

MALA COMPRA - HOW ARCHAEOLOGY WORKS

Students learn about archaeology by studying the *Mala Compa* Site.

ACADEMIC OUTCOMES/LESSON OBJECTIVES:

- Students read selections introducing them to the archaeological process and to Florida's *Mala Compra* archaeology site.

SUNSHINE STATE STANDARDS ASSESSED:

SCIENCE 4TH

- (SC.4.N.1.3) Explain that science does not always follow a rigidly defined method (“the scientific method”) but that science does involve the use of observations and empirical evidence.
- (SC.4.N.1.7) Recognize and explain that scientists base their explanations on evidence.

SCIENCE 5TH

- (SC.5.N.1.5) Recognize and explain that authentic scientific investigation frequently does not parallel the steps of “the scientific method.”
- (SC.5.N.1.6) Recognize and explain the difference between personal opinion/interpretation and verified observation.
- (SC.5.N.2.1) Recognize and explain that science is grounded in empirical observations that are testable; explanation must always be linked with evidence.

RESOURCES:

[A Plantation in Early Florida: The Ruins of Mala Compra \(1816-1836\)](#). [Proposed interpretative signage for the Mala Compra Site.] St. Augustine: Mala Compra Plantation Archaeological Preservation Project, 2008.

[Florida Public Archaeology Network](#). 28 February 2008 <<http://www.flpublicarchaeology.org>>.

Sass, Shelly. Personal Interview. 6 February 2008.

Smith, Greg, Shelly Sass, Susan R. Parker, Deborah Mullins. [Archaeology, History, and Recommendations for Architectural Conservation: Mala Compra Plantation \(8FL26\) Flagler County](#). St. Augustine: Environmental Services, Inc., 2002.

Smith, Greg. “RE: Archaeology at Mala Compra.” E-mails to the author. 15 February – 1 March 2008.

Wallace, Tony. Personal Interview. 6 February 2008.

MATERIALS LIST:

None

ANSWER KEY FOR ACTIVITY:

FOOD-RELATED: Alligator Bone, Domestic Pig Bone, Lead Shot from a Gun, Porcelain Dish

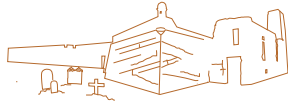
CLOTHING: Button, Shoe Buckle

BUILDING MATERIALS: Clay Brick, Iron Nail, Window Glass

PERSONAL ITEMS: Gaming Pieces, Medicine Bottle, Pipe Stem

NOTE: Often, artifacts fit into more than one category, so the answers above are not hard and fast. Archaeologists must be consistent in their categorization and stick with whatever categories they decide upon.

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STUDENT ARTICLES & ACTIVITIES:

1. What will you find at the *Mala Compra* site?
2. Visit the *Mala Compra* Main House
3. *Mala Compra's* Other Buildings
4. Studying the Artifacts at *Mala Compra*
5. ACTIVITY: Categorizing Artifacts

VOCABULARY: Analyze, Archaeologist, Artifact, Base, Categorize, Centimeter, Clay, Context, Coquina, Cotton, Domestic, Excavate, Feature, Historian, Install, Meter, Plantation, Preserve, Quarry, Sift, Site, Slave, Tabby, Tarp, Well

ASSESSMENT OPTIONS:

WRITING PROMPT #1: Archaeologists learn about the lives of ancient people by studying the items these people left behind. Think about the kinds of artifacts an archaeologist might find if she studied your home one hundred years from now. Write to explain what these artifacts might tell her about your everyday life.

WRITING PROMPT #2: Imagine that your City Planners want to put a new soccer field on the site of an old Florida plantation home. Think about the reasons that people in your city might want to save this old plantation. Write to persuade your City Planners to preserve the old plantation as a fieldtrip for students - instead of turning it into a soccer field.

