

# AN ARTS AND SCIENCE INTEGRATION LESSON PLAN

GRADE LEVEL: Fourth Grade

Teacher Name:

Provider Name: JUPITER INLET LIGHTHOUSE AND MUSEUM

UNIT LESSON:

PRE-COLUMBIAN FLORIDA (SS.4.A.2)

ESSENTIAL QUESTION(S):

- What Native American Florida tribes inhabited the Loxahatchee River Estuary?
- What natural resources did the Jeaga and Jobe use to make tools, baskets and pottery?
- What natural resources did the Jeaga and Jobe use to construct shelters and villages?
- What plants and animals did the Jeaga and Jobe use as food sources?
- What technology did the Jeaga and Jobe develop to hunt, fish and gather?

ART STANDARD(S):

VA.4.H.1.2- Identify suitable behavior for various art venues and events.

VA.4.H.1.3- Describe artworks that honor and are reflective of particular cultures.

VA.4.H.2.2- Identify differences between artworks and utilitarian objects.

VA.4.H.2.3- Identify reasons to display artwork in public areas.

FLORIDA STANDARD(S) & NGSSS:

SS.4.A.2.1- Compare Native American tribes in Florida.

SS.4.G.1.1- Identify physical features of Florida

SC.4.E.6.3- Recognize that humans need resources found on earth and that these are either renewable or non-renewable.

SC.4.L.17.2- Explain that animals, including humans, cannot make their own food and that when they eat plants or other animals the energy stored in the food source is passed to them.

LAFS.4.RI.3.7- Interpret information presented visually, orally, or quantitatively and explain how information contributes to understanding the text in which it appears.

LAFS.4.W.3.8- Recall relevant information from experiences or gather relevant information and provide a list of sources.

LAFS.4.SL.2.4- Report on a topic or text, tell a story or recount an experience in an organized manner, using appropriate facts and relevant descriptive details to support main ideas or text; Speak at an understandable pace.

<p><b>ART CONTENT LEARNING GOAL:</b></p> <ol style="list-style-type: none"> <li>1. Recognize Jeaga artworks and utilitarian objects. (VA.4.H.2.2)</li> <li>2. Describe artworks and artifacts that reflect Jeaga culture. (VA.4.H.1.3)</li> <li>3. Recognize that visual information (artwork, photographs) on museum murals and text panels contributes to understanding the topic. (VA.4.H.2.3, LAFS.4.RI.3.7)</li> </ol>	<p><b>CORE CONTENT LEARNING GOALS:</b></p> <ol style="list-style-type: none"> <li>1. Identify the natural resources and technology used by the Jeaga and Jobe for hunting, fishing and gathering. (SS.4.A.2.1)</li> <li>2. Determine if these resources are renewable or non-renewable. (SC.4.E.6.3)</li> <li>3. Report on the Jeaga tribe and use facts and details to inform others. (LAFS.4.SL.2.4)</li> </ol>
<p><b>I CAN:</b></p> <ul style="list-style-type: none"> <li>• I can identify the coastal waters (Atlantic Ocean, Straits of Florida, Florida Bay, Gulf of Mexico) of Florida and the Florida Keys. (SS.4.G.1.1)</li> <li>• I can identify Lake Okeechobee and the Everglades on the map of Florida</li> <li>• I can name the Native American Florida tribes that inhabited the Loxahatchee River Estuary.</li> <li>• I can inform others of the natural resources and technology (tools, hooks, nets, pottery, baskets, canoes) the Jeaga and Jobe used to hunt, fish and gather. (SC.4.E.6.3)</li> <li>• I can inform others of the natural resources the Jeaga and Jobe used to build shelters and villages.</li> <li>• I can identify the food sources (fauna and flora) of the Jeaga culture. (SC.4.17.2)</li> <li>• I can make a replica of a Jeaga cultural artifact. (VA.4.H.1.3)</li> <li>• I can explain how middens and mounds are formed. (LAFS.4.SL.2.4)</li> </ul>	
<p><b>VOCABULARY:</b></p> <p><b>artifact:</b> an object created by humans that is related to their way of life.</p> <p><b>artwork:</b> an imaginative object, painting or drawing that reflects a specific culture.</p> <p><b>dune:</b> a hill made of sand. Dunes are shaped by forces of nature such as the wind.</p> <p><b>effigy:</b> an image of a person or animal made by a human.</p> <p><b>estuary:</b> a coastal body of brackish water. Estuaries form where fresh water rivers meet the sea.</p> <p><b>fauna:</b> animal species.</p> <p><b>flora:</b> plant species.</p> <p><b>inlet:</b> a narrow waterway through a barrier island that connects a river, estuary or bay to the sea.</p> <p><b>memoir:</b> a narrative (story) of what a person experienced during their lifetime.</p> <p><b>midden:</b> an ancient Native American trash dump. A midden contains artifacts such as broken broken pottery, broken tools and the remains of animals used as food sources.</p> <p><b>mound:</b> a dome of earth, sand and shell built by humans for a specific purpose. Ceremonial structures and the houses of caciques were often built on mounds.</p> <p><b>natural resource:</b> natural materials or substances such as minerals, rock, flora, fauna, water and land.</p> <p><b>technology:</b> equipment or tools designed by humans for a specific task.</p> <p><b>utilitarian object:</b> an artifact that is made for a specific purpose. A tool is a utilitarian object.</p>	

