



PORT WASHINGTON HISTORICAL SOCIETY  
**Port Exploreum**

# Lake Michigan Learning Lab

***EXPLORING OUR PAST:***

***NAVIGATING OUR FUTURE***

**Wisconsin History Curriculum  
Fourth Grade**

**Teacher Lesson Guidebook**

## EXPLORING OUR PAST: NAVIGATING OUR FUTURE

The content of this program includes four pre-visit lessons with resources that will aid the teacher in implementing these lessons within the classroom setting. These lessons include:

1. Information on the first people, travelers on the Great Lakes, and the fur trade
2. Shipping on the Great Lakes, ports, and lighthouses
3. Bridge building over waterways
4. Threats to the Great Lakes, including invasive species.

During your visit to the Exploreum, we offer four interactive activities, which include:

1. Recreation and Transportation on the Great Lakes--includes constructing origami sailboats that the children may keep
2. Building Bridges--students determine which type of geometric shapes make strong bridges and actually construct a bridge together
3. Invasive Species as a threat to the Great Lakes--learning the origin and harmful effects of invasive species, and what we can do to prevent further invasions. The lesson culminates with an interactive virtual reality game where students learn to differentiate between sporting fish and invasive species.
4. Examination of historical artifacts from immigrants who settled in the area. Students use our interactive history table to learn about events that happened locally.

Post-Visit--A Step Further--three supplemental classroom lessons include:

1. Main Street-Then and Now-Using historical and current photos of local Main Streets, students determine what aspects of the Main Streets have changed.
2. Schools-Then and Now--Research is done as to how schools, rules, and responsibilities were different in the past. Culminates with writing a letter to a student from the past.
3. Protecting Our Great Lakes-Students learn the importance of the Great Lakes, and what we need to do to protect them

# 4TH Grade Wisconsin History Curriculum

Pre-Visit Lesson 1

## Exploring the Great Lakes

### Summary

*In this lesson, the students will learn about the First People to inhabit Wisconsin, discover the Voyageurs, and understand the workings of the fur trade.*

---

### Objectives

- Determine how life may have changed for the Native Americans when the first explorers came to the Great Lakes region.
  - Describe the mode of trade between the Native Americans and the French.
  - Explain why the fur trade was so compelling to the Europeans.
- 

### Sequence

---

**Intro.** Students will answer the True and False questions on how much they think they know about the Great Lakes. Use Jean Snowden's resources from Teachers Pay Teachers.  
<https://www.teacherspayteachers.com/Product/The-Great-Lakes-Activities-Center-1901277>  
They will then participate in a Think-pair-share (T-P-S) to answer the questions "Why is it important to learn about the Great Lakes"?

---

**Activity**

1. The students will read about the "The First People" from Jean Snowden's activities. After reading the article, the students will view "The Land Bridge" (1:26).  
[https://www.youtube.com/watch?v=SRzuKCqmF\\_k](https://www.youtube.com/watch?v=SRzuKCqmF_k)
2. The students will then work in pairs to answer the questions.
3. The class will discuss their answers together.
4. The students will continue reading about the Voyageurs and the Fur Trade all from the Jean Snowden's resources. The students will

then view “Furtrade” (8:05).

<https://www.youtube.com/watch?v=blg0a62mehU>

---

**Wrap-Up** Discuss the encroachment of the explorers on the Native Americans. State how the fur trade benefited both cultures, and how it may have harmed them.

**Assessment** Exit card

---

–

**Extension** Extension Activity-”Native American Beadwork Designs” (also from Jean Snowden’s activities).

---

–

### **Instructional Resources**

- <https://www.teacherspayteachers.com/Product/The-Great-Lakes-Activities-Center-1901277>
- True and False Sheet with Answer Key for Instructor
- “The First People” and “Voyageurs and the Fur Trade” articles and questions.
- Native American Beadwork and Design Sheets

Pre-Visit Lesson 2  
**Shipping on the Great Lakes**

### Summary

*In this lesson, students will be introduced to the history of shipping on the Great Lakes from the Voyageurs to the present. They will also be introduced to major ports on the Great Lakes, some of the shipwreck disasters that took place, and the Great Lakes' lighthouses.*

---

### Object

- To examine and discuss the implications of the fur trade between Native Americans and the Europeans.
  - To investigate the types of transportation used to move goods on the Great Lakes over time.
  - To understand the invention of lighthouses and how they were used by early seamen.
  - To study some of the shipwrecks that occurred on the Great Lakes.
- 

### Sequence

---

**Intro.** Students will watch the video “Fur Trade” <https://www.youtube.com/watch?v=blg0a62mehU&t=362s> (8:02). They will discuss how this trade benefited the Native Americans and the Europeans.

