St. Augustine Lighthouse & Museum

Pre-Tour Packet

Thank you for choosing the St. Augustine Lighthouse & Museum for your school field trip. It is our hope that this packet will allow you and your students to fully utilize our resources during your visit.

Museum Rules

1. No running is allowed anywhere on the site or in any buildings.
2. No food, candy, beverages, or gum allowed outside of the museum store. An exception will be made for plastic bottled water with a cap.
3. *Nothing* is to be dropped from the top of the tower. This includes spitting.
4. Always stay with your group. Climbing chaperones are responsible for bringing students down from the top of the tower. Students are not to be left on any of the landings or left unattended in the courtyard or museum. An additional adult may be needed to supervise children who do not wish to climb the tower.
5. Please use your inside voices and respect our other visitors.
6. Please do not touch objects unless otherwise instructed.
7. Please do not take flash photographs. Excessive light damages historical objects.
8. Children must be 44 inches tall to climb the tower.
9. Due to safety concerns, groups are restricted to 35 people per tower climb.
10. Buses may park along the side of the road in front of the flagpole or across the street in the parking lot. All busses in the parking lot must turn off their motors. There is no parking in lot across the road on weekends or holidays. Please tell drivers, if necessary, that driving through the neighborhood is not possible. The St. Augustine Lighthouse & Museum is only accessible from Red Cox Road.
11. The Shipyard Play and Picnic Area are off limits to tour groups. This area is for young children who cannot climb the lighthouse and it is not suitable for a high level of traffic.

If you have any questions, then please contact Jill Titcomb at: 904-829-0745 ext: 223 or jtitcomb@staugustinelighthouse.org
For more information about the St. Augustine Lighthouse, visit us at: www.staugustinelighthouse.org

FIRST LIGHT MARITIME SOCIETY

Building on the History of Our Coast

Information for Teachers

***Location & Arrival* –** The museum is located on Anastasia Island in St. Augustine, Florida. Please try to arrive on time for your visit and call the museum if you are running late.

***Payment* –** Full payment can be pre-paid or paid on the day of your visit. We accept checks, credit cards, and cash. Make checks payable to the St. Augustine Lighthouse and Museum. Please include your confirmation number on your check.

***Cancellation* –** If you must cancel your program, please notify the museum as soon as possible by calling (904) 829-0745. We allow same-day cancellations due to inclement weather. However, we ask for two weeks' notice, in writing, of cancellation due to any other circumstance.

***Dress* –** The tour occurs both indoors and out. Make certain that all students and adults dress appropriately for their experience. Northeast Florida's climate is warm for most of the year, and the activity of climbing the lighthouse steps can mean that students will need to drink plenty of water both before and after the climb. Winter temperatures can feel chilly due to coastal winds, and children may need jackets, hats, and gloves while at the top of the tower. **Please ensure all members of your group wear shoes with a back for the climb (no flip-flops please).** For their comfort, we suggest that you leave backpacks and other heavy items behind.

***Getting Started* –** Please meet your guide at the white metal gate located to the left of the Visitors' Center main entrance. This area has wheelchair accessible restrooms and drinking fountains. Please give your guide a head count of the number of students and adults in your group, and sign the *Permission to Climb* form.

***Accessibility Information/Safety* –** During inclement weather conditions, areas of the lighthouse tower or grounds will be closed for visitors' safety. For example, thunderstorms may mean your group will not be able to climb the lighthouse tower or high winds may prevent students from going out on the observation deck.

***Students with Special Needs* –** The museum is constantly striving to improve accessibility and provide programs for those with special needs. Due to the historic nature of the buildings, however, not all exhibit areas are wheelchair accessible. Please let us know of any special needs your group has before the day of your tour by calling us at (904) 829-0745 so that we may provide appropriate programming or assistance.

Chaperones

Students must be chaperoned at all times and chaperones are responsible for student behavior. It is the responsibility of the visiting school to make sure all chaperones understand the museum's rules and regulations. Climbing chaperones are responsible for bringing students down from the top of the tower. Students are NOT to be left on any of the landings. Smoking is not permitted anywhere on the grounds of the St. Augustine Lighthouse & Museum.

