

<u>Time Travel Quest 9</u> Spanish Colonial Construction: Wonderful Wattle & Daub & More

August Theme: Architecture and Construction

Historical Background

When the Spanish conquistadors came to La Florida in the 16th century, they were puzzled by the buildings that the native Indians had built. Native homes in Florida looked nothing like the ones that the Spanish had in Spain or in Mexico. For hundreds of years, the Apalachee of the Florida panhandle built their buildings using pine logs and either palm leaves or tall grasses for roofs/walls. When the Spanish settlers established San Luis in 1656 they began



Wattle and daub construction in the Spanish House at Mission San Luis

constructing their homes using a a special technique. While other southeastern tribes may have used this technique before the arrival of the Spanish, the Apalachee were not known to have used it for their own buildings.

How does someone make a strong wall in the middle of North Florida? There are not enough stones in the area to make houses and buildings from stone, and making bricks would require a lot of time and work. The answer was an ancient building technique called **wattle and daub**! Wattle and daub consists of first a wattle frame and then a strong, insulating (keeping heat or cold inside a building) coating of daub. Humans have used wattle and daub for thousands of years all over the world and it is still used today. Wattle is created by weaving freshly cut sticks and small branches together to form a skeleton of a wall. The materials need to be freshly harvested for them to be flexible and still strong. If the branches are dried out, they would be too brittle to work with and the walls would be weaker. A wattle frame will usually have small gaps between the layers of branches to allow for the daub to be pushed in.

Once the wattle is in place, the daub needs to not only be put on, but really shoved into the holes between the sticks! Daub is a combination of clay, water, sand or small rocks, and some type of fibrous material (the Spanish used Spanish moss or dried grasses) that is smeared over the wattle. The daub is added to every layer of wattle and in between the different sticks to make sure that the wall becomes solid. If the daub does not get pushed into every crevice, the wall would be weaker than it should be. This is why the need to push the clay in hard! The wattle frame provides strength to the wall and helps support the daub as it dries. Walls made from wattle and daub are stronger than if they were

created with just sticks or daub.

Wattle and daub walls were completed when a whitewash paint was added to the outside. What is whitewash? Whitewash is a type of white paint that was often made from local limestone. When applied to the daub, the whitewash would seal the wall from rain, and help keep the building cool in the summer months. The reason that the whitewash helped keep the building cool was that the white color reflected sunlight instead of absorbing it. The more sunlight that a wall absorbes, the hotter it becomes.



Spanish-style buildings were not only made of different materials than the Apalachee buildings, but they were also different shapes. Spanish buildings were rectangular, having four walls to support a wooden or thatched roof — very different from the circular or conical (cone-shaped) buildings of the Apalachee. One of the major differences between Apalachee buildings and Spanish buildings was the idea of a central fire. Apalachee houses would probably have a central fire in the building, which would be used for heat and cooking. The Spanish, on the other hand, had outdoor firepits for cooking. The only cooking fire that was inside at Mission San Luis was in the friars' cocina (kitchen). The larger Spanish houses would even have different "rooms" which could be divided by a wall. The little divisions created by the wall provided a sense of different spaces in the home: a space for eating, a space for sleeping, etc. Excavations of Spanish houses revealed that most of them were one story, but it has been speculated (guessed using evidence) that there could have been two-story houses at San Luis. Imagine using wattle and daub to make two-story houses in the Florida heat!

While the Spanish and the Apalachee had very different types of buildings, they were both made by the same people: the Apalachee! The population of San Luis consisted mostly of Apalachee people, with a minority being Mestizo (half Apalachee, half Spanish) and Spanish. The Apalachee were expert builders and woodworkers, which allowed them to construct all the buildings at San Luis.

The Apalachee were such good workers that the governors of Florida requested that certain Apalachee craftsmen travel to other missions and cities to help build homes and churches.

Mission San Luis archaeologists have found many tons of daub through their excavations. Some of the daub samples came from the time when the village was burned down in 1704. The heat from the fires fired the clay, like it was being made into pottery. There are even pieces that have soot and ashes on them from the fires! These fired daub pieces — along with post holes — have given Mission San Luis archaeologists enough information to fully outline and then reconstruct Spanish-style buildings on site.

