

**BIG SABLE
POINT
LIGHTHOUSE
EDUCATIONAL
PACKET**

**Learning Packet
For
Sable Point Lighthouses**

Pre-visit Activities

Note to teachers: These suggested activities were developed to help prepare children for a visit to one of the Sable Points Lighthouses. It is suggested the pre-visit activities be done before visiting and then followed up with the post visit activities. Children should be made aware of the post visit activities before visiting the light so they can make observations needed to complete the activity.

1. To help each child become familiar with a lighthouse have them color by number the drawing of the lighthouse included in the packet.

2. Create a K.W.L.Q chart. Ask the children, “What do you know about lighthouses?” and record their responses on chart paper or the black/white board in your classroom. Next ask the children “what do you want to know about lighthouses?” Record their responses on chart paper or the board. Have the children record their responses on their KWLQ chart. (A copy of a form is in the packet).

Michigan Science Content Expectations K-2-ETS1-1

Michigan Social Studies Content Expectations 3-H3.0.1

3. Discuss Charles Mears and his impact on the community and specifically his involvement with the building of Big Sable Point Lighthouse. (Using information provided in packet)

Michigan Social Studies Content Expectations 2-H2.0.3

Michigan Social Studies Content Expectations 3-G5.0.1

Michigan Social Studies Content Expectations 4-H3.0.4

Michigan Social Studies Content Expectations 4-G4.0.3

4. Create a Wall Timeline depicting the major events establishing Big Sable Point Lighthouse – using information provided in the packet. Consider the following: a specific topic of the timeline, how many years the timeline will incorporate, the length of the timeline and needed space to create it, which events and people to add to the timeline, illustrations or pictures to enhance the timeline.

Michigan Social Studies Content Expectations 2-H2.0.1
Michigan Social Studies Content Expectations 2-H2.0.4
Michigan Social Studies Content Expectations 3-H3.0.10
Michigan Social Studies Content Expectations 3-G4.0.1
Michigan English Language Arts Expectations Literacy RI.3.3

5. Introduction of Dia-Phone Fog Signal 1934 – Use the Morse Code Activity found in the learning packet.

Michigan Content Expectations: 2-ESS2-1

POST VISIT ACTIVITIES
For
Sable Points Lighthouses

1. Homes in the 19th century were very different from our homes today. Make a Venn diagram together as a class to tap knowledge and experience comparing a lighthouse keeper's dwelling to our typical homes today.

(Worksheet provided in packet)

Michigan Social Studies Content Expectations 1-H2.0.4
Michigan Social Studies Content Expectations 2-H2.0.6

2. Have each child compare and contrast how living in their home is different from living at a lighthouse. Have them record their thoughts.

Michigan Social Studies Content Expectations 2-H2.0.6
Michigan English Language Arts Expectations Literacy.W.4.3

3. Each lighthouse has its own unique marking that allows sailors to tell where they are simply by looking at the lighthouse. Use the worksheet and make one tower to represent a specific lighthouse tower. Use the second and third tower and design two different day marks of your own.

Remember a daymark is the way a lighthouse is painted along with its shape, height, location and other buildings.

(Worksheet provided in packet)

4. To continue to help the children see how different life was for the lighthouse children than theirs do the following:

- have them try saying a simple paragraph in 12 sec intervals being interrupted by the fog horn (whistle, horn, etc) for 3 second blasts.

Sample Paragraph –

Going to the lighthouse was fun. It was cool to climb the steps to the top of the tower and imagine that you were the lighthouse keeper keeping the light so ships would be safe in the dark, storms and fog.

Michigan Social Studies Content Expectations 3-5-ETSI-1

Michigan Social Studies Content Expectations 3-5-ETSI-2

5. Introduce and play some of the common games of the time period.

Pick-Up sticks

Hopscotch

Marbles

Chuck-Farthing

Make a Button Whizzer or Buzz-saw

Graces

(Instructions for these games are included in packet)

6. Make a model of a lighthouse tower using pattern included or any other items you have available to create the tower.

a. Color tower middle band black

b. Color roof red

c. Cut out pieces

d. Tape tower side A and C to side B

e. Cut out walkway, roof and walkway railing

f. Fold walkway railing in half

g. Tape side E and side F of walkway railing together

h. Attach D tabs of walkway to walkway railing

I. Place roof and tape onto tabs A and tape
Michigan Science Content Expectations K-2-ETS1-2
Michigan Science Content Expectations 1-PS4-4
Michigan Social Studies Content Expectations 2-ESS2-2
Michigan Social Studies Content Expectations 2-ETSI-2

7. Label the Lighthouse Tower Diagram

Complete the worksheet using the word bank to label the parts of the Lighthouse's tower.

Michigan Science Content Expectations K-2-ETSI-2

8. Finish the KWLQ chart started in the pre-visit activities. Ask the children, "What did you learn about lighthouses?" Record their responses on chart paper or the board. Review earlier responses to the first two questions, "What did you know before we visited the light? And "What did you want to know about the lighthouse?" Have the children record any questions they still have about lighthouses. Have the children record their responses on their individual KWLQ chart.

9. Develop a chart or graph showing the changes in water levels in Lake Michigan over a 10 year period. Use the information provided in the packet.

Michigan Science Content Expectations 2-ESS2-2

Michigan Science Content Expectations 3-ESS2-1

10. Write entries for the Keeper's Log Book. Describe your visit to the Lighthouse you visited.

Michigan English language Arts Expectations Literacy.W.3.10

Michigan English Language Arts Expectations Literacy.W.3.3

TIMELINE OF MAJOR EVENTS LEADING UP TO THE ESTABLISHMENT OF THE BIG SABLE POINT LIGHTHOUSE

1830s - Logging and shipping

1847 - Charles Mears bought 5,550 acres of the timberland on Big Sable Point

1848 - Baird and Bean established the first sawmill in Pere Marquette

1855 - 12 shipwrecks, 48 lives

1856 - Congress approved

1859 - Ludington and Charles Mears granted permission to open a new channel from Lake Michigan into Pere Marquette Lake. This greatly improved the harbor

1864 Pere Marquette was changed to Ludington.

1861 - Civil War

1864 Pere Marquette was changed to Ludington.

1867 - Big Sable built

- \$35,000 appropriation
- first lit November 1
- 933 acre site
- 500 feet from lake
- yellow brick tower
- 112 feet to ventilator ball
- 1 keeper and 1 assistant
- third order Fresnel lens
- lard oil lamp fixed, white light
- visible 18 miles