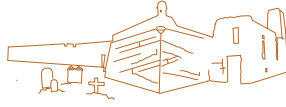
ASSESSMENT #1: Refer to the article titled, "Studying the Artifacts at *Mala Compra*" and read the steps in the scientific method below. Using details from the article, describe how the archaeological process follows the scientific method.

1. Define a Question
2. Research to Learn More about your Question
3. Form a Hypothesis
4. Plan Your Research Method
5. Collect Data
6. Analyze the Data
7. Draw Conclusions
8. Communicate Your Results

ASSESSMENT #2: A local archaeologist has excavated the site of an old playground. He's provided your class with a list of the artifacts he found. Decide on four categories that seem to describe these artifacts. Make a table that lists each artifact under the correct category.

LIST OF ARTIFACTS: broken cell phone, button, CD, coke can, drink straw, Gameboy cartridge, gum wrapper, key, Lego block, matchbox car, medicine bottle, melted crayon, nametag, sandwich baggy, shoelace, zipper pull





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WHY ARE WE STUDYING ARCHAEOLOGY?

Archaeology is like a Time Machine. Through it, we travel deep into the past, exploring places that existed long ago. Sounds imaginary, right? It's not! Archaeology is based on the scientific method. When we study a site like *Mala Comprá*, we're stepping 180-years back into Florida history. During this fantastic journey, we get to use many scientific skills. We observe; we collect data; we analyze results; we draw conclusions; and we communicate with others. This communication is EXTREMELY important in archaeology. Why? Every time an archaeologist excavates (digs) a site, he destroys it. That's right; he DESTROYS it. Think about it. Even if the archaeologist tried, he couldn't put all of the artifacts back in exactly the same spots. Instead, the archaeologist takes careful notes, so he'll be able to communicate his findings to future researchers.

WHAT WILL YOU FIND AT THE MALA COMPRA SITE?

Mala Comprá is the name of an old Florida plantation. These plantations were large farms that grew one main crop. While many Florida plantations grew sugarcane, *Mala Comprá* grew fields and fields of cotton. It took a LOT of work to plant and harvest all of that cotton. Many plantation owners purchased other human beings, usually Africans, to handle the workload. The law required these slaves to live on the plantation and to work there for no pay.

WHAT WAS THE MALA COMPRA PROPERTY LIKE IN THE 1800s? It was a busy farm. It had a main family house, a kitchen and laundry building, a freshwater well, a cotton storage building, slave cabins, and hundreds of acres of cotton fields. Many people lived and worked at *Mala Comprá*, including General and Mrs. Hernandez, their fourteen children, paid workers, slaves, and lots of farm animals. *Mala Comprá* was a place full of life and activity.

SO WHAT DOES MALA COMPRA LOOK LIKE IN THE 2000s? Today, you'll just see some old tabby floors, several clay-tile fireplaces, and a big coquina well. What happened to the rest of the plantation? In the 1830s, many of Florida's plantations were destroyed. Freezing weather killed the crops. Seminole Indians burned the buildings. To make matters worse, the price of cotton dropped, so the plantation owners lost a lot of money. Many, like General Hernandez, were forced to abandon their plantations. Over time, the buildings fell apart. This makes it tough for archaeologists to learn about Florida's cotton-growing history.

But don't worry. The archaeologists haven't given up. They've discovered lots of important clues called "artifacts." These artifacts are the leftover bits of tools and materials used by the people living at *Mala Comprá*. What kinds of artifacts have they found? Buttons, food trash (like pig bones), broken glass, pieces of cracked dishes, pipe stems, and more. Studying these artifacts teaches us about the kinds of clothes people wore, the tools they used, and the foods they ate.

Archaeologists also search for clues called "features." A feature can be part of a building, like a floor, a foundation, or a fireplace. It can also be a trash pit, a well, or even a dog burial. Studying these features helps archaeologists learn about the kinds of homes people once built, the materials they used, and the communities they lived in.

When you visit *Mala Comprá* today, you won't see any buttons or dishes lying around. The archaeologists have carefully collected these artifacts for study. You WILL see lots of features, like fireplaces and old coquina foundations. These show us the location of the house where the Hernandez family lived, the kitchen where their slaves cooked meals, and the well that gave everyone fresh water.