---

**Activity** 1. Students will read the article “Shipping on the Great Lakes” taken from <https://www.teacherspayteachers.com/Product/The-Great-Lakes-Activities-Center-1901277>

2. Students will use the “Great Lakes Port Cities” handout from the above website to complete the “Major Port Cities of the Great Lakes” map.
3. The students will read the articles on “Lighthouses” and “Shipwrecks” also from the Jean Snowden resource.

4. The students will answer the questions on the “Questions About Lighthouses and Shipwrecks” worksheet.
  5. The students will go to the computer lab to learn more about lighthouses on Lake Michigan using the website [www.gllka.com/michiganlights.html](http://www.gllka.com/michiganlights.html). They should click on the red or green dots to read a brief synopsis about the lighthouses.
  6. The students will go to the computer lab to learn more about shipwrecks on Lake Michigan using the website [https://en.wikipedia.org/wiki/List\\_of\\_shipwrecks\\_in\\_the\\_Great\\_Lakes](https://en.wikipedia.org/wiki/List_of_shipwrecks_in_the_Great_Lakes).
- 

**Wrap-Up** Students will discuss how time has changed on the Great Lakes, including shipping and safety measures.

---

**Assessment** Students will use an exit note card to state one fact they learned in this lesson.

---

**Instructional Resources-taken from**

<https://www.teacherspayteachers.com/Product/The-Great-Lakes-Activities-Center-1901277>

- Handout of “Shipping on the Great Lakes”.
  - Handout of “Great Lakes Port Cities” and “Major Port Cities of the Great Lakes”.
  - Handout of “Lighthouses”.
  - Handout of “Shipwrecks” and “Questions About Lighthouses and Shipwrecks”.
- 

**Extension Activity** Students could extend their research on vessels, shipwrecks, or lighthouses of Lake Michigan. ( See Activity Nos. 5 and 6.)

Pre-Visit Lesson 3  
**Bridges Build Connections**

**Summary**

*In this lesson, students will learn about the pros and cons of different types of bridges. They will given examples of the types of bridges and develop an understanding of the basic physics behind bridges.*

---

**Object**

- Understand the terms “compression” and “tension” as applied to the construction of bridges.
  - Identify the different types of bridges.
  - Differentiate why one type of bridge is built versus another type.
- 

**Sequence**

---

**Intro.** Students will watch the video clip, “What Makes Bridges So Strong” (3:44).  
[https://www.youtube.com/results?search\\_query=what+makes+bridges+so+strong](https://www.youtube.com/results?search_query=what+makes+bridges+so+strong)  
The students will discuss concepts presented in the video.

---

- Activity**
1. The students will be given a handout of the “Beam Bridges” from [http://nationalbuildingmuseum.net/pdf/bridges\\_basics.pdf](http://nationalbuildingmuseum.net/pdf/bridges_basics.pdf) and will read the article with the instructor. Students will underline the main ideas.
  2. The students will then work in pairs to complete the “Bridge Investigation Worksheet” found the website below.  
<http://docplayer.net/34639888-Bridge-basics-information-sheets-student-worksheets-instructions-for-card-bridge-models-bridge-type-posters-curriculum-page-number.html>
  3. Handouts of truss, arch, suspension, and cable-stayed bridges will be given out to students. The same procedure will be followed for the other four types of bridges. Use the two websites to access these resources.
- 

**Wrap-Up** Students will discuss what type of bridge they might build with K”NEX when they visit the Port Exploreum.

**Assessment** Ask, “What is the purpose of a bridge”? “What is the most common type of bridge”? What is the difference between “tension” and “compression”?