1900 - metal clad tower

1900 - tower daymark 1909 - kerosene lamp, visible 19 miles

Big Sable Point Lighthouse Educational Packet 2008

1909 - fog horn, heard 5 miles

1909 - 2nd assistant

1934 - Dia-phon fog horn

1941 - new fog horn

1949 – in-door plumbing

1949 - electric lamp, visible 19 miles

1953 - entire station electrified

1970 - Coast Guard leaves

1985 - 300 mm plastic lens, visible 15 miles

1991 - seawall completed

2002 - site transfer to State of Michigan

- SPLKA operates and maintains

BIG SABLE POINT LIGHTHOUSE
FACTS AT A GLANCE

1867 Built

Names

Grande Pointe au Sable Lighthouse

Grand Point au Sable

Grand Sable Point

April 30, 1910 - BIG SABLE POINT LIGHT STATION - Official name

Current - Big Sable Point Light

Sable means sand

1848 merchant schooner "Neptune sank

37 died

\$35,000 in cargo lost

Caused officials to request a lighthouse

1850 Charles Mears became senator, requested a lighthouse

1855 12 ships wrecked between Big Sable and Ludington

47 died

Aug. 18 1856 Congress appropriated \$6,000 for building a light at Big Sable Point.

Civil War delayed the construction of the lighthouse

June 4 1856 President Franklin Pierce reserved a parcel of land

May 28, 1858 President James Buchanan reserved a second parcel

July 28, 1866 and October 16, 1866 Congress appropriated \$35,000 for lighthouse; final parcel of land added by order of President Andrew Johnson

Final site 933 acres

Tower made of soft yellow Milwaukee brick

Wall 5 feet thick at base tapering to 2 feet thick at top

Tower is 112 feet tall

Lit for the first time November 1, 1867

Third order lens showing a fixed white light

Light can be seen for 18 miles

June 1900 Metal cladding was fabricated at lighthouse depot in Milwaukee to slow deterioration

18th and 19th Century Games

Pick-Up Sticks – (originally known as JACKSTRAWS)

SUPPLIES: Sticks of the same length of various colors and one stick a different color
Game is played with sticks of the same length. They are often dyed different colors. The sticks are gathered in one hand and held above the ground the length of the sticks. They are then released, falling to the ground and overlapping each other. One stick is colored different from all the others that are placed in the bunch. The person who dropped the sticks begins removing the sticks one at a time without causing any of the other sticks to move. The object of the game is to accumulate more sticks from the pile than the other players. In the event that any stick other than the one being removed is moved at all, that player forfeited his or her turn to the next player. At the end of the game the player with the most sticks wins.

Hopscotch-(names comes from a 17th century term –ESCOCHER, meaning to cut with a stick. Children originally marked the ground with a stick)

SUPPLIES: Sidewalk chalk or a stick and a pebble

It is played by marking squares on the ground and leaping into designated squares in a particular sequence. The game is played by scratching (chalk) a series of squares on the ground, sometimes single squares and sometimes two squares side by side, on which the children would jump. As a child progressed satisfactorily through the series of squares, a pebble would be tossed into the next square to mark the beginning square into which the child was to make their first jump. The remaining rules vary widely, but the object is to make the necessary leaps and maintain your balance as you progress through the series of squares.

Chuck-Farthing -

SUPPLIES: cup or hole in the ground, coins or buttons

The players pitch the coins or buttons into the cup or hole. The player that gets the most wins.

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Graces-

SUPPLIES: the inside piece of an embroidery hoop, ribbons 3 feet of each color, 2 12" dowels for each player

The hoop is bound with one or more ribbons tied at the ends. The object is to throw and catch the hoop on the sticks. The game can be played by 2 or more players. The sticks are held about 4 inches apart when trying to catch the hoop. To throw the hoop the sticks are held in the hands with the hoop in the middle. The sticks are crossed like a pair of scissors. The hands are quickly spread apart and the hoop flies to the other person.

Marbles-

SUPPLIES: marbles

TWO DIFFERENT GAMES Picking Plums and Capture

Picking Plums-

Each player places a marble or two in a row, with room for two marbles to pass through the gaps. Each player then shoots in turn from behind a line about 5 feet away. Players may keep any "plums" knocked from the line. A player gets an extra shot whenever he picks a plum.

Capture-

Two players can play capture. The first player shoots his/her marble out and the second player tries to hit it with his/hers. If he/she does hit it he/she may keep it. If he/she misses, her marble stays where it is and the first player tries to hit it with his/her marble. If the first player hits the second player's marbles, he/her keeps it. Otherwise they alternate turns until one player takes the other player's marbles.

Button Whizzer or Buzz-Saw –

SUPPLIES: one heavy coat button and about 2 1/2 feet of heavy string

Thread the string through two of the button's holes. Tie the ends of the string together. To get the button whizzing, hold the ends apart on one of your fingers with the button in the middle. Loosely hold the string and twist the string around. When twisted completely pull the string on both ends and loosen repeatedly.

DESIGN YOUR OWN DAYMARK

Sailors can always tell where they are during the day or night, just by looking at a lighthouse.

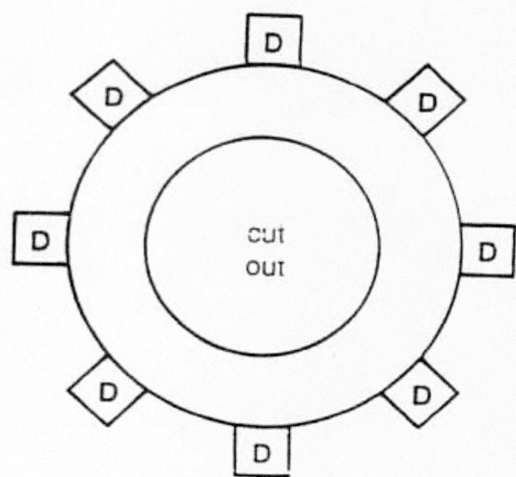
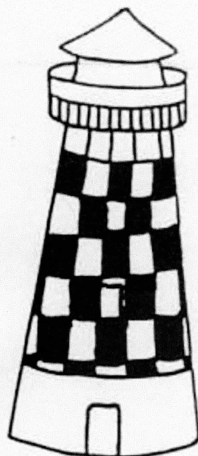
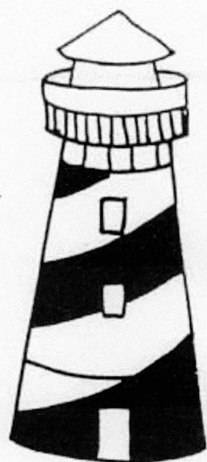
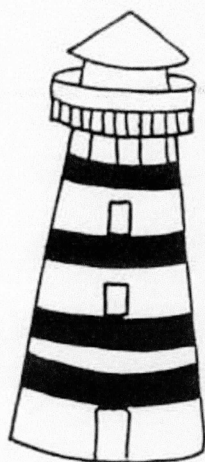
At night, sailors can tell where they are by keeping track of the flashes for a lighthouse. This is a *nightmark*. Big Sable has a fixed light. This means it does not flash. From dusk to dawn the light is steady.