In 2007, the government built a sturdy roof to protect these features from Florida's heavy rains. They also installed walkways, pictures, and signs to help people learn about life on the old plantation. By protecting these old tabby floors, clay fireplaces, and the coquina well, our government is protecting a piece of American history.



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VISIT THE MALA COMPRA MAIN HOUSE

General Joseph Hernandez bought the *Mala Compra* plantation in 1816, but he wasn't the first person to live there. In fact, he built his home on the foundation of an older house. What's a foundation? It's a hard, flat surface that builders install over the natural ground. This hard surface is much sturdier than Florida's sandy soils. It makes the house stable and strong. The *Mala Compra* foundation was made of coquina stone. Most of the old house has crumbled away, but its sturdy coquina foundation is still standing strong.

A man named Josiah Dupont built the original foundation. When Hernandez moved to *Mala Compra*, most of Mr. Dupont's old house had broken down and disappeared. Only the solid coquina foundation remained. General Hernandez made a good choice when he built on this coquina base. Coquina is a natural stone made from shells and sand. You couldn't ask for a better start for a new home.

Here's what surprised archaeologists. Hernandez did NOT use coquina stone to build the walls of his house. He used wood instead. But why? Coquina stone is easy to find near St. Augustine. It also makes strong foundations and walls. So why didn't Hernandez build his walls with coquina?

Historians might have an answer for us. A historian learns about people of the past by studying old documents, including letters, books, and maps. Florida historians have two ideas about Hernandez' unusual building decision.

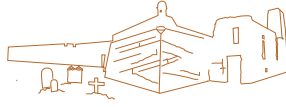
HISTORY IDEA #1: Maybe Hernandez wanted to build his home right away, and coquina stone took too long to harden. **HISTORY EVIDENCE #1:** Documents tell us that newly cut coquina stone is wet from being in the ocean. This makes the stone a bit soft – too soft to build with. The weight of the stones at the top of a coquina wall would crush the stones at the bottom. The same documents tell us that newly cut coquina stones have to dry for three years before they can be used. **THREE YEARS!** That's a long wait.

HISTORY IDEA #2: Building styles were changing. Coquina was the old style of building. A big cotton and sugar planter like Hernandez might have wanted a newer, more fashionable home. **HISTORY EVIDENCE #2:** Look at stores and strip malls as you drive around town. The shapes and colors on the newer buildings are different from the older ones. Building styles change, even today.

Can archaeologists provide some evidence for either of these ideas? **YES.** They can study the features of the main house to look for clues that Hernandez liked style and fashion. Here's the **ARCHAEOLOGICAL EVIDENCE** they found. To start with, his house was big. There were about six rooms plus a loft upstairs. That's a lot of space!

The flooring gives us another clue. In modern homes, we build foundations out of concrete block. Then we place carpet, tile, wood, or linoleum on top of it to make a comfortable walking surface. In *Mala Compra*, the foundation was built of coquina. The oldest part of the floor was made with a kind of concrete called tabby. While coquina is made by nature, tabby is made when people mix burnt oyster shells with sand. Tabby floors were pretty common back then. But Hernandez added some **STYLE** by building a big, ten-foot porch to one side of his house. A roof covered this porch to keep off the rain and the harsh Florida sunlight. Pretty fancy! Another part of the floor was carefully crafted from wooden planks. Wood flooring was very stylish – something only a wealthy planter could afford. His home also had a double fireplace. The front of the fireplace faced one room. The back (which was also open) faced another room. This kept both rooms warm and comfortable.

Why do YOU think Hernandez decided not to build coquina walls? Was he worried about taking too long to build his house? Or did he just want to build in the newest style? Imagine that you were Hernandez. Which reason would have affected your choice? Historians try to answer these questions by studying old documents. Archaeologists try to answer the same questions by looking at the actual things people left behind. By working together, historians and archaeologists can find solutions they would have missed if working alone.