Time Portal: Villagers through Video

We are going to use virtual time travel to talk with one of the villagers of Mission San Luis! Today, the señora of the Spanish House is going to help us explore how her home is constructed. You can also find out what special material the Castillo de San Marcos in St. Augustine is made of!

Quest 9 Video Link: youtube.com/watch?v=0WT3f3pSpuY&feature=youtu.be

Quest Questions

Questions can help you focus your journey into the past! Here are some questions to think about that will help guide you in your exploration:

- What are two building techniques/materials the Spanish used to construct their buildings in 17th century Florida?
- How were buildings in Florida similar and different from those in Spain? How did the Spanish adapt (or change) their building techniques to use styles and materials from Florida?
- How were 17th century Spanish homes different from Florida Native-American homes?
- If you lived in a Spanish home in the 17th century, how would it look similar and different from the home you live in now?

• Quest Craft: Wattle Frame



Wattle (top) and daub (bottom)

You can build the base for a 17th century Spanish house in Florida! Let's make some wattle framing.

This craft is a small version of what would have been used to build a typical Spanish-style home at Mission San Luis. You'll be using just a few materials.

If you would like to get complimentary supplies for this craft they will be available for pickup in front of the Mission San Luis visitor center carved doors from 11 am to 2 pm on Wednesday, 8/12/2020.

Supplies:

- 5-10 Popsicle Sticks these will form the posts that make up the frame.
- Flexible Pipe Cleaners (brown is suggested, but any color will work these will serve as the sticks interwoven between the posts to make the wattle. (For a Spanish home, the wattle would probably have been made of flexible vines or freshly cut branches)
- White Glue

Instructions:



Step 1) To make the frame, first get five popsicle sticks. These will be the posts that make the frame that your wattle will go on. Arrange the sticks with three in the middle and one on the top and bottom.



Step 2) Get the glue. On the top and bottom of each of the three middle posts, put a dab of glue on the tips.



Step 3) Evenly place the top popsicle stick post over the tops of the middle posts that have glue on them. Then place the bottom popsicle stick post over the bottom of the middle posts that have glue on them. Let this dry for about 20 minutes, or until the glue is completely dry. Now you have made a solid frame for the wattle to go on!

Wattle Frame Craft continued



Step 4) Now you need some wattle! Get the pipe cleaners. You'll be using pipe cleaners to mimic freshly cut branches that bend well and weave in between a wooden frame, if we were building the wall for a house for a Spanish home.



Step 5) Begin by placing the end of your pipe cleaner under one of the border corners of your frame.



Step 6) Take the end of the pipe cleaner "wattle" and wrap the end around the post towards the top. This will keep your wattle in place as you go.



Step 7) Begin weaving your pipe cleaner into the wattle pattern, which is "over, under" the middle posts of the frame. Going from the post you wrapped your pipe cleaner wattle around, you will then weave the end UNDER the next post and then OVER the last post by weaving the pipe cleaner over the post.



Step 8) Now fold your pipe cleaner around the last post and begin Step 7 again.



Step 9) Continue this pattern of folding the pipe cleaner over and under, wrapping it around the last post multiple times to make multiple rows. Be aware of the placement of your wattle pipe cleaner: make sure that the pipe cleaner rows stack on top of one another.

Wattle Frame Craft continued



Step 10) Once the pipe cleaner becomes too short to keep going, wrap two pipe cleaner ends together to make it longer. Wrap the ends together to create a new piece. Then you can keep going!



Step 11) The finished wattle frame should look something like this!

Congratulations on Making Your Wattle Frame!



Step 12) If you would like, you can even make more frames to create a bigger wall, or even a building with four walls! If you make more than one wall, use extra pipe cleaners to attach the two walls together.

If you were making a real wall all you would need to do is place daub (clay) over the wattle to cover the holes in the wattle!

Coquina Trivia!



Coauina

Do you know your colonial construction trivia? Can you save Spanish Florida from attack by building an amazing, strong Fort in St. Augustine? Watch the following videos all about coquina and the Castillo de San Marcos and see if you can answer the following trivia questions!

Videos

(Make sure to <u>watch both</u> before answering questions, as the trivia questions are not in order!)

- Castillo de San Marcos & Fort Matanzas: National Park Service Video https://www.youtube.com/watch?v=W_t5LVR-1yk
- Castillo San Marcos St. Augustine, FL: Travel Thru History Video https://www.youtube.com/watch?v=psY6tyPNIwU

1. Castillo de San Marcos was the first masonry fort constructed in Florida, and was built entirely of what local building material in St. Augustine? One word answer. ______.