During the day, sailors know which lighthouse they are near by its *daymark*, or how it is painted. Big Sable Point is white with a black band around its middle and a black parapet.

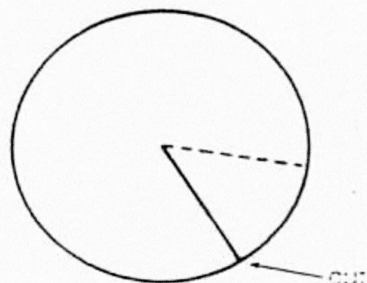
Suppose you had to design a lighthouse daymark! Below are some plain lighthouses, give them different daymarks so sailors can tell them apart!



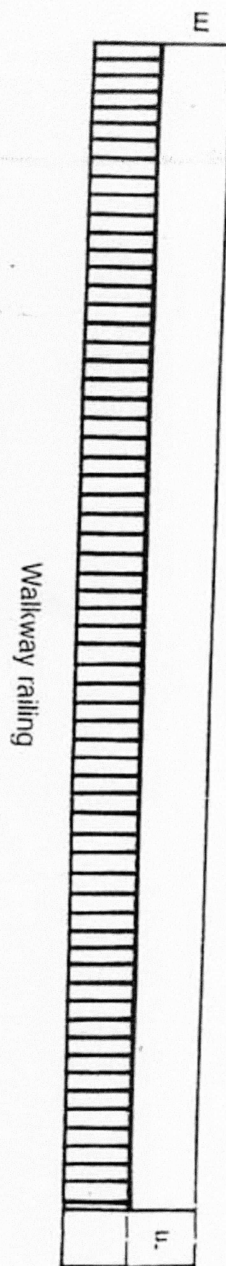
Lighthouse Craft Patterns



Walkway



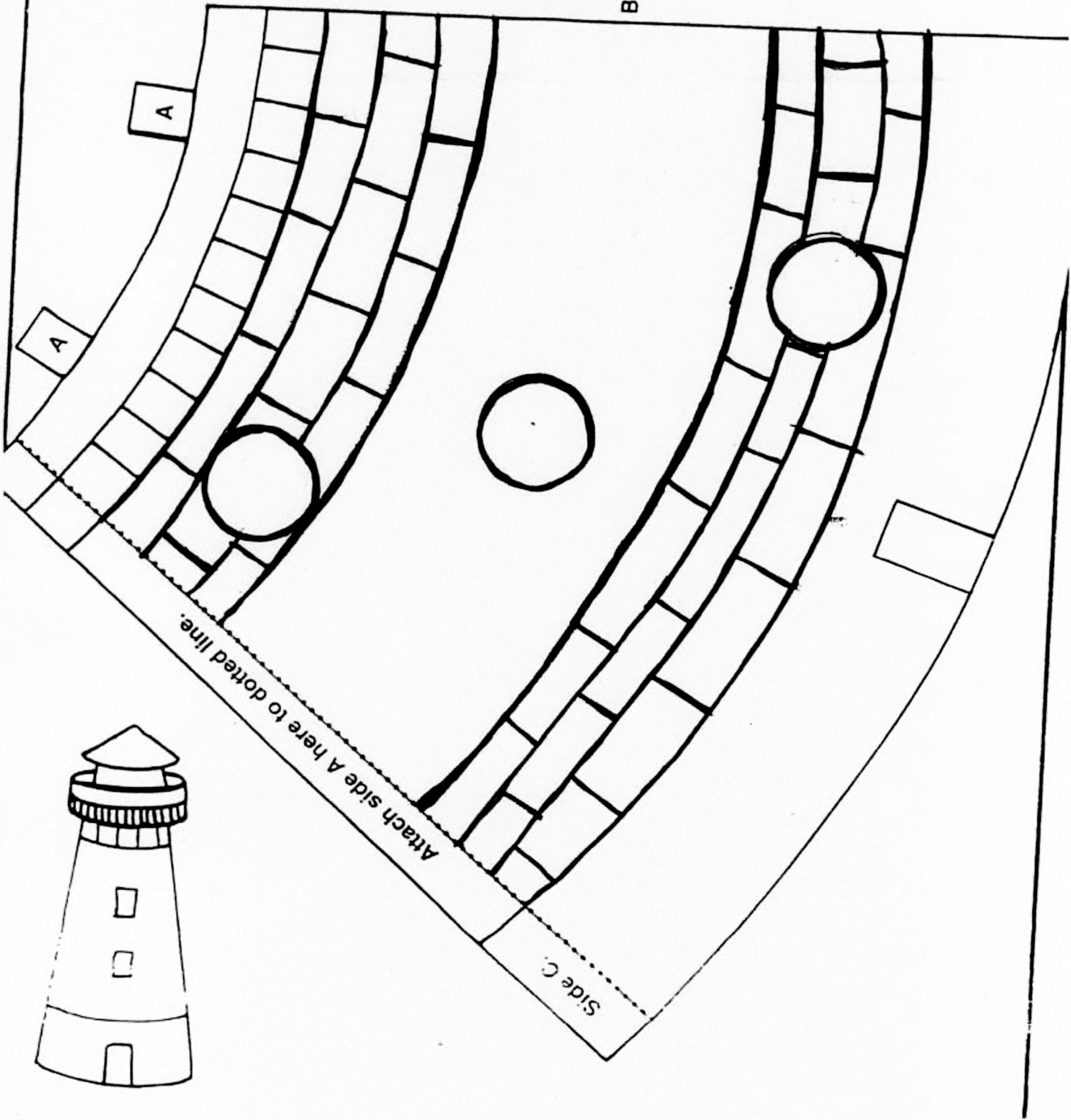
Roof

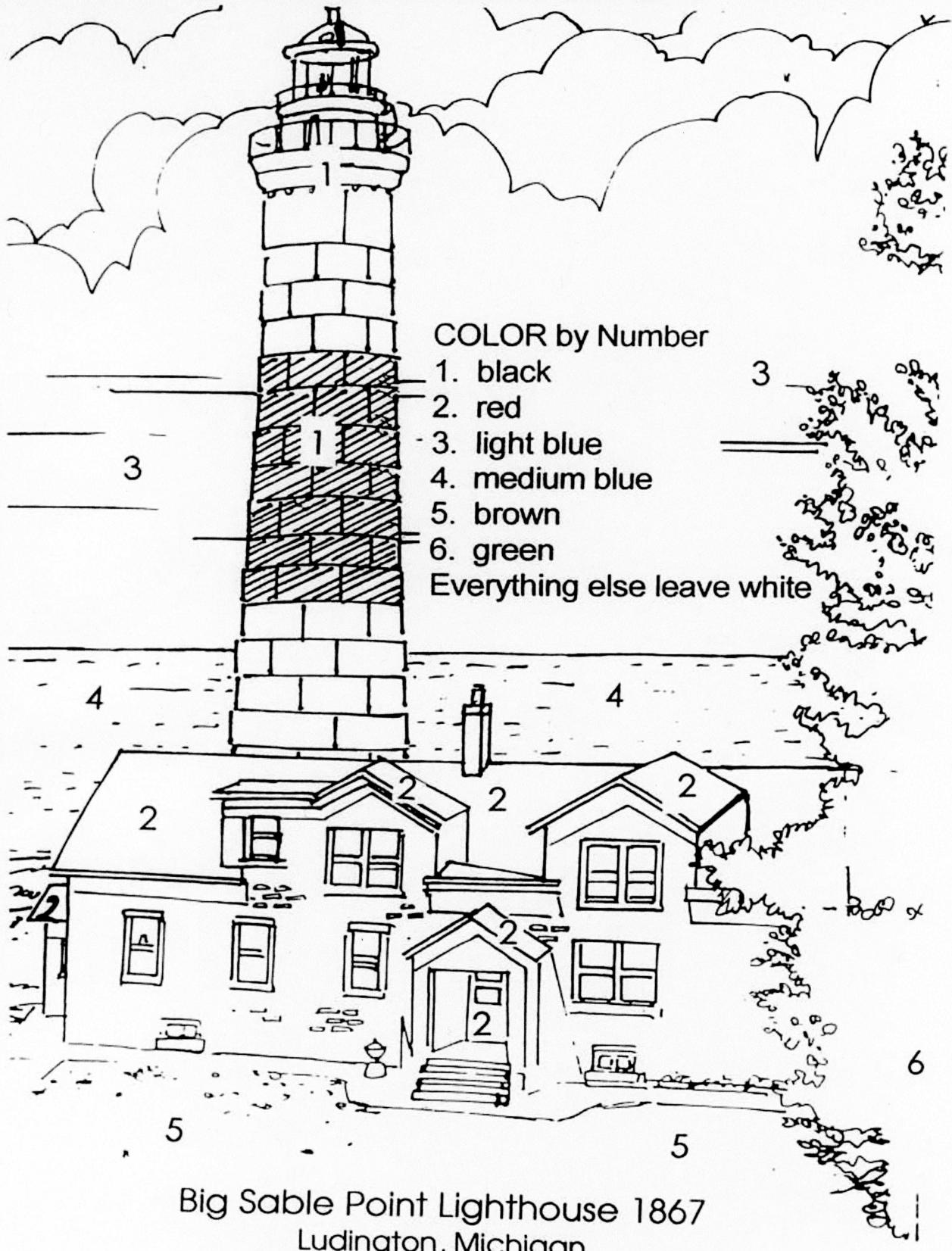


Walkway railing

Lighthouse Craft Patterns

B





COLOR by Number

- 1. black
 - 2. red
 - 3. light blue
 - 4. medium blue
 - 5. brown
 - 6. green
- Everything else leave white