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MALA COMPRA'S OTHER BUILDINGS

Mala Compra's main house didn't have a kitchen. All of the cooking was done in a separate building about 90 feet from the house. The kitchen building had a coquina foundation, a tabby floor, and a big double fireplace. Does that sound like the main house? It should!

The double fireplace was right in the middle of the kitchen building, and a wall separated the building into two rooms. One room was the kitchen, and the other was a washroom (laundry). The fireplace made heat for cooking in one room, and heat for washing clothes in the other. There was an upstairs loft in this building too. Historians think it was used for drying crops, because the *Mala Compra* overseer wrote this in an old document. Why would they use the loft for drying crops? Well, the heat from the big fireplace would rise to the top floor and dry any crops stored up there. It was important to dry crops because it stopped them from spoiling. After all, refrigerators hadn't been invented yet.

The base of this fireplace (and the base of the fireplace in the main house) was made of coquina. This provided a sturdy surface for building a fire. In most fireplaces, a layer of brick or clay tiles covered the coquina blocks. Why was this protective layer important? Hot cooking fires can damage coquina stone. Since clay tiles and bricks are made to stand up to a fire's heat, they were usually installed as a protective layer over the coquina.

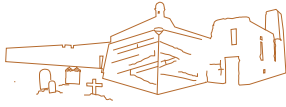
Archaeologists have discovered that one of the Main House fireplaces had **NO CLAY TILES**. They also noticed that the coquina was never damaged by fire. Now that's odd. Why would Hernandez have built a fireplace without any protective clay tiles? Archaeologists have an idea about this. They think this fireplace was used only for warming food – not for cooking it with high heat. This makes sense if you think about it. Back then, kitchens were built in separate buildings so a cooking fire wouldn't be able to burn down the whole house. Maybe Hernandez didn't want to risk burning up his stylish new home. Historians have a different idea. They tell us that Hernandez was usually running low on money. Maybe he just ran out of cash before he finished building that fireplace.

Why do YOU think Hernandez decided not to use clay tiles in this fireplace? Was he worried about setting his house on fire? Or was he just short on cash? If you were Hernandez, which reason would have affected your choice?

If you think Hernandez was concerned about fire danger, you'll be happy to know there was a well close by. In fact, there was a well right between his house and the kitchen building. People needed water at both places, so this made perfect sense. The well's circular coquina walls are still standing today. It even has water in it, almost two hundred years later!



Coquina Well



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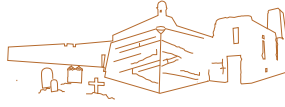
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WHAT OTHER STRUCTURES WERE BUILT AT *MALA COMPRA*? Near the main house, a dirt road stretched from the ocean on the east all the way to the Intracoastal Waterway on the west. This waterway was only about 300 feet from the main house. Most plantation owners built their homes close to the water. When it was time to sell their crops, they could transport the crops by boat. This was quicker and safer than traveling by land.

Beyond the little road, there were six slave houses. Only one of these houses was made from coquina stone. The coquina house belonged to a slave called the “Driver.” A Driver helped to run the plantation, making sure that all the other slaves were completing their work. Most Drivers were given extra privileges. For example, the Driver at *Mala Compra* lived in a solid coquina house, while the other slaves lived in houses made from palm leaves. Have you ever heard someone called a “slave-driver”? This name describes anyone who makes others work terribly hard. It was first used to describe the Driver on a plantation. Drivers were also called “overseers” because they watched over the other slaves and make sure they were working hard.