FIRST LIGHT MARITIME SOCIETY

Building on the History of Our Coast

Tower and Museum Self-Guided Tour Description

The tower and museum self-guided tour is designed for students in the second grade and up. It is ideal for groups who would like an introductory overview of the history of the St. Augustine Light Station and the nation's oldest port city. This packet includes a look at the importance of the lighthouse to maritime commerce and transportation, the life and work of the light keepers, restoration of the site, and the current role of the lighthouse as a museum and maritime archaeological research center. Your tour includes climbing the 165-foot lighthouse tower to view the nation's oldest city and its surrounding waters.

Pre-Visit Activities

The following is a list of words you will see and may discuss during your tour. You could have your students learn these terms and use them for spelling lists prior to your visit. The book list and short history will also help you better prepare for your visit, if you so choose. Finally, our website is a great resource for further information and exploration about the lighthouse, the lighthouse maritime archaeological program (LAMP), our boat building program, conservation, and more. www.staugustinelighthouse.com

Vocabulary

Artifact – an object made by humans.

Cistern – a water storage tank, often underground.

Conservation – the careful preservation, protection, and/or restoration of works of art or items of historical importance in order to prevent deterioration, loss or damage.

Coquina – shell rock native to Florida, sometimes used as building material.

Daymark – the unique way each lighthouse is painted so that mariner can tell which lighthouse they are seeing.

Fresnel (fruh-NEL) lens – cylinder or beehive shaped lens made up of many prisms and magnifying lenses that bend and reflect the light from a source inside of the lens so that it can be seen for a great distance.

Inlet – a narrow body of water that ships use like a highway between the ocean and an inland body of water.

Lard oil – a type of fuel for lighthouse lamps made from the fat of pigs; used in many lighthouses before they had electric light bulbs to make the nightmark.

Mariner – someone who navigates or assists in sailing a ship.

Navigation – finding your way.

Nightmark (or nighttime signature) – the individual pattern or color of light that makes each lighthouse a unique navigation aid at night; each lighthouse nightmark is different so that mariners can tell which lighthouse they are seeing.

Privy – an outhouse or outdoor restroom.

Restoration – rebuilding or repairing a building or item to its original condition.

Sandbar – a ridge of sand formed in the water by tides and currents.

Summer kitchen – a separate building where the kitchen was so heat and fumes were kept out of the living area during the summer and the house was protected from fire.

Books for Further Reading for Elementary Students

Stainton, Sue. *The Lighthouse Cat.* New York: Harpercollins, 2004.

DeWire, Eleanor De. *Florida Lighthouses For Kids.* Sarasota: Pineapple Press, 2004.

DeWire, Eleanor De. *The Lighthouse Activity Book*. Washington: Sentinel Publications, 1995.

Roop, Peter. *Keep the Lights Burning, Abbie.* Lerner Publishing Group, 1987.

A Brief History of the St. Augustine Light Station

The Old Spanish Watchtower

The existing St. Augustine Lighthouse replaced a series of wooden and coquina towers on Anastasia Island. The earliest was a wooden watchtower constructed by the Spanish in the late 1500's. Sir Francis Drake sighted the tower on May 8, 1586, alerting him to the presence of the young city, which he subsequently sacked and burned. The tower was rebuilt out of coquina. In 1737 an existing coquina and wood building replaced the succession of wooden towers on Anastasia Island. In 1764 the British took over the city, increased the height of the watchtower and placed a signal cannon at the top. Florida fell under Spanish control again after the American Revolution. In 1821 the United States assumed control of the territory and the "Old Spanish Watchtower" became Florida's first lighthouse in 1824. Juan Andreu, the son of a local ship's carpenter, was the first keeper. Local Minorcans continued to keep light until the Civil War. Captain George Cooper Gibbs, C.S.A., ordered the light extinguished in an unsuccessful effort to impede Union shipping. St. Augustine was peacefully taken by the Union, the light was relit, and a new breed of Federal lightkeepers followed. By 1870 the old tower's long battle against the encroaching Atlantic was being lost. Congress appropriated $60,000 to build a new lighthouse on March 3, 1871. By October 15, 1874 a new light shown from a tower located about one-half mile inland. Work began on an elaborate brick lightkeeper's dwelling in 1876. The building housed the head keeper, first assistant and their families. A second assistant, usually a single male, lived in a loft upstairs. Construction of summer kitchens and outbuildings followed.