Big Sable Point Lighthouse 1867
Ludington, Michigan

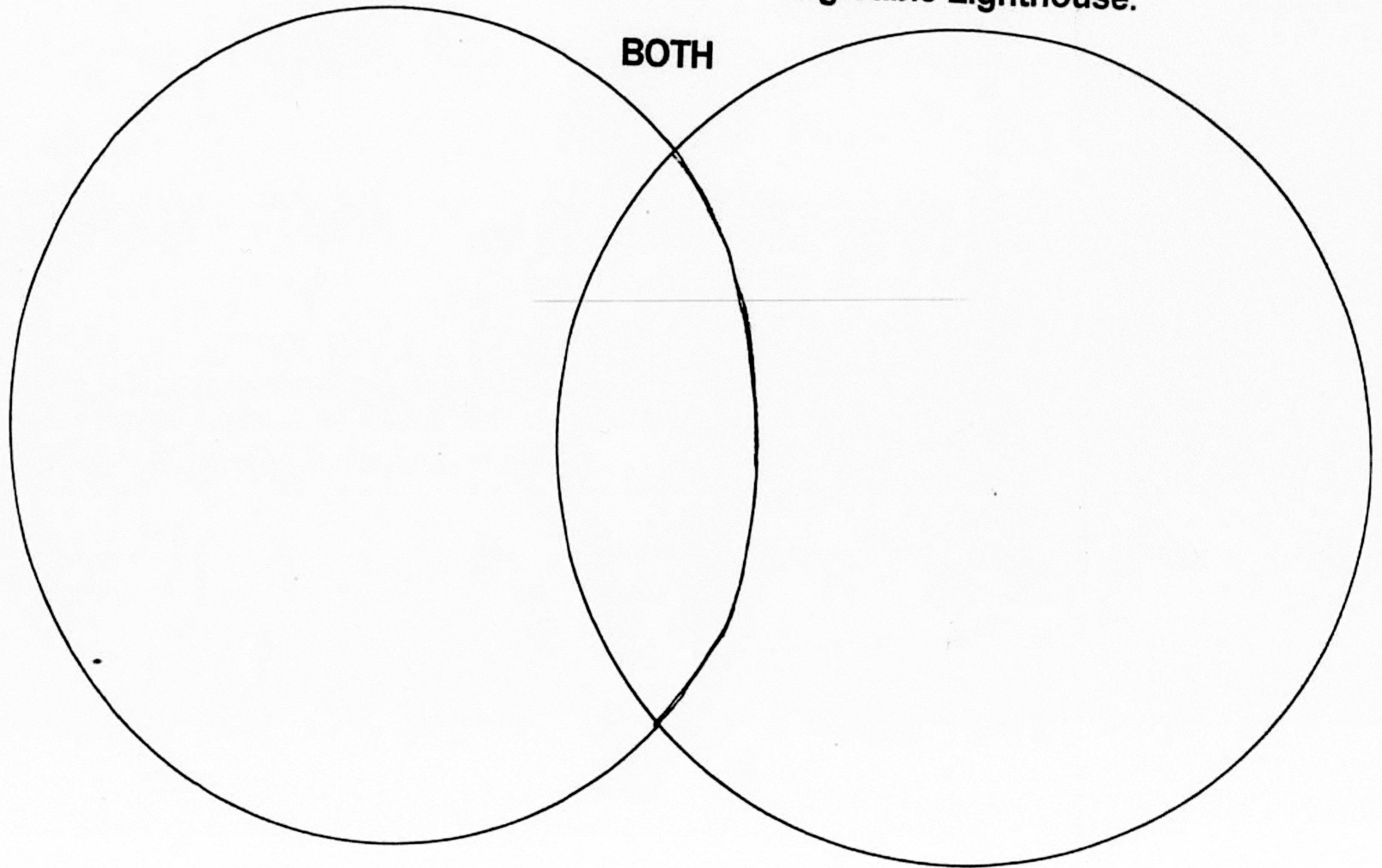
Name _____ Date _____

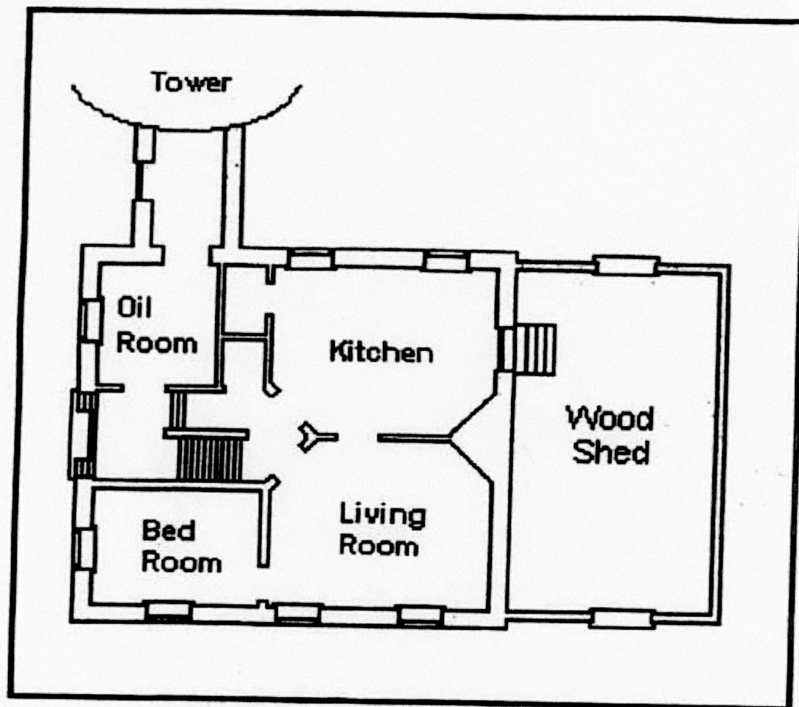
Compare Big Sable Lighthouse Keeper's house to your