This is a sketch of what *Mala Compra* might have looked like in the 1820s. Can you see the small WELL halfway between the Main House on the left and the Kitchen Building on the right?
(Courtesy of Hughs Bowman Design Group)



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STUDYING THE ARTIFACTS AT MALA COMPRA

Archaeologists do a lot of work BEFORE they ever start to dig. They begin by deciding what BIG QUESTION they want to answer. For example: “Why didn’t Hernandez use coquina to build the walls of his house at *Mala Compra*?” Once archaeologists have a question, the research begins. They might start by trying to learn about the pluses and minuses of using coquina stone. For example, how far away was the closest coquina quarry? How expensive was it was to mine the coquina? And were other planters using coquina to build their homes during that time period? Finding answers to these questions helps archaeologists form their own opinions about the BIG QUESTION.

The research performed by one archaeologist might show that coquina stone wasn’t a popular building material in the early 1800s. Did this affect Hernandez’ decision to use wood instead of coquina? The archaeologist may decide to check this out. He may look for evidence of other, more popular building styles at *Mala Compra*. Finding evidence of other stylish building methods might tell us that Hernandez cared about style. Perhaps that’s why he used wood instead of coquina to build his home.

Once the archaeologist has formed his or her own opinion, he can write a hypothesis. HYPOTHESIS: Hernandez used wood instead of coquina for his walls because coquina stone was out of style. Now, the archaeologist can look for evidence that proves (or disproves) this hypothesis.

But where will the archaeologist dig to find this evidence? The *Mala Compra* site is huge. If the archaeologist is looking for other stylish parts of the main house, he’ll need to see the foundation, the floors, the fireplaces, the wells, everything. Excavation is a slow, expensive process. Since the archaeologist has a limited amount of time and money, he won’t be able to excavate the entire site. He must carefully map out the locations of each spot he wants to dig. This way, every minute of digging provides data that will help him answer the BIG QUESTION.

The dig location is also important because once an area is excavated, no other scientist will be able to study it firsthand. After all, the artifacts have been removed and stored away. There won’t be much left behind to study. That’s why archaeologists take plenty of detailed notes while they work. This provides information for other archaeologists who want to learn about the same excavation site.

While working in the field, the archaeologist works slowly and carefully. Why? He or she must dig units with perfectly straight edges. What is a “unit”? A unit can be a square that is one meter wide and one meter across. Or it can be a long, narrow rectangle that is one-meter-wide and five-meters-long. In fact, a unit can be many different sizes, but before the archaeologist starts digging, he or she must decide exactly what size the units will be...and then stick to the plan! Once he’s set the unit size, the archaeologist decides how deep he will dig for each level of the excavation. He may decide to stop digging at five centimeters (cm), 15 cm, or 20 cm. But whatever he decides, he has to stick to the plan. He can’t just keep digging if he finds something cool. Instead, he must stop to take careful notes and measurements. Each pile of dirt must be carefully searched, so that even the tiniest artifacts aren’t missed. Another archaeologist may help to sift through the newly excavated dirt by pushing it down through the screen of a sifting box. The dirt falls through, while the artifacts stay on top of the screen. Each of these artifacts will go in a bag titled “Level 1.” Another level can be excavated while the first material is being sifted. As each excavation level is completed, archaeologists take measurements, record notes, sift through dirt, and store the artifacts in a fresh bag (Level 2, Level 3, etc.). Archaeology takes a lot of time and patience.



Sifting Box



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Why is it important to dig so carefully? It's all about "context." You've heard of "context clues," right? These are hints in a sentence that help you figure out the meaning of a nearby word. "Context" in archaeology works the same way. Let's say you find a piece of fine china next to the wood plank floor of the main house. This tells you that someone in the *Mala Compra* main house was eating off some pretty fancy plates. Since we know that Hernandez installed the wood plank floor sometime after 1818, we can give the china a rough date of "AFTER 1818." This date context is based on its location inside the main house AND its position next to the wood plank floor.

Knowing where an artifact was found preserves its context, and that's why archaeologists dig in such careful, thin levels. Next, they bag and label every single artifact, so that a piece of fine china from the main house won't get confused with an earthenware bowl excavated from the slave cabins. What would happen if archaeologists ignored the careful-digging procedure? What if they dug up deep, messy shovelfuls? They'd mix up the newer artifacts at the top with the older artifacts buried underneath. This would wreck the context completely. Careful excavation and good record keeping are the best ways to preserve the context (and all the cool information) for each artifact.