#### **TECHNOLOGY & MATERIALS:**

- LCD projector and screen.
- Map of Florida.
- Modeling clay to make 3 dimensional effigies.
- Art paper to draw 2 dimensional images.
- Markers, crayons, colored pencils.
- Craft paper for murals.
- Tempera art paint and brushes for painting mural.
- Article "The Jeaga and Jobe: Following Their Footprints." (attached to this lesson)
- Behavior Standards for the Jupiter Inlet Lighthouse and Museum (attached to this lesson)
- Directions to the Jupiter Inlet Lighthouse and Museum (attached to this lesson)
- Jupiter Inlet Lighthouse and Museum text panel "The Ancient Material World."
- Jupiter Inlet Lighthouse and Museum text panel "Digging the Past."
- Jupiter Inlet Lighthouse and Museum mural "Enriched by the Sea." (Erik Speyer)
- Jupiter Inlet Lighthouse and Museum text panel "Jeaga and Jobe."
- Jupiter Inlet Lighthouse and Museum artifacts displayed in the "Ancient Florida People" exhibit room.
- MUSEUM EXHIBIT RESEARCH SHEET (attached to this lesson/provided at Museum).
- HISTORIC SITE RESEARCH SHEET (attached to this lesson/provided at Museum).

#### **LESSON :**

##### **PRE-VISIT CLASSROOM ACTIVITIES**

- Go to [jupiterlighthouse.org](http://jupiterlighthouse.org)
  1. Click "Education."
  2. Click "Teacher Resources"
  3. Click "Pre-Columbian Florida"
  4. Print the article "The Jeaga and Jobe: Following Their Footprints," the MUSEUM RESEARCH and the HISTORIC SITE RESEARCH question sheets.
  5. Print a copy of the article and research question sheets for each student.
- Teach and review vocabulary. (ESOL STRATEGY "Vocabulary Development")
- Class READ ALOUD the article "The Jeaga and Jobe: Following Their Footprints." Readers will alternate paragraph by paragraph. Teacher will monitor correct pronunciation, tone and inflection, emphasis and fluency and read aloud if necessary. (ESOL STRATEGY "Read Aloud")
- Identify the hunting and fishing technology (nets, hooks, arrows, spears, etc) cited in the article "The Jeaga and Hobe: Following Their Footprints."
- Discuss why these artifacts (nets, hooks, spears etc.) are defined as "technology." Refer to the lesson plan vocabulary definition of "technology."
- Discuss the difference between a midden and a mound. Refer to lesson plan vocabulary definition of "midden" and "mound."
- Using the LCD projector and screen project the map of Florida.
- Using the LCD projector and map of Florida show the students the Gulf of Mexico, The Straits of Florida, Florida Bay, Lake Okeechobee, the Everglades and the Loxahatchee River Estuary.
- Review the MUSEUM RESEARCH and the HISTORIC SITE RESEARCH questions with the class

to gain prior knowledge and familiarize the class with the questions.