house. A diagram of Big Sable's house is on the back to refresh your memory. Include 5 things that are different and 3 that are the same.

My House

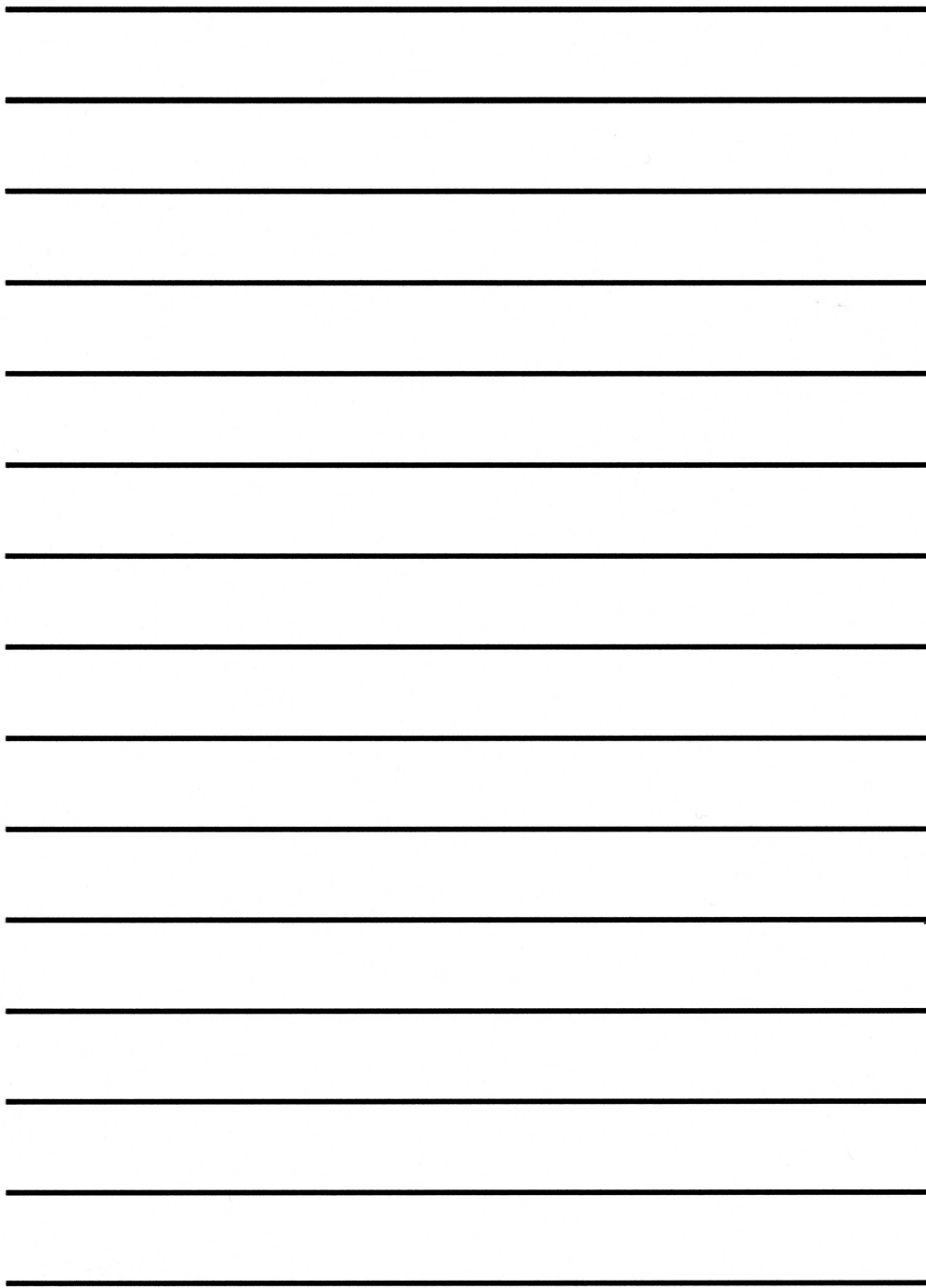
Big Sable Lighthouse.

