

Possible Activities During A Visit To Mission Point Lighthouse

- The following activities and readings are suggestions for your visit. They include the Lighthouse, the Hessler Log Home, and a nature hike.
- Visits can be planned for a whole day or half day.
- We welcome any suggestions or ideas that educators, scouts leaders, students, or parents may have.

MISSION POINT LIGHTHOUSE

Pre-visit Activities

1. Read *Beacons of Light, Lighthouses* (By Gail Gibbons)

Have class discuss the need for a lighthouse and why the Great Lakes Region has so many. Look at a labeled illustration and vocabulary list (included).

2. Look at the Time Line (included)

Notice when the first lighthouse was built. How many years passed before the Old Mission Light was built. Why?

Take a look at the timeline for Traverse City. What events led up to development of our area?

4-H3.0.9 Create timelines (Using decades after 1930) to sequence and describe important events in Michigan History; annotate with connections to the past and impact on the future.

3. Draw and Label the parts of a Lighthouse

Lighthouses were built in different shapes and patterns so ship captains could distinguish their location. Make your marking unique. Include a diagram of a Fresnel Lens.

P.EN.E.2 Light Properties– Light travels in a straight path. Shadows result from light not being able to pass through an object. When light travels at an angle from one substance to another (air and water), it changes.

P.EN.03.21 Demonstrate that light travels in a straight path and the shadows are made by placing an object in a path of light.

P.EN.03.22 Observe what happens to light when it travels from air to water (a straw half in the water and half in the air looks bent).

4. Let the class experiment with prisms Explore what happens to light when it passes through the prism at different angles. What happens to the ray of light?

5. Look at a Navigational Chart of the Grand Traverse area.

Discuss map key, mileage scale, depth of water, and aids to navigation

During

Students will have a close-up look at a Fresnel Lens. They will observe the intricate prism patterns in each lens that is able to project the light for miles.

Students will receive a guided tour of the Lighthouse and will talk with the current Lighthouse Keepers.

Post Activities

1. Read *Keep the Lighthouse Burning* Abby by Peter and Connie Roop. Make a list of the jobs that a Lighthouse Keeper had to do. Compare the oil lanterns in the story to Fresnel Lens.

2. Use your list from above to write a Journal Entry about A Day in the Life of a Lighthouse Keeper.

3- H.3.0.7. Use a variety of primary and secondary sources to construct a historical narrative about daily life in the early settlements of Michigan (pre-statehood).

3. Make a Chart of the Grand Traverse Region. The Captain will need compass rose, lines of longitude and latitude, buoys to mark shallow water, and other area lighthouses to navigate to the Mackinaw Bridge. A map key and mileage scale would be helpful, too.

3-G1.0.1. Use cardinal directions (north, south, east, and west) to describe the relative location of significant places in the immediate environment.

3-G1.0.2. Use thematic maps to identify and describe the physical and human characteristics of Michigan.

4-G1.0.3 Identify and describe the characteristics and purposes (e.g., measure distance, determine relative location, classify a region) of a variety of geographic tools and technologies (e.g., globe, map, satellite image)

HESSLER HOUSE TOUR

(built between 1854 and 1856 and moved to Lighthouse property in 1993)

Pre-visit Activities

1. Read Little House on the Prairie or another story that depicts pioneer life.
2. Invite a Volunteer from the Historical Society to do a class presentation.

4-H3.0.4 Draw upon stories, photos, artifacts and other primary sources to compare the life of people in towns and cities in Michigan and in the Great Lakes Region during a variety of time periods from 1837 to the present (e.g., 1837-1900, 1900-1950, 1950-2000).

3. Play games from the 18th and 19th Century (attached) During 1. Observe artifacts and listen to stories about pioneer life in a one room log cabin. Imagine what it would have been like to live back in those days.

Post Visit

1. Attend a Park Board meeting and learn more about the planning that goes into maintaining the lighthouse and keeping up the park grounds.

3-P4.2.1 Develop and implement an action plan and know how, when, and where to address or inform others about public issues.

3-P4.2.2 Participate in projects to help or inform others.

2. Become part of a fundraiser or volunteer to help on an upcoming event (examples could be to do trash pick-up, make signs for Log Cabin Days, collect pop cans and donate money for upkeep of the Museum).