- Collect the MUSEUM RESEARCH and the HISTORIC SITE RESEARCH sheets after review. You will distribute these sheets for use at the Museum the day of your Field Trip Experience.
- Review the “Behavior Standards and Student Etiquette” for the Jupiter Inlet Lighthouse and Museum that is attached to this lesson plan.

#### **MUSEUM AND HISTORIC SITE VISIT ACTIVITIES**

- Divide the class into 2 groups. Groups will rotate between the Museum and Historic Site.
- Group 1 will tour the MUSEUM first.
- Group 2 will tour the HISTORIC SITE first.
- Distribute the MUSEUM RESEARCH and the HISTORIC SITE RESEARCH Sheets to the students. Museum will provide additional copies if needed.

#### **MUSEUM GALLERY ACTIVITIES**

- Follow the tour guide into the “Ancient Florida People” exhibit room in the Museum gallery.
- Locate the text panels titled “The Ancient Material World,” “Digging the Past,” and “Jeaga and Jobe.” Read the text to gather relevant information to answer the questions on the MUSEUM RESEARCH SHEET.
- Locate the mural titled “Enriched by the Sea.” Study the artifacts in the display case below the mural to gather relevant information to answer the questions on the MUSEUM EXHIBIT RESEARCH SHEET.
- Locate the JOHN DURHAM COLLECTION display case. Study these artifacts to gather relevant information to answer the questions on the MUSEUM RESEARCH EXHIBIT SHEET.
- Locate the display case with NATIVE AMERICAN POTTERY and BASKETS. Study the artifacts to gather relevant information to answer the questions on the MUSEUM RESEARCH SHEET.
- When research is complete, assemble on the shoreline by the river. Discuss the MUSEUM RESEARCH QUESTIONS to assess student ability to recall and gather relevant information.

#### **HISTORIC SITE ACTIVITIES**

- Follow the tour guide into the Historic Site.
- Stop at the kiosk titled “Early Connections.” Read the text and interpret the artwork to answer the questions on the HISTORIC SITE RESEARCH SHEET.
- Follow the tour guide onto the midden behind the “Early Connections” kiosk. Listen as the tour guide identifies and shows remnants of the tools, pottery, and animal remains (oyster shell, conch shell, fish bone, turtle bone, shark vertebrae, deer bone) found in the middens on this site.
- Follow the docent to the rectangular Native American structure (Seminole Chickee).
- This is a structure similar to the type that the Jeaga built in their villages.
- Listen as the tour guide identifies the natural resources (sand pine and sabal palm) used to build this structure.
- Use this information to answer the HISTORIC SITE RESEARCH QUESTIONS.
  
- Follow the tour guide to the base of the dune that the lighthouse is built on. Listen as the tour guide describes the Jeaga village that was here.
- Climb the lighthouse with the tour guide to discover the land and water of the Jeaga and Jobe.

- Observe the surrounding bodies of water from the gallery deck:
  1. Look NORTH. Identify the Atlantic Ocean.
  2. Look EAST. Identify the northern end of The Straits of Florida.
  3. Look EAST and WEST. Identify the Loxahatchee River Estuary.

#### POST-VISIT CLASSROOM ACTIVITIES

- Review the MUSEUM and HISTORIC SITE research questions as a class.
- Identify the food sources of the Jeaga.
- Determine if these food sources are renewable or non-renewable.
- Identify the technology the Jeaga developed to hunt, fish, and gather.
- Identify the renewable natural resources the Jeaga used to make their hunting and fishing technology.
- Identify the effigies of “fauna” (fish, manatee, turtle) that are made of copper and silver
- Ask if these effigies should be classified as “artwork” or “utilitarian objects.”
- Discuss how HURRICANES affected Native American Florida tribes and European explorers. (Hint: Hurricanes cause shipwrecks; shipwrecks cause contact between Native Americans and Europeans; shipwrecks were a source of copper, silver, gold, and iron.)