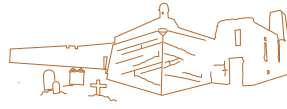
After an archaeologist has finished excavating, sifting, and note taking, the REAL work starts. Back in the lab, he must try to identify each artifact and feature he's discovered. He does this by comparing his finds to artifacts and features that earlier archaeologists have already identified. If he finds a piece of china, he compares it to a museum collection of dishes from the 1800s. If this china is expensive, it might tell him that the family spent money on fancier things. If he finds a piece of china he just can't identify, he NEVER ever makes a guess about what it is. Instead, he records the following note: "1 unidentified ceramic." He also works to identify the features he found. If he discovers a piece of wood planking, he can research how wood planks were used in Florida's 1800s houses. Were they usually parts of floors? Parts of ceilings? Parts of walls? Each piece of information will help the archaeologist answer the project's BIG QUESTION.

Next, the archaeologist must analyze the *meaning* of each artifact and feature. What clues can these artifacts give him about the reasons Hernandez didn't use much coquina? Pieces of broken window glass tell him that the main house had glass windowpanes to keep insects out. (Now, that's nice living!) The wooden planks were a popular and expensive style of flooring. And the broken wine glass provides even more evidence that the Hernandez family was willing to spend money on things they didn't really need.

Once the archaeologist's analysis is complete, he or she will go out to the site and cover each feature with a tarp to protect it from the weather. Then he'll store the artifacts at a museum or university in carefully labeled containers. Careful storage allows future archaeologists to study these features and artifacts. It might even help them to answer their own big questions.

After everything is safely labeled and stored, the archaeologist will write his report. First, he'll describe the artifacts and the features he found. Then he'll share his conclusions and explain how the artifacts and features he discovered support this conclusion.

His report will also include other useful details he's observed during the excavation. Why? These unrelated facts might generate new questions for study. Archaeologists, like all scientists, are always looking for the next question, the next mystery, and of course, the next clue.



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ARTIFACTS FROM *MALA COMPRA* EXCAVATION (Courtesy of Environmental Services, Inc.)



Image 1: Lead Shot and Gunflints



Image 2: Ceramic Dishes



Image 3: Ceramic Dishes



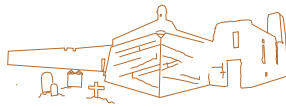
Image 4: Kitchen Artifacts
(Including Tea Cup Handle and Goblet Base)



Image 5: Brass Buttons



Image 6: Personal Items
(Pharmaceutical Bottle, Drug Jar,
Spanish Coin, Pipe Stems and Bone Fan)



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TRY THIS ACTIVITY - CATEGORIZING ARTIFACTS

BACKGROUND: Archaeologists sometimes find thousands of artifacts at each excavation site. How do they organize all of this material? They put the items into groups with other similar artifacts. These groupings help archaeologists understand more about the people who made the artifacts. Here are a few of the categories (groupings) that archaeologists used to describe the *Mala Compra* artifacts.

- CATEGORIES:**
1. Food Leftovers AND Tools Used to Serve or Hunt Food
 2. Clothing
 3. Building Materials
 4. Personal Items

ACTIVITY: Look at the list of *Mala Compra* artifacts below. Decide which of the four categories best describes each artifact. Then write each artifact beside the **CATEGORY** it matches.

SAMPLE LIST OF MALA COMPRA ARTIFACTS:
Alligator Bone, Button, Clay Brick, Domestic Pig Bone, Gaming Pieces, Iron Nail, Lead Shot from a Gun, Medicine Bottle, Pipe Stem, Porcelain Dish, Shoe Buckle, Window Glass

Category 1, Food - Related Items: _____

Category 2, Clothing: _____

Category 3, Building Materials: _____

Category 4, Personal Items: _____