Hike the Woods and Beach

Pre-visit

1. Walk a Nature Preserve near your school (just a simple hike through a wooded or swampy area will do) Stop, look, and listen at points of interest

- > Ecosystem under a decayed log
- > Old Log Condominium for Bugs
- > Relationship between plants and tree
- > Signs and sounds of the season

L.EC.04.11 Identify organisms as part of a food chain or food web

L.OL.03.31 Describe the function of the following plant parts: flower, stem, root, and leaf.

L.OL.03.41 Classify plants on the basis of observable physical characteristics (roots, leaves, stems, and flowers).

2. Take a Soil Samples from two different ecosystems, such as from a Woodlot and Pond
 - Look for organic and inorganic materials
 - Get a soil testing kit to test for acid and alkaline levels

E.SE.E.1 Earth Materials– Earth materials that occur in nature include rocks, minerals, soils, water, and the gases of the atmosphere. Some Earth materials have properties which sustain plant and mineral life.

3. Look for evidence of Glaciers (Ridges and rocks)

E.SE.03.22 Identify and describe natural causes of change in the Earth's surface (erosion, glaciers, volcanoes, landslides, and earthquakes).

E.SE.03.13 Recognize and describe different types of Earth materials (minerals, rock, clay, boulders, gravel, sand, soil, water, and air).

E.SE.0314 Recognize that rocks are made up of minerals.

During

1. Play “I Spy ABC Nature” Record observations

S.IP.0311 Make purposeful observations of the natural world using the appropriate senses.

S.IP.03.12 Generate questions based on observations.

S.IP.03.13 Plan and conduct simple and fair investigations. S.IP.03.14 Manipulate simple tools that aid observation and data collection (for example: hand lenses, balance, ruler, meter sticks, measuring cup, thermometer, spring scales, stop watch/timer).

2. Take a soil sample from Woodlot/Beach

L.OL.04.15 Determine that plants require air, water, light, and a source of energy and building materials for growth and repair.

3. Make a rock collection from the beach to take back to the classroom for sorting and classifying

Post Visit

1. Class discussion on data collected during ABC observations > Record ideas on board > Make an ABC Book > Make a wall chart and categorize data

L.EV.04.21 Identify individual differences (color, leg length, wing size, leaf shape) in organisms of the same kind.

L.EV.0422 Identify how variations in physical characteristics of individual organisms give them an advantage for survival and reproduction.

L.EC.04.21 Explain how environmental changes can produce a change in the food web.

L.EV.05.21 Relate degree of similarity in anatomical features to the classification of contemporary organisms.

2. Compare Lighthouse Habitat those around your own school.

Use a Venn Diagram

3. Take a soil sample and compare it to your findings at school. How are they alike/different? Make a chart or graph to show what makes them alike/different.

S.IA.03.12 Share ideas about science through purposeful conversation in collaborative groups.

S.IA.03.13 Communicate and present findings of observations and investigations.

S.IP.M.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.

S.IP.05.11 Generate scientific questions based on observations, investigations, and research.

S.IP.05.12 Design and conduct scientific investigations.

S.IP.05.13 Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens) appropriate to scientific investigations.

S.IP.05.14 Use metric measurement devices in an investigation.

S.IP.05.15 Construct charts and graphs from data and observations.

S.IP.05.16 Identify patterns in data.

4. Look at your rock collection.

Try to put the rocks into categories by how they were formed (sedimentary, metamorphic, or igneous). Invite a guest from the Traverse City Rock Club.

E.ST.E.3 Fossils– Fossils provide evidence about the plants and animals that lived long ago and the nature of the environment at that time.

E.ST.04.31 Explain how fossils provide evidence of the history of the Earth.

E.ST.04.32 Compare and contrast life forms found in fossils and organisms that exist today.

S.IP.M.1 and S.IP.05.11–16 Objectives stated above.