The Current St. Augustine Lighthouse

Visitors flocked to the light during the late 1800's and early 1900's. Tea on the ruins of the old tower was a popular pastime. Keepers requested extra hands to "deal with visitors." WWI closed the light to tourists from 1917 to 1919. Electricity came to the tower in 1936 when an electric motor replaced the hand-turned clockwork and gear system, and an electric bulb replaced the lantern. In 1939 the United States Coast Guard assumed control. During WWII armed guards were stationed at the top and the light's candlepower was reduced because enemy submarines had been torpedoing ships as they passed before the light. An intercepted radio message from a German submarine mentions seeing the St. Augustine Lighthouse and people on the beach. Keepers continued to live on the site until 1955, when the light was fully automated. The house was rented for a time, then was declared surplus property and vacated. On July 28, 1970 an early morning fire gutted the house. As a result of the damage, the house and 4.6 acres were sold to St. Johns County for $29,000 in April 1971. No decision could be reached on what to do with the property and demolition was suggested.

Standing Tall and Shining Bright

The Junior Service League of St. Augustine (JSL) accepted the challenge of raising funds to rehabilitate the keepers' house. The site was added to the National Register of Historic Places and restoration began in March 1984. The museum opened in 1988, but the tower remained fenced off. The JSL negotiated with the coast Guard for a 30-year lease that gave the League full responsibility for restoration and maintenance of the tower. In December of 1986 a vandal using a rifle shot out the Fresnel lens. The cost of its restoration was added to what

was to become a $1.2 million effort. The site was fully restored to Department of the Interior standards by the summer of 1993 and at that time the tower was reopened to the public on a daily basis. In 1998 the museum was incorporated as a private not-for-profit organization with a board of trustees from the community. The museum's archaeological component, the Lighthouse Archaeological Maritime Program (LAMP), was incorporated into the light station's museum system in November of 1999, providing the first research and artifact conservation of the area's historic shipwrecks. The museum assumed the deed to the historic lighthouse under the National Historic Lighthouse Preservation Act in July of 2002. The museum continues to maintain the light as an active aid-to-navigation.

Post-Visit Activities

The Student's Museum: We have chosen to preserve the light station and collect and interpret things associated with the maritime history of the nation's oldest port. What do your students think is important to save about their community for future generations? Is there a house, business, or landmark that is important to understanding their local history? Have students collect items, photographs, and other things that would help them express the story of their community. Lead a discussion about museology (the study of museum history, design, societal role, organization, and management). How does each student's experience at the lighthouse compare to what they have learned about what museums do?

Lighthouse Art: Use the media and techniques that your students are currently studying in art class to express their impressions of their lighthouse visit. Young students can benefit from creating their own unique lighthouse daymark and describing why they chose their colors and pattern. Older students may wish to use sculpture to express their understanding of lighthouses, or create photo-tessellations (tessellations are patterns which are repeated over and over without overlapping or leaving any gaps) to mimic the patterns in the Fresnel lens. http://www.spectratek.net/product-lines/fresnel-lens-patterns, http://photobucket.com/images/tessellations

Lighthouse Math: Lighthouses come in many shapes and sizes. Using a measuring tape and masking tape, have students measure out the heights of various actual lighthouses in a long hallway or on the school's sports field. Students can then create bar graphs that show the number of American lighthouses within specified height ranges. Have them convert lighthouse heights from feet to meters.

Lighthouse Science: Obtain examples of lenses, magnifying glasses, and prisms from your science lab or borrow them from a local optometrist or optical store. Close the shades in your classroom and allow students to use flashlights to demonstrate how lenses and prisms bend light. Use compact mirrors to show how light can be reflected. Lead a discussion of what the students have observed. How do the Fresnel lenses in lighthouses use the principles of reflection and refraction to create their nightmarks?

Lighthouse Reading: Place a lighthouse book appropriate to the grade level of your students on their required reading list. Younger students might read *Who Sees the Light* (ISBN 0-399-23703-8) in class. *Keep the Lights Burning, Abbie* (ISBN 0-87614-454-7) is ideal for second to fourth grades. *Beacons of Light-Lighthouses* by Gail Gibbons is an excellent choice for the older elementary grades.

Lighthouse Geography: Lead a class discussion about how lighthouses have been used in response to constraints placed on human activities by geographical features. Discuss how beach environments change rapidly due to weather, tides, and mankind. Demonstrate the power of these forces using sand, water, and a hair dryer. Have students contrast erosion with siltation or accretion.