---

**Instructional Resources--Use the two websites listed for all handouts.**

- Handouts of “Beam Bridges” and “Bridge Investigation Worksheet: Beam Bridges”.
- Handout of “Truss Bridges” and “Bridge Investigation Worksheet: Truss Bridges”.
- Handout of “Arch Bridges” and “Bridge Investigation Worksheet: Arch Bridges”.
- Handout of “Suspension Bridges” and “Bridge Investigation Worksheet: Suspension Bridges”.
- Handout of “Cable-Stayed Bridges” and “Bridge Investigation Worksheet: Cable-Stayed Bridges”.

## Threats to the Great Lakes and What We Can Do

### Summary

*In this lesson, students will be introduced to the various threats to our Great Lakes (mainly invasive species) and how they have impacted the Great Lakes. They will identify some invasive species. They will determine ways to help alleviate the problem through simple things they can do at home and at school.*

---

### Object

- To explore how invasive species have impacted the Great Lakes, with a focus on Lake Michigan.
  - Explain the ways in which invasive species are introduced into the Great Lakes.
  - Name and recognize the primary aquatic invasive species in Lake Michigan.
  - Understand and analyze the negative impacts that invasive species have on the Great Lakes ecosystem.
  - Describe some simple things that can be done at home and at school to help alleviate this problem.
- 

### Sequence

---

**Intro.** The Great Lakes have been damaged by more than 180 invasive and non-native species. Some of these species include: the zebra mussel, quagga mussel, round goby, sea lamprey, and alewife. Students will watch the video clip “Little Things: Big Problems-Aquatic Invaders” (6:38) by Great Lakes Restoration. <https://www.youtube.com/watch?v=EDx0tN8hUBE&t=241s>. Students will discuss their feelings about the videoclip and why they think people are so concerned about the impact of the invasive species on birds, etc.

---

**Activity** 1. Teacher will go to the Wisconsin Department of Natural Resources website <https://dnr.wi.gov/topic/invasives/edresources.html>. Then, the instructor will go to “Elementary and Middle School Activities” and click on “EEK! Environmental Education for Kids--Alien Invaders”. There is also a teacher page called “Identifying Alien Invaders”.

2. **The students need to go to the computer lab for this activity.** The students will be divided into groups of two or three. They will go to the “Environmental Education for Kids--Alien Invaders” website. <http://eekwi.org/earth/aliens.htm> . Each group will be given one of the eight aquatic invaders to research. Each group will be given four questions to answer.

**Question 1:** From where did the invasive species come, and when did they arrive in the Great Lakes ?

**Question 2:** What does your invasive species look like? Be descriptive!

**Question 3:** How is your invasive species causing harm to the Great Lakes? Be specific.

**Question 4:** What is being done to get rid of your species or to help prevent the spread of the species?

Each group should present their information to the rest of the class.

3. **This activity best follows Activity 2.** The students will be divided into pairs. Each pair of students will be given directions for the “Great Lakes Most Unwanted” activity. Use this website to access materials. <http://www.miseagrant.umich.edu/lessons/lessons/by-broad-concept/life-science/invasive-species/activity-great-lakes-most-unwanted/> Each pair of students will be given a set of “Aquatic Invasive Species Photo” cards and “Aquatic Invasive Species Character Cards”. Each group will match the photo cards to the character cards.

---

**Wrap-Up** Students will discuss why it is important to take steps to maintain the health of the Great Lakes.

---

**Assessment** Students will name one method or technique used to stop the spread of invasive species.

---

### **Instructional Resources**

- Handouts of the “Great Lakes Most Unwanted” activity cards taken from the listed website.

**Extension Activity** Groups can make posters for the aquatic invasive species with pictures and facts on each

During Visit Lesson 1  
**Recreation and Transportation on the Great Lakes**

**Summary**

*In this lesson, the students will gain an understanding of why the Great Lakes are so important to the economy of Wisconsin, both recreationally and economically.*

---

**Objectives**

- Discover how tourism affects the economy of Wisconsin and how it directly affects the residents of the state.
  - Determine some of the port cities in Wisconsin and examine how freighters transport goods on Lake Michigan.
  - Identify the parts of a sailboat and learn how sailing has become a popular recreational activity on the Great Lakes.
- 

**Sequence**

---

**Intro.** Students will be given an introduction as to how transportation on the Great Lakes has evolved since the French and English fur traders first traveled the waters of the Great Lakes.