BOTH





*(Drawing by Author from drawings in National Archives RG-26)
The first floor of the original 1867 keeper's house.*



BIG SABLE POINT LIGHTHOUSE

Search and find the words below related to Big Sable Point Lighthouse

G A K A I E L N U Y R K K S D
H K B H O R D E R E W O T R L
S T A I R W A Y T N Y H L P A
F L R E G P Y Y H W G L R O S
D D E L R S M W S R T L S P O
F O P E S F A A E E E E E S
F W G K H T R B L D E R N S S
T O D E C E K E L E L L W D A
L I G H T H O U S E S R N G K
T G T H E T A H O N R Y A O Y
T E U W O G O F A I E L R E E
T S T O E R A A O H P L R E T
D H H Y D E N D E S E N P B A
A L M E G O A I H N E E E T H
N A E Y R E A W S I K H S I O

BIG SABLE
_AMP
TOWER

LENS
LIGHTHOUSE
HYDE

DAYMARK
KEEPER
STAIRWAY

FOGHORN
LOG
SHINE

FRESNEL
ORDER
WATCH

BIG SABLE POINT LIGHTHOUSE

Search and find the words below related to Big Sable Point Lighthouse

R K L O T R G O T L K A B E G
H O M E M L E N S E R F F T S
G P I R S T A I R W A Y O Y P
L H A M W H O L E H M H E K H
A N S T C E I W P S Y E E L O
N R R L A O A N E D A H N R O
T R Y I E F A F E R D I I O G
E M O G L G O S K E W R G R D
R E N H B G O G T A F A H T E
N O I T A T S T H G I L T P T
R N N H S L U G G O U N M C L
O U L O G N T W I T R A A O H
O B H U I T E P L E L N R I R
M A R S B C N L L N A G K D H
I R R E D R O D R I H T H H T

BIG SABLE
NIGHTMARK
LANTERN ROOM
LOG
STAIRWAY

LENS
FOGHORN
LIGHTHOUSE
THIRD ORDER
SHINE

COAST GUARD
FRESNEL
LIGHTKEEPER
TOWER
WATCH

DAYMARK
LAMP
LIGHT STATION
HYDE

RECOMMENDED BOOK LIST

TEACHER READING LIST:

DeWire, Elinor. THE LIGHTHOUSE ACTIVITY BOOK

Hoyt, Susan Roark. LIGHTHOUSES OF NORTHWEST MICHIGAN

Kozma, LuAnn G., ed. LIVING IN A LIGHTHOUSE: ORAL HISTORIES OF THE
GREAT LAKES

Tag, Thomas. BIG SABLE POINT LIGHTHOUSE

STUDENT READING LIST:

Deutsch, Andre. THE LIGHTHOUSE KEEPER'S LUNCH

Gibbons, Gail. BEACONS OF LIGHT: LIGHTHOUSES

House, Katherine L. LIGHTHOUSES FOR KIDS

Hopkinson, Deborah. BIRDIE'S LIGHTHOUSE

Roop, Peter and Roop, Connie. KEEP THE LIGHTS BURNING ABBIE

Sargent, Ruth. THE LITTLEST LIGHTHOUSE

Vaughan, Marcia. ABBIE AGAINST THE STORM

Waterton, Betty. THE LIGHTHOUSE DOG

BIG SABLE POINT LIGHTHOUSE VOCABULARY LIST

Characteristics – Individual flashing pattern of each light

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

Fresnel (fruh-NEL) Lens – A type of optic consisting of a convex lens and many prisms of glass which focus and intensify the light through reflection and refraction

Gallery – on a lighthouse tower, a platform or 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

Lens – A curved piece of glass for bringing together or spreading rays of light passing through it

Lighthouse – a lighted beacon of major importance in navigation

Light Station – A complex containing the lighthouse tower and all the outbuildings – living quarters, fuel house, boathouse, fog signaling building, etc.

Log – a book for maintaining records similar to a diary

Nightmark – the individual pattern or color of light that makes each lighthouse an unique navigation aid at night; each lighthouse 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

BIG SABLE POINT LIGHTHOUSE VOCABULARY LIST (con't)

Order – size of the Fresnel lens which determines the brightness and distance the light will travel