Time Line for the Mission Point Lighthouse

- 1716 First Lighthouse was built on East Coast
- 1853 First Public Roads on the Peninsula (Middle Road now Center Road)
- 1860 Large ship sank at Old Mission Point; Government approved a \$6,000 grant for construction of a lighthouse
- 1870 Structure was completed, kerosene lanterns were installed. Jerome Pratt was the first lighthouse keeper
- 1870 6 sailing ships, 53 schooners, and 16 steamship passed by the lighthouse
- 1875 75 sailing ships, 75 schooners, 101 steamships passed by the lighthouse
- 1881 First Lighthouse family moves in: Captain John Lane
- 1933 Lighthouse was decommissioned. Emil C. Johnson replaced the old kerosene with automatic lights
- 1938 Steel tower was place on the shore
- 1947 43 Citizens raised \$1,935.00 to buy Lighthouse Property
- 1948 It became part of Peninsula Township
- 1992 It was put in the Michigan Historical Registrar
- 2008 Lighthouse and museum were open to the public
- 2011 5th Order Fresnel Lens obtained from Coast Guard to display in museum

Mission Point Lighthouse Vocabulary List

Characteristic– individual flashing pattern of each light

Daymark– a unique color scheme and or pattern that identifies a specific lighthouse during daylight hours

Fixed Light– a steady or non-flashing pattern of each light

Fog Signal– a device (such as a whistle, bell, canon, horn, siren, etc.) which provides a specific loud noise as an aide to navigation in dense fog

45th parallel– map line which marks half way between the North Pole and the Equator

Fresnel (fruh-NEL) Lens– a type of optic consisting of a convex prism of glass which focused and intensifies the light the light through reflection and refraction

Gallery– on a lighthouse tower, a platform, walkway or balcony located outside the watch room (main gallery) and/or lantern room (lantern gallery)

Keeper– the person who takes care of the light in the lighthouse

Lamp– the lighting apparatus inside a lens

Lantern Room– glassed-in housing at the top of a lighthouse tower containing the lamp and lens

Latitude– the distance north or south of the equator; measured in degrees

Lens– a curved piece of glass for bringing together the speeding rays of light passing through it

Lighthouse– a light beacon of major importance in navigation

Log– a book for maintaining records similar to a diary

Longitude– distance east and west on the earth's surface; measured in degrees from a certain meridian

Nightmark– the individual pattern or color of light that makes each lighthouse a unique navigational aid at night; each lighthouse’s nightmark is different so mariners know which lighthouse they are seeing

Prism– a transparent piece of glass that refracts or disperses light

Privy– an outhouse; outdoor toilet

Pharologist– one who studies or is interested in lighthouses

Order– size of the Fresnel lens which determines the brightness and distance the light will travel; 6th Order is the smallest and 1st Order is the largest. The largest used on the Great Lakes is the 2nd Order (Whitefish Point has one of these on display). Mission Point used a 5th Order.

Reflect– bend or throw back light Refract– bend or slant rays of light

Restoration– rebuilding or repairing a building to its original condition

Shoal– a place the water is shallow

Tower– structure supporting the lantern room of the lighthouse

Watch Room– a room immediately below the lantern room where fuel and other supplies were kept where the keeper prepared the lanterns for the night and often stood watch

“Wickie”–a nick name given to lighthouse keepers, derived from the task of trimming the wick of lamps

Recommended Book List

Teacher Reading List

Hoyt, Susan Roark. *Lighthouses of Northwest Michigan*

Kozma, LuAnn., ed. *Living in a Lighthouse: Oral Histories of the Great Lakes*

Meyers, Julianne. *Memories: Hidden Memories Found on the
Old Mission Peninsula*

Meyers, Julianne. *Reflections of Yesterday*

Student Reading List

Armitage, David and Ronda. *The Lighthouse Keepers Lunch*

Gibbons, Gail. *Beacons of Light: Lighthouses*

Hopkinson, Deborah. *Birdie's Lighthouse*

Langley, Jan. *Captain and Harry: A Trembling Tale of Thieves*

Oleszewski, Wes. *Great Lakes Ghost Stories: Haunted Tales of Past and Present*

Roop, Peter and Connie. *Keep the Light Burning Abbie*

Sargent, Ruth. *The Littlest Lighthouse*

Stonehouse, Frederick. *My Summer at the Lighthouse: A Boys Journal*

Vaughan, Marcia. *Abbie Against the Storm*

Waterton, Betty. *The Lighthouse Dog*