---

- Activity**
1. The students will discuss the ways we use Lake Michigan for our recreation and transportation.
  2. The students will learn the actual statistics as to how tourism affects the Wisconsin economy.
  3. The students will watch the Videoclip “Port of Green Bay-Freighter” (3:16)  
<https://www.youtube.com/watch?v=FTr1CWDN1Lg&t=59s> (Time permitting)
  4. The students will watch the “Learn About Sailboats for Children” videoclip. (6:40)  
<https://www.youtube.com/watch?v=6pM96WzoY48&t=231s>
  5. They will then construct sailboats to take home.
- 

**Wrap-Up** Discuss major points they learned and why students should learn more about the Great Lakes.

---

**Assessment:** Exit note card with one fact the student learned from this lesson.

---

## **Instructional Resources**

- Access to videoclips.
- White, copy paper to make the origami sailboats.
- Two, construction paper triangles, and stickers to make a sailboat.
- Thick popsicle sticks, hot glue gun and glue, colored markers.
- Note card for exit card.

During Visit Lesson 2  
**Building Bridges**

**Summary**

*In this lesson, students will determine what types of shapes would be needed to construct a bridge to hold a significant amount of weight. Students will discover the best bridge design able to hold the largest amount of weight.*

---

**Objectives**

- Determine what shape makes a bridge really strong and why.
  - Identify what prevents bridges from sagging in the center and breaking from its own weight.
  - List the four main types of bridges and four main parts of a bridge.
- 

**Sequence**

---

**Intro.** Students will watch the videoclip, “What Makes Bridges So Strong” (3:44).  
[https://www.youtube.com/results?search\\_query=what+makes+bridges+so+strong](https://www.youtube.com/results?search_query=what+makes+bridges+so+strong)  
The students will discuss concepts presented in the video.

---

**Activity**

1. The students will be introduced to the four main types of bridges.  
The students will discuss the descriptions of the bridges and compare and contrast them.
2. The concepts of compression and tension will be demonstrated by students themselves. A pair of students stand back-to-back while they start to lower themselves with leg support.
3. Students will watch “A Closer Look at the Hoan Bridge” (1:44).  
[https://www.youtube.com/watch?v=bMmn5qH\\_Vxc](https://www.youtube.com/watch?v=bMmn5qH_Vxc) (Time permitting)
4. Using knowledge obtained from the discussion and diagrams, the students will construct a K’NEX bridge.

---

**Wrap-Up** Students will compare the bridges they built and discuss how well they succeeded using teamwork.

**Assessment** Ask, “Which would be the strongest student bridge, and why?”

---

**Instructional Resources**

- Diagram of “Four Main Types of Bridges”.
- K’NEX pieces
- Access to Videoclip
-

## Threats to the Great Lakes and What We Can Do

### Summary

*In this lesson, students will learn about the various threats to our Great Lakes (mainly invasive species) and how they have impacted the Great Lakes. They will identify some of the main invasive species currently in Lake Michigan. They will determine ways to help alleviate the problem through simple things they can do at home and at school.*

---

### Object

- Determine why some species are considered invasive to our Great Lakes.
  - Discover how invasive species affect our Great Lakes and why they are harmful to the environment.
  - Identify the main types of invasive species that live in the Great Lakes.
  - Describe some simple things that can be done at home and at school to help alleviate this problem.
- 

### Sequence

---

**Intro.** The Great Lakes have been damaged by more than 180 invasive and non-native species. Some of these species include: the zebra mussel, quagga mussel, round goby, sea lamprey, and alewife. Students will watch the video clip “The Threat of Invasive Species”- Jenifer Klos Ted Ed (4:45) [https://www.youtube.com/watch?v=spTWwqVP\\_2s&t=78s](https://www.youtube.com/watch?v=spTWwqVP_2s&t=78s) Discussion will follow.

---

**Activity:**

1. Instructor will lead student discussion on the difference between native and invasive species, and why invasive species are harmful to Lake Michigan.
2. Video clips on the most recent invasive species to the Great Lakes--the quagga mussel, will be shown to students. Instructor will explain, and students will discuss ways to prevent the spread of invasive species.
3. The students will play the “Fishing Game”, sorting invasive species from native species.