Reflect – bend or throw back light

Refract – bend or slant rays of light

Restoration – rebuilding or repairing a building to its original condition

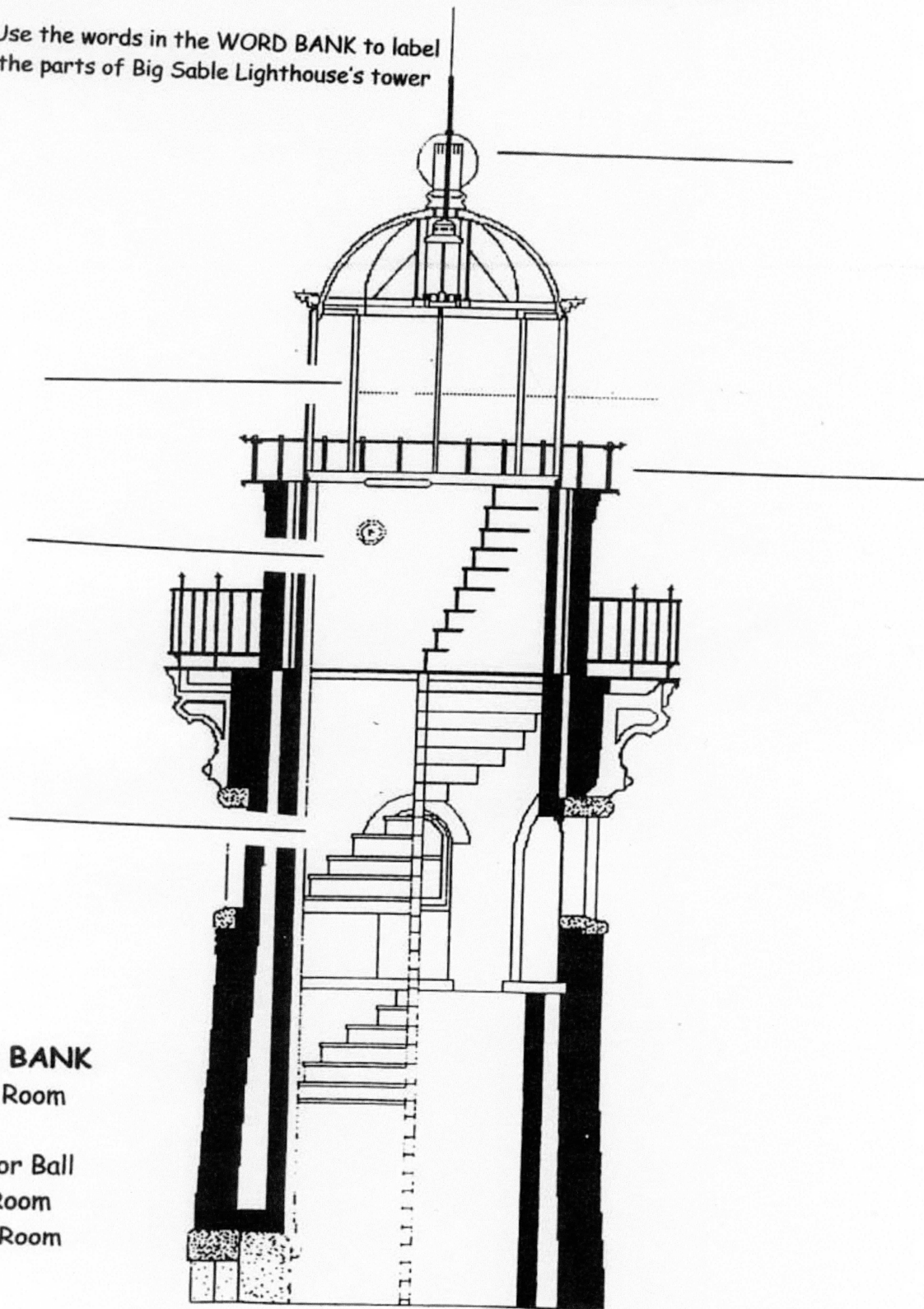
Tower – structure supporting the lantern room of the lighthouse

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 nickname given to lighthouse keepers, derived from the task of trimming the wick of lamps

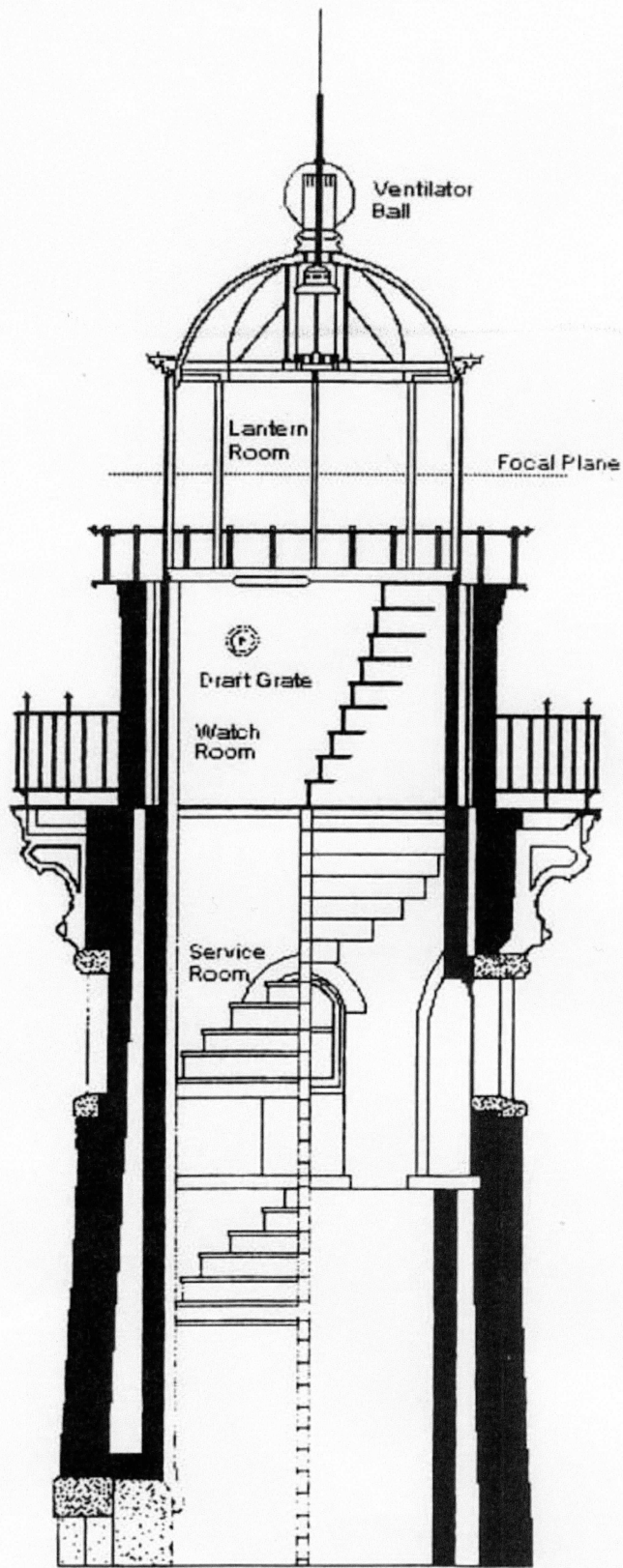
BIG SABLE LIGHTHOUSE TOWER DIAGRAM

Use the words in the WORD BANK to label the parts of Big Sable Lighthouse's tower