#### ASSESSMENT:

- Divide the class into teams of 3 students each:
  1. Instruct each team to draw an outline map of Florida and the Florida Keys.
  2. Instruct each team to label the coastal waters of Florida (Atlantic Ocean, Straits of Florida, Florida Bay, and Gulf of Mexico) on the outline map.
  3. Instruct each team to label the location of Lake Okeechobee and the Everglades on the outline map.
  4. Instruct each team to create a mural of a Jeaga village. Murals should include:
    - a. Jeaga village dwellings.
    - b. Jeaga people.
    - c. Natural resources important to Jeaga culture (animals, plants, etc).
    - d. Jeaga artifacts (baskets, tools, pottery, etc).
  5. Instruct each team to create two dimensional or three dimensional Jeaga effigies (shark, manatee, turtle) using clay.
  6. Instruct each team to write a narrative about Jeaga life. Narrative should include:
    - a. Who are the Jeaga? (A Pre-Columbian Florida tribe)
    - b. Where did the Jeaga locate and build their villages? (Along the shoreline of the Loxahatchee River Estuary)
    - c. What food sources did the Jeaga consume? (oysters, conch, turtles, whales, fish, shark, etc).
    - d. What technology (tools, hooks, nets, canoes, etc.) did the Jeaga develop to hunt, fish, and gather?
    - e. What natural resources were needed by the Jeaga to make tools, canoes, and construct villages?

**TEST TAKING STRATEGIES:**

- Read each question carefully to make sure you understand what it is asking.
- Study any artwork, pictures, or captions on the museum text panels and murals.
- Plan to include **EXAMPLES** and **DETAILS** in your responses.

**ESOL STRATEGIES:**

- Cooperative and Collaborative Learning with Group Projects.
- Vocabulary development, Read Aloud, and Paraphrasing.
- Use of realia, artwork, pictures and drawings to reinforce understanding.

### **The Jeaga and Jobe: Following Their Footsteps**

Who are the Jeaga (HAY-GWAH) and Jobe (HO-BAY)? Is it possible to establish contact with a culture that thrived in Florida for centuries and then completely vanished?

If we search their land can we bring their history out of the past and into the present? Let's explore the environment of the Jeaga and Jobe. Let's follow their footprints at the Jupiter Inlet Lighthouse and Museum!

The Jeaga and Jobe are Pre-Columbian Native American Florida tribes. They inhabited South Florida before European adventurers discovered the New World. In fact, some of what we know about Native American Florida tribes is preserved in the journals, memoirs, and maps of European explorers and shipwreck survivors. The new lands, people, inlets, estuaries, rivers, lakes, animals and plants the explorers encountered were often listed and described in detail.

Let's take a look into the memoir of Spanish shipwreck survivor *Hernando D'Escalante Fontaneda*:

Thirteen year old Hernando was shipwrecked in Florida during a hurricane in 1549. He was held captive by the Calusa for 17 years. He spoke Spanish and English and learned to speak four Native American dialects while in captivity, becoming the personal interpreter for Cacique Calus (KAH-LOOS). This great and powerful Chief ruled all the tribes that lived along the coast and interior of South Florida. His domain was the land that extended from the north shore of a great inland lake call "Mayami" (Lake Okeechobee) to Florida Bay, and from the Gulf of Mexico to The Straits of Florida. Hernando traversed this vast watery expanse of South Florida by dugout canoe with Calus, recording the cultural lifestyle of all the tribes he encountered.

Here is an excerpt from Fontaneda's memoir that identifies the tribes that lived around Jupiter Inlet:

*"The country of the Ais and Jeaga is very poor. It contains neither gold nor silver, and, to tell the truth, it is only the sea which enriches it, since many vessels laden with precious metals shipwrecked there."*

He tells us what they ate: *"Their common food consists of fish, turtles, snails, tuna, and whales which they catch in their seasons. Some of them also eat the sea wolf (monk seal), but this is not a common thing, owing to certain distinctions, which they make between proper food for the chiefs and that of their subjects."*

He tells us what they looked like: *"They are a tall race of men and women, graceful and well featured."*

147 years later English shipwreck survivor Jonathan Dickinson was cast ashore by a hurricane at Jupiter Inlet. In his 1696 journal he describes the Jeaga village: *"On the south side was the Indian town, being of little wigwams made of small poles stuck in the ground, which they bended on to another, making an arch, and covered them with thatch of small palmetto leaves."*

Memoirs and journals cannot give us a complete history of the tribes that lived along the Loxahatchee River Estuary. To understand how they survived in this environment we must discover and study the technology they used in everyday life.