---

**Wrap-Up** Students will discuss why it is important to take steps to maintain the health of the Great Lakes.

---

**Assessment** Students will state one thing they will do to help maintain the health of the Great Lakes.

---

**Instructional Resources**

- Access to video clips.

During Visit Lesson 4  
**Step Back in Time**

---

**Summary**

*In this lesson, students will be introduced to the history of the surrounding area, people, and events. They will also examine historical artifacts from immigrants and children of the area provided by the Port Washington Historical Society. The students will explore local history using our interactive “Ozaukee Press” table.*

---

**Object**

- To examine the artifacts in the exhibit to determine the difference in some of the utensils, tools, and toys from the things we use today.
- To explore some of the major events that occurred in the Port Washington area throughout its history.
- To find facts about some of the shipwrecks that occurred in Lake Michigan.
- To identify some famous people who visited Port Washington in the past.

---

**Sequence**

---

**Intro.** Students will observe the historical exhibit and will discuss what life was like for the early immigrants to this area. They will be introduced to the Ozaukee Press Interactive Touch Screen Table and how to navigate it.

---

**Activity**

1. Students will observe the contents of the historical exhibit and discuss how things have changed (technology) over time. They will discuss whether changes can be good or bad and why.
2. The students will go over to the Ozaukee Press Interactive Touch Screen Table and will be shown how to navigate it.
3. The students will cite several facts they learned to share with each other.

**Wrap-Up** Students will share what surprised/interested them in their research or observations of the exhibit.

---

**Assessment** Students will state one fact they learned from this activity.

---

**Instructional Resources**

- Paper, pencils, and clipboards to write about their findings.
- 

**Extension Activity** Students could deepen their research of the history of this area or the history of their hometown area

Post Visit Lesson 1  
**Main Street--Then and Now**

### Summary

*In this lesson, students will be comparing photographs and postcards depicting the Main Street of their city of residence from the past (late 1800s/early 1900s) with photos and postcards of their Main Streets today.*

---

### Object

- To identify differences between the downtown area then and now, such as the commercial businesses and retail stores, signage, clothing, and types of transportation used.
  - To determine what has changed and what has not changed.
  - To decide how the basic interests and needs of the local residents have changed over the years.
- 

### Sequence

---

**Intro.** Students will be shown the 1800s photograph of downtown Milwaukee, and then the picture of Wisconsin Avenue in Milwaukee as it is today. Teachers can just access photos through Google Images. The students will have a discussion about the similarities and differences depicted in the two photos.

---

- Activity**
1. Students can search the Recollection Wisconsin collections to find photographs and postcards depicting Main Street (or other downtown areas) in their local communities.
    - Search <https://recollectionwisconsin.org/search>  
Look for terms such as “main street” or “downtown”, plus the name of the community.
    - Search by Category  
<http://viewshare.org/views/WiHeritage/browse-collections-recollection-wisconsin>
  2. Working independently or in groups, ask students to compare these images with recent images of the same location. Have them identify differences between the downtown area then and now, such as businesses, stores, forms of transportation, etc.
  3. Ask: How are these changes a reflection of changes in our society? What has not changed? What can these changes and similarities tell us about the basic interests and needs of local residents over the years?

---

**Wrap-Up** Students will share what time period they would like to live in and why. What things might they have wanted to keep from the past?

---

**Assessment** Students will state one major change they discovered from the past photos to the present.

---

**Instructional Resources**

- Overhead view of the two introductory photos.
  - Access to computers.
- 

**Extension Activity** Students can use websites such as HistoryPin <http://www.historypin.com> or What Was There <http://www.whatwasthere.com> to show students photographs of historic streets overlaid with contemporary street views, or upload historic photos of your own community to these sites.

