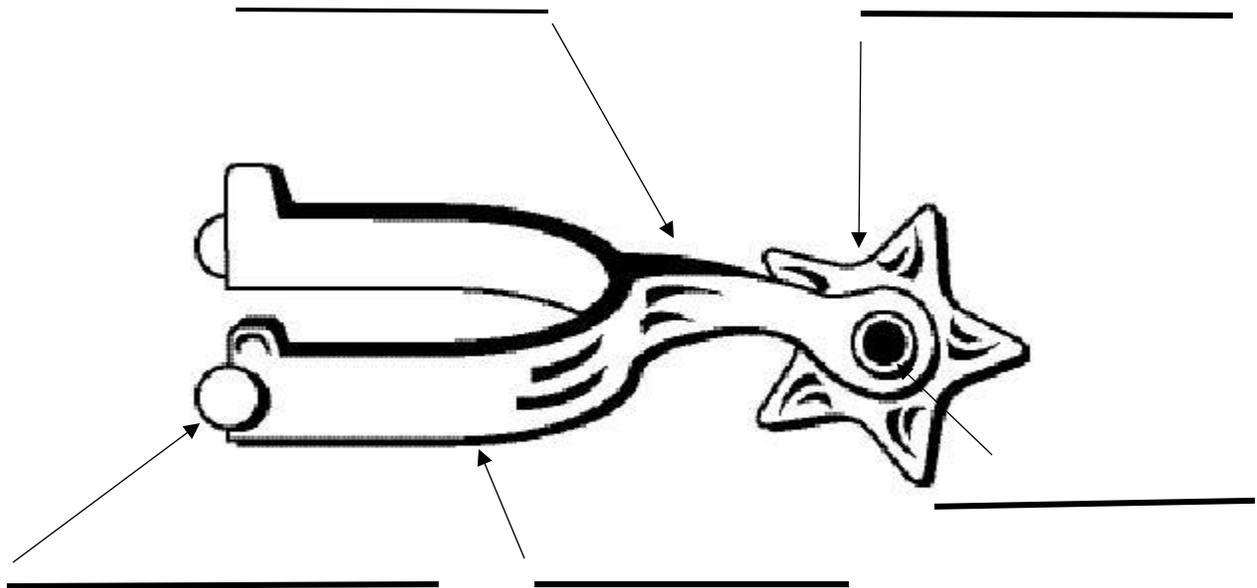
A spur is a metal tool designed to be worn in pairs on the heels of riding boots for the purpose of directing a horse or other animal to move forward or laterally while riding. It is usually used to refine the riding aids (commands) and to back up the natural aids (the leg, seat, hands, and voice). Use a blank piece of paper and the chart below to design your own spur! For more examples of spurs check out the Ranching portal on the museum's virtual exhibit.

The Parts of a Spur

(Recommended for grades 3-7)

Spurs were used by vaqueros/cowboys while riding horses in order to direct the animal in a certain direction. They were made out of metal and leather and worn in pairs on the boots of vaqueros or cowboys. Some spurs were simple in design, while others were more elaborate, depending on the smith who designed them.

Fill in the parts of the spur using the word bank below. After filling in the names, color and add designs to the spur to personalize it.



Heelband – fits onto the back of a boot. Sized to fit the rider.

Button – slips into the spur straps to hold them on the spur.

Shank – connects the heelband to the rowel. These can be different lengths and angles to suit the rider's preference.

Rowel Pin – holds the rowel onto the shank

Rowel – Spins on the rowel pin, and is the part of the spur that has contact with the horse.

Ranching Vocabulary Wordsearch

B L A T A Y A N Q B U Y V F F
A V O R Y T O Y H A S T W A Y
D A B I Z P L E E R Q Q Q W R
S K L N M B E E V B S M S R J
P S A G S R Z B A E W Z U A V
U B C B O A Z G Q D O C N N H
R R K I L N D E U W I T U C N
G A S T O D U D E I F Z T H G
J H M B W I P E R R D X I I A
L M I I Q N R M O E N W Y N H
T A T D U G E A S Y W U U G S
J N H H Q I A N O I K E P J W
G I Y A N R T V K N L D O Y I
A G F X D O A I D X H R S D P
Y J L P W N L L E T B R R Z C

Branding Iron

Ranching

Reata

Blacksmith

Brahman

Spur

Vaqueros

Ring Bit

Barbed Wire

Anvil