What natural resources did they use to make nets, hooks, bows, arrows, spears and canoes for hunting and fishing? How did they make baskets, pots, bowls, and utensils? What did their tools look

like? Did they make effigies of things that were important to their culture? Were they artistic? Did they build houses and villages? Did they have families? How did they travel from one place to another?

All of these questions can be answered if we can find evidence of their way of life. Discovering the cultural lifestyle and artifacts of someone that disappeared into the past can bring them back to the present. We may even find out they have a lot in common with us. After all, we still inhabit the estuary they called home. Let's get ready to meet the Jeaga and Jobe. Let's explore the Jupiter Inlet Lighthouse and Museum.

## **MUSEUM RESEARCH QUESTIONS**

**Instructions:** Follow your tour guide into the “**ANCIENT FLORIDA PEOPLE**” exhibit room. Use the text panels, murals, images and artifacts on display to answer Museum Research Questions.

**Directions:**



- A. Read the text panel titled **“The Ancient Material World”** to discover the natural resources the Jeaga used to make their hunting and fishing technology.
- B. Read the text panel **“Digging the Past”** to discover how artifacts are found and what artifacts tell us about the past.
- C. Go to the mural titled **“Enriched by the Sea.”** Study and interpret the mural to answer questions 1, 2, and 3.
  1. Can you identify a family that is fishing in the estuary?
  2. What type of technology are they using to catch fish?
  3. Do we use this type of technology today?

**Directions:** Study the artifacts in the display case below the mural **“Enriched by the Sea”** to answer questions 4 through 8.

4. What natural resource was used to make artifacts #21 and #22?
5. What are artifacts #21 and #22 used for?
6. Are these artifacts artwork or utilitarian objects?
7. What natural resources were used to make “pendants?”
8. Study all the artifacts in the display case. Identify the artifact that you think is most interesting?

**Directions:** Read the text panel titled **“Jeaga and Jobe”** to answer questions 9 and 10.

9. What natural resource did the Jeaga and Jobe use to build canoes?
10. Why did the Jeaga and Jobe build canoes?

**Directions:** Go to the **“John Durham Collection”** exhibit case. Examine the artifacts to answer questions 11 and 12.

11. What natural resources were used to make the manatee, turtle, and fish effigies?
12. Why do you think they made effigies of manatees, turtles, and fish?

**Directions:** Go to the **“Native American Pottery”** display case. Read the text and examine the artifacts to answer questions 13 through 15.

13. What natural resource is used to make pottery?
14. Where did the Jeaga and Jobe get the natural resource they used to make pottery?
15. Which pottery artifact do you think is most interesting?

## **HISTORIC SITE RESEARCH QUESTIONS**

**Instructions:** Follow your tour guide into the Jupiter Inlet Lighthouse Outstanding Natural Area.

**Directions:** Stop at the kiosk titled **“Early Connections.”** Interpret the artwork and read the text to answer questions 16 through 20.

16. Name the tribes that are represented in this artwork.
17. Identify the natural resources they have gathered.
18. Do you see any structures in the painting that are similar to structures that we see in Florida today?
19. What type of transportation technology is being used?
20. Why are these families meeting with each other?

**Instruction:** Follow your tour guide onto the midden that is behind the kiosk. Listen as the tour guide displays and identifies the remnants of food sources and the artifacts that can be found in this midden.

**Directions:** Use this information to answer questions 21 through 25.

21. What food sources were the Jeaga eating?
22. Do we use these food sources today?
23. What cultural artifacts have been discovered in the middens along the Loxahatchee River Estuary? (Hint: Remember that an **artifact** is an object made by a human that tells us something about their life.)
24. Do people today use objects that are similar to the artifacts found in this midden?
25. Which artifact do you think is most interesting?

**Instructions:** Follow your tour guide to the Seminole Chickee. Listen as your tour guide presents information about this structure. It is similar to structures that were built by the Jeaga.

**Directions:** Use the information presented by the tour guide to answer question 26.

26. What natural resources were used to build this structure?

**Instructions:** Follow your tour guide to the Lighthouse. Listen as the tour guide describes the Jeaga village that once occupied the area around the base of the dune where the lighthouse is built.

**Directions:** Climb the lighthouse with your tour guide. Observe the surrounding bodies of water:

- a. Look **NORTH** and see the **Atlantic Ocean**.
- b. Look **EAST** and see the northern end of the **Straits of Florida**.
- c. Look **EAST** and **WEST** and observe the **LOXAHATCHEE RIVER ESTUARY**.