Post Visit Assessment Questions

The following questions may be answered in short answer form or be used in a classroom discussion after your visit to the lighthouse. Examples of top scoring answers are in italics.

In what way did the St. Augustine Lighthouse support the growth of the nation's oldest port city? *The lighthouse aided in the maritime transportation of goods and people to and from the city. The lighthouse did this by acting as a landmark during the day and a signal light at night to help sailors find their way to safe harbor in spite of the treacherous currents and sandbars in the waters near St. Augustine.*

How has the technology changed at the St. Augustine Lighthouse over the years? *Electric light bulbs are now used to create the signal light at night, replacing lamps that burned lard oil. To make the light flash, lightkeepers had to wind a clockwork mechanism before electricity. Today the lens is turned by an electric motor to make the light flash. Lightkeepers no longer need to climb to the top of the lighthouse with heavy buckets of fuel.*

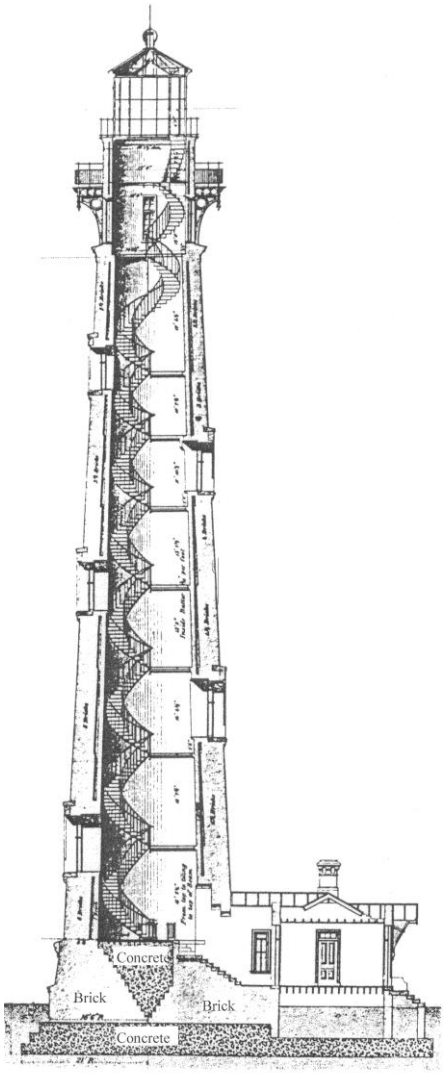
What was the life of the lightkeepers like? *There was so much hard work to do at the St. Augustine Lighthouse that there were up to three men employed here at one time. Two of the men lived with their families in the brick duplex near the lighthouse. The third man was usually a bachelor who lived in a loft over the stairwells in the keepers' quarters.*

How do archaeologists from the Lighthouse Archaeological Maritime Program (LAMP) learn about the history of St. Augustine as a port city? *LAMP archaeologists dive beneath the waters around St. Augustine to investigate shipwrecks. They use the things they find to learn more about St. Augustine's history as a port city. Sometimes they bring items up from underwater, clean and conserve the objects, and use them in museum exhibits to tell the story of St. Augustine.*

Let us know what your class did after your tour! Visit our Facebook page to share your stories and pictures from your Lighthouse trip.

If You Were a Keeper

At least one lightkeeper lived on site until 1955 when the light was fully automated. What would it mean to be a lightkeeper at the St. Augustine Lighthouse? The St. Augustine Lighthouse was built to tell sailors where they were and alert them to the presence of shifting sandbars and the narrow inlet. Thus the lighthkeepers had a very important job. Lightkeepers kept the light on every night, made sure that the lens kept rotating to make the unique nightmark (night-time light flash pattern), and watched out for ships in trouble out at sea. Sometimes they had to rescue the crews of ships that were in trouble.



Before electricity lit the light at the top, there was a lamp that burned fuel (lard oil, then later kerosene) to create a light. Every 2 ½ hours a keeper would have to carry a 5-gallon, 30-pound bucket of oil or kerosene up the stairs to refill the lamp. They also had to wind up the lens to keep it rotating, make sure the lens was clean, and keep watch for ships in distress. The lightkeepers took turns climbing to the top at night, and their wives and children would have known how to take care of the light in case they needed to take over for the keeper. During the day, lightkeepers stayed busy doing chores on the site such as painting the tower and hunting or fishing for food, as well as dealing with visitors who wanted to see and climb the lighthouse.