Note: Lesson taken from Recollection Wisconsin website

Post Visit Lesson 2  
**Schools--Then and Now**

### Summary

*In this lesson, students will be researching how schools were run in pioneer days, what rules students had to follow were, and what responsibilities the teachers had. They will discuss what things were similar and what things were different. Then, the students will read a letter from a young pioneer girl to students of the future. The lesson will culminate with a letter back to the girl, stating the changes that have taken place since then.*

---

### Object

- To research how schools were different in the 1800s and early 1900s using specific websites.
  - To examine the rules for teachers and students during pioneer days.
  - To use a primary source (a letter) to understand how school was from the perspective of a student.
  - To construct a letter back to the pioneer writer about how the school day is similar and different from pioneer days.
- 

### Sequence

---

**Intro.** Students will watch the video “School: Then and Now: Talking with Ruby” (7:02) [https://www.youtube.com/watch?v=n4IFPv82M\\_s](https://www.youtube.com/watch?v=n4IFPv82M_s). They will discuss the video.

---

- Activity**
1. The students will read the article found at Ancestry.com and write at least three things they found really interesting about school back then. <https://blogs.ancestry.com/cm/how-school-was-different-in-the-1800s/>.
  2. The students will examine a second article and use this article to add other interesting facts they found out about schools long ago. <http://mentalfloss.com/article/58705/11-ways-school-was-different-1800s>.
  3. Next, students will look over the “Rules for Teachers” and “Rules for Students” sheets. Use this website. [http://www.historicalsocietyofsomerset hills.org/archive/news\\_2008\\_12\\_digital\\_archives\\_rules.php](http://www.historicalsocietyofsomerset hills.org/archive/news_2008_12_digital_archives_rules.php)  
  
Have a class discussion about these.
  4. Finally, hand out the letter from Amanda. [https://www.dltk-kids.com/pioneer/school\\_in\\_the\\_1800.htm](https://www.dltk-kids.com/pioneer/school_in_the_1800.htm)  
Have students read this aloud. Then, have the students write back to

Amanda, telling her how the school day operates and how rules have changed, even for teachers.

---

**Wrap-Up** Students will share some of their letters with the class.

---

**Assessment** Students will use an exit slip with one detail they learned about pioneer school days.

---

**Instructional Resources**

- Access to computers.
  - Handouts of “Rules for Teachers” and “Rules for Students”
  - Handout of “Amanda’s Letter”
  - Handout of “Writing Sheets” for letter-writing.
- 

**Extension Activity** Students could deepen their research of pioneer schools in their local area or more about rules and punishments back then.

Post Visit Lesson 3  
**Protecting Our Great Lakes**

### Summary

*In this lesson, students will learn why the Great Lakes are so important and what we need to do to protect them. Student focus will be on Lake Michigan.*

---

### Object

- To understand why the Great Lakes are so special.
  - To investigate ways students, their families, and communities can protect the Great Lakes.
  - To realize that kids can make a difference in the water quality of the Great Lakes simply by taking some simple, easy steps.
- 

### Sequence

---

**Intro.** The students will go to [www.cranbrookfreshwaterforum.org/protect-serve.html](http://www.cranbrookfreshwaterforum.org/protect-serve.html) and watch the video clip. They will read “Why the Great Lakes are So Special” facts with their instructor and discuss the article.

---

- Activity**
1. Students will go to [www.cranbrookfreshwaterforum.org/save-the-lakes-kids.html](http://www.cranbrookfreshwaterforum.org/save-the-lakes-kids.html)  
They should click on “Discover Water” and learn about the role of water in our lives. (Use Mozilla Firefox as Google does not always allow the flash.)
  2. Next, the children can click on “The Groundwater Story Animation” to learn about groundwater.
  3. The students will watch the video “Invaders from Around the World” (6:26)  
<https://docs.google.com/document/d/1-BiIs9dExOvEF5cnXa3TNOZj84sVlgt6kfd6PW4N3I/edit>  
to learn about invasive species.
  4. The instructor will look over the handouts. The students should each get a copy of “Easy Things You Can Do to Help the Great Lakes”. Discuss.  
<https://www.cranbrookfreshwaterforum.org/save-the-lakes-kids.html>

**Wrap-Up** Students will discuss the things they already do to help protect the Great Lakes and state what they could start to do in the future.

---

**Assessment** Using the handout “Easy Things You Can Do to Help the Great Lakes, students will ask their families what they currently do and one thing they could add to help protect the Great Lakes. Discuss on the following day.

---

**Instructional Resources**

- Handouts from Cranbrook Freshwater Forum.

---

**Extension Activity** The students can research to find some environmental clubs online.