WORD BANK

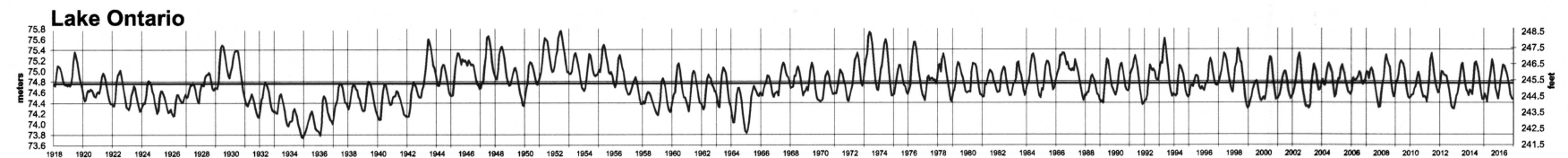
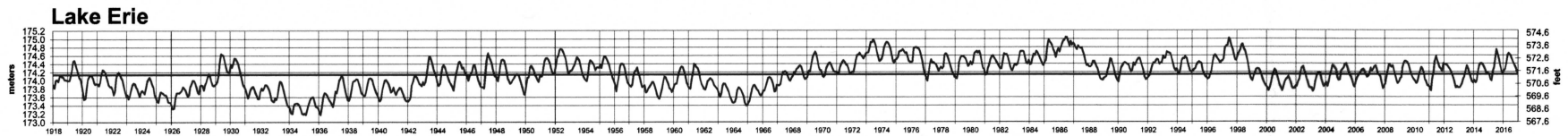
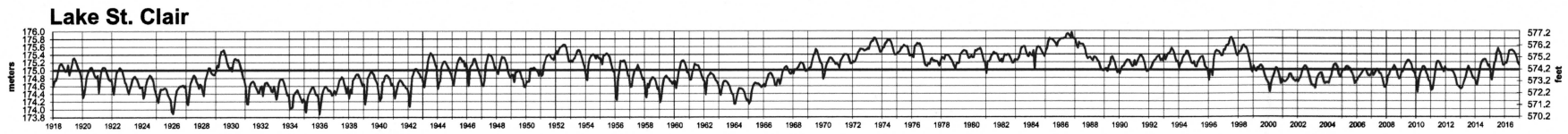
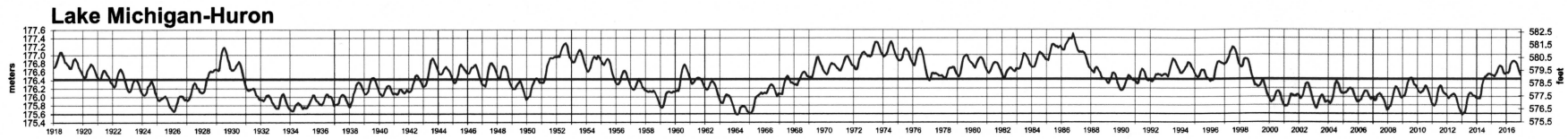
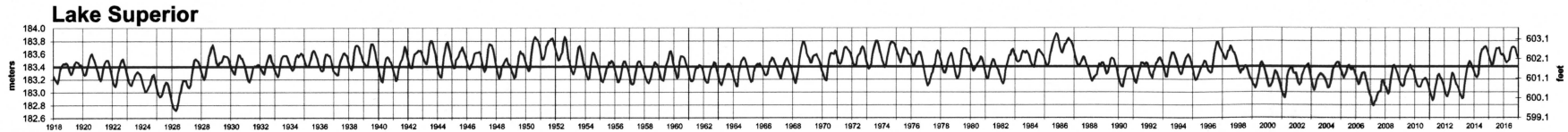
- Lantern Room
- Gallery
- Ventilator Ball
- Watch Room
- Service Room





Great Lakes Water Levels (1918-2016)

— Monthly Mean Level
— Long Term Annual Average



The monthly average levels are based on a network of water level gages located around the lakes.
Elevations are referenced to the International Great Lakes Datum (1985).

TOPIC

Name: _____

Date: _____

KNOW

**WANT TO
KNOW**

LEARNED

**SABLE POINT LIGHTHOUSE
EDUCATION VISIT AND MATERIALS EVALUATION**

Please complete the following evaluation to help us continue improving our efforts to make your visit to Big Sable Point Lighthouse educational, meaningful and fun. A self-addressed envelope is enclosed for your convenience.

EDUCATIONAL PACKET:

<u>Material</u>	<u>Used it</u>	<u>Value of Material</u>				
		Circle one		Lowest		Highest
Historical background	Yes No	1	2	3	4	5
Pre-Visit Activities	Yes No	1	2	3	4	5
Post-Visit Activities	Yes No	1	2	3	4	5
Timeline	Yes No	1	2	3	4	5
18 th and 19 th Games	Yes No	1	2	3	4	5
Daymark	Yes No	1	2	3	4	5
First Dia-phone	Yes No	1	2	3	4	5
Make a model craft	Yes No	1	2	3	4	5
Color by Number	Yes No	1	2	3	4	5
Venn Diagram	Yes No	1	2	3	4	5
Comparison Writing	Yes No	1	2	3	4	5
Easy Word Search	Yes No	1	2	3	4	5
Harder Word Search	Yes No	1	2	3	4	5
Recommended Book List	Yes No	1	2	3	4	5
Vocabulary List	Yes No	1	2	3	4	5

Are there any additional information or materials that might be helpful to you? _____

DURING VISIT:

<u>Activity</u>	<u>Enjoyment</u>	<u>Did it meet state standard</u>				
Tour outside	Yes No	1	2	3	4	5
Tour of tower	Yes No	1	2	3	4	5
Tour in Gift Shop	Yes No	1	2	3	4	5
Tour in Video Room	Yes No	1	2	3	4	5

Additional Questions:

Were our VOLUNTEER lighthouse keepers knowledgeable and pleasant? Yes No

Comments: _____

Any suggestions that would make your time at Big Sable Point Lighthouse more valuable? _____

Thank you for your time and your visit to Big Sable Point Lighthouse.