Now answer questions 27 and 28.

27. Do you see any structures along the shoreline of the estuary similar to the ones built by the Jeaga?
28. Do you see anyone traveling the Loxahatchee River Estuary using something similar to a Jeaga dugout canoe? (Hint: Look for kayaks, canoes, or paddle boards.)

## **PREPARING FOR YOUR VISIT**

**Scheduling Information:**

Download Performance Curriculum and Group Tour Form at  
[http://www.jupiterlighthouse.org/jupiter-lighthouse\\_teacher.php](http://www.jupiterlighthouse.org/jupiter-lighthouse_teacher.php)

To book and confirm a group tour date and time, contact:  
Katrina Heller at 561-747-8380 x101 or email [tours@jupiterlighthouse.org](mailto:tours@jupiterlighthouse.org)  
Please use subject line **School Tour Booking**  
Your tour is not booked until you receive confirmation from us.

### **Gift Shop Experience**

Many students look forward to visiting our gift shop which carries affordable history & nature-related items. To ensure that our staff can provide the best assistance to students, we ask the following:

1. Please have a chaperone bring in only 10 students at time.
2. Please use this as an opportunity to teach the math of sales tax on an item so that students are prepared for their purchases.  
(Example - Item cost: \$4.00 x 6% = .24 cents, then the item will be \$4.24.)

### **BEHAVIOR STANDARDS and STUDENT ETIQUETTE**

1. Do not climb on any exhibits, trees, railings, or structures.
2. No running is allowed anywhere on the site or in any buildings.
3. No food, candy, chewing gum, or beverages are allowed on the historic site or in buildings.
4. Children must be 48 inches tall to climb the lighthouse.
5. Groups/students and chaperones must stay together while on the site.
6. To ensure safety and supervision, 1 chaperone for every 6 children under the age of 12 is required.
7. Never leave students unsupervised anywhere on the site.
8. Group size is limited to a maximum of 32 people climbing the lighthouse at one time.
9. Use a moderate voice (indoor) voice and respect other visitors on the site.
10. Do not touch objects in the museum, Tindall Pioneer Homestead, Lighthouse, or Keepers Workshop unless instructed by Museum Staff.
11. NO PHOTOGRAPHY IN THE MUSEUM.
12. Busses must park at the north end of the parking lot. Busses must shut down the engine (NO IDLE) after discharging passengers.
13. Silence or turn off all cell phones during the tour.
14. All groups must stay with the tour guide for the duration of the tour.

### **Directions to the Jupiter Inlet Lighthouse and Museum**

Jupiter Inlet Lighthouse and Museum  
500 Captain Armour's Way, Jupiter, FL 33469  
Phone: 561-747-8380 x101  
Email: [tours@jupiterlighthouse.org](mailto:tours@jupiterlighthouse.org)

Internet: [jupiterlighthouse.org](http://jupiterlighthouse.org)

### **Directions:**

From I-95, exit at Indiantown Road east. Follow Indiantown Road east to US Hwy 1.  
Turn north (left) onto US Hwy 1. Follow US Hwy 1 to Alt A1A/Beach Road.  
Turn east (right) onto Alt A1A/Beach Road.  
Immediately turn right onto Captain Armour's Way and into Lighthouse Park.  
Follow Captain Armour's Way to the Jupiter Inlet Lighthouse and Museum.

For a printable map go to:

[Jupiterlighthouse.org](http://Jupiterlighthouse.org)

Click Map/Directions

Scroll down to Map

Click printable map

### **Transportation Funding**

If School Board Transportation funding for busses is not available or has been canceled contact our bookkeeper at 561-747-8380 extension 103.

### **Onsite Restroom Facilities**

There are four restrooms in the museum building. They are located in the museum gallery, gift shop, and café. THERE ARE NO RESTROOMS BY THE LIGHTHOUSE. Please use the restroom before going on the tour to the lighthouse.

### **Picnic Area**

There is NO PICNIC TABLES ON THIS SITE. If you plan to eat lunch during the field trip, please bring a blanket or tarp for students to sit on. Another option is to have each student bring a beach towel to sit on.