- **2.** Two main materials make up coquina. What are they? ______ and ______.
- **3.** What compound leaches the calcium out of the coquina to turn it into rock? ______.
- What location was the coquina quarried for building the Fort? Two word answer.
- 5. How did the Spanish transport the coquina rocks across the Matanzas river? ______.
- 6. How long did the coquina rock need to sit in the sun to dry before it could be used to build? ______ to

7. In order to make coquina stone waterproof, what did the Spanish coat it with?

8. When cannonballs hit the coquina walls of the Castillo de San Marcos in the 1600s, what happened?

9. The coquina walls of the Castillo de san Marcos are up to how many feet thick?

10. The Castillo de San Marcos was most vulnerable to attack from the

11. Before heading back to Spain, ships carrying important items - like precious silver - sailed up the coast of Florida towards the Castillo de San Marcos to be protected them from pirates. What kind of Spanish ships carried gold?______.

12. What shape is the Castillo de San Marcos?

13. How many cannons could the Castillo de San Marcos hold?

14. How many forts were built in St. Augustine before the Castillo de San Marcos?

15. How long did the British lay siege the fort Castillo de San Marcos in 1702?

Answer Bank

(These out-of-order answers can be used as hints for completing the questions above.)

51 days (or two months); Treasure ships; Nine; Water (or coast); 70; Plaster; The coquina compressed and some cannonballs stuck; Eighteen; Six months to a year; Coquina; Anastasia Island; Carbonic acid; Seashells and sand; Barges; Square

Additional Exploration Resources

Your time travel adventure doesn't stop here! If you want to learn more about this subject, here are some suggested resources:

- Mission San Luis de Apalachee: A Teacher's Guide (Illustrated) https://www.missionsanluis.org/media/1099/01-teachers_guide.pdf
- Mission San Luis Archaeology: Daub (Mission San Luis) http://www.missionsanluis.org/research/collection/showDrawer.cfm?id=44
- Spanish St. Augustine: 1500s to 1700s, Houses of the colonial Spanish period, with a science based theme (University of Florida Digital Archives) https://ufdc.ufl.edu/UF00067286/00001/1j
- Apalachicola Fort, Alabama (National Park Service)
 https://www.nps.gov/nr/travel/american_latino_heritage/Apalachicola_Fort.html
- Castillo de San Marcos and Coquina (National Park Service)
 https://www.nps.gov/casa/index.htm
 https://www.nationalparks.org/explore-parks/castillo-de-san-marcos-national-monument
 https://www.nps.gov/casa/learn/historyculture/coquina-the-rock-that-saved-st-augustine.htm
- Colonial History Bibliography for Young Readers (Museum of Florida History)
 https://museumoffloridahistory.com/learn/colonial-history-bibliography-for-young-readers/

Virtual Time Traveler Checklist

Prizes await your journey's end! For all virtual time travelers who complete four of the weekly summer camp *Time Travel Quests*, your family will receive free admission passes to Mission San Luis Living History Museum for a future visit! Steps to getting your prize are:

- Complete at least four of the twelve Time Travel Quests provided between June 15 and August 31, 2020.
- Fill out the Virtual Time Traveler Checklist (blank checklists can be found at: <u>http://www.missionsanluis.org/media/1742/virtual-time-traveler-checklist-2020_2ue.pdf</u>
- Email the checklist to <u>Rebecca.Woofter@dos.myflorida.com</u> or print and mail it to:

Mission San Luis (c/o Rebecca Woofter) 2100 West Tennessee Street Tallahassee, FL 32304

FOR YOUR PRIZE: the **deadline is September 14, 2020** for completing and sending in your 2020 Virtual Time Traveler Checklist

Coquina Trivia: Correct answers

- 1. Coquina
- 2. Seashells and sand
- 3. Carbonic acid
- 4. Anastasia Island
- 5. Barges
- 6. Six months to a year
- 7. Plaster

- 8. The coquina compressed and some cannonballs stuck
- 9. Eighteen
- 10. Water or coast
- 11. Treasure ships
- 12. Square
- 13. 70
- 14. Nine
- 15. 51 days (or two months)