



2004 Transportation Education Academy Activity:

“American Ports”

**Educational Level:** The educational level for this project is middle school aged students, grades 7-9.

**Completion Time:** 4 hours of class time, possibly more depending on how in depth students' research and amount of time spent on posters.

**Standards Being Met:** According to the Standards for Technical Literacy this activity meets numbers:

- 1.) Number 18: Transportation Technologies (intermodalism, transportation processes)
- 2.) Number 7: The influence of Technology on History (evolution of techniques, measurement, and resources).

**Brief Description:** This activity is designed to show students that ports are not only on the sea, but also on rivers and the Great Lakes. The activity will illustrate to the student what kinds of goods ports in the United States handle and where the goods they use come from.

**Objectives:** After completion of this activity students will be able to:

- 1.) Identify several ports in the United States.
- 2.) Identify ports in the United States have handled goods they use.
- 3.) Determine what modes of transportation are used to transport goods from the port to the market.
- 4.) Identify the factors that determine whether a port is an inland port or a seaport.
- 5.) Realize the amount of goods that are handled by ports and their importance to the American economy.
- 6.) Know and understand the term "intermodalism".

**Group Size:** Groups should be no more than 3-4 students.

**Background Information:**

This activity in transportation will be to show students how important the ocean, rivers, and Great Lakes are to commerce within in the United States and the rest of the world. Many of the goods handled by ports are used on a daily basis by everyone. Many people don't realize that goods such as clothing, food, and electronics enter and leave our country daily. In order to complete this activity the students will need to have access to maps of the inland waterway system of the United States, the Great Lakes Ports, and a map of the United States depicted seaports in order to pick which port to research.

There are three different types of ports that are in the United States, ports that are in the Inland Waterway System, the Great Lakes ports, and Seaports. Each port uses different types of boats to transport goods with some ocean freighters entering the Great Lakes. The instructor should brief the students on the differences in ship hull designs, draft maintenance requirements on rivers (9 feet) and waterways between the Great Lakes and oceans (35 feet), and that a barge tow is 15 barges, each barge is 40 feet by 200 feet.

There should be class discussion about intermodalism, or the use of more than one mode of transportation to transport a good or goods to its intended location. Ports are almost never used as the only mode of transportation of a good, the goods got to the port by truck, rail, or air before being loaded onto a barge or ship. After getting to the destination port the good is loaded onto another means of transportation. The students will see how important the whole transportation network is between all modes and if one mode suffers, they all suffer.



Example of Intermodalism

Students should have access to library books and especially the Internet to research their port of choice during class time. Familiarity with Internet search engines and ability to print images for poster portion of project is vital to the completion of this activity. The groups for students should not be too large to insure that all group members participate in research and poster construction.

**Supplies, Tools, and Materials Needed:**

1. Map of Inland Waterway System.
2. Map of Great Lakes Ports.
3. Map of US Seaports.
4. Ruler to measure distances on maps.
5. Handheld calculator.
6. One piece of Tag Board per group
7. Markers or Colored Pencils for poster
8. Access to Library or Internet
9. Glue for posters.

**Safety Precautions:** None necessary for this activity.

**Procedure:**

1. Break into groups of 3-4 students.
2. Each group chooses a different port in the United States from maps of inland ports and seaports.
3. The group researches the port using library sources and Internet sources to determine:
  - a. When did this port become important?
  - b. What is the quantity of goods the port handles per year? per day?
  - c. What kinds of goods are handled at the port?
  - d. Where do these goods originate?
  - e. Where are these goods being transported?
  - f. Why are these goods handled at this port and not somewhere else?
  - g. What modes of transportation are used before/after goods reach the port?  
Rail, Truck, Air, or Water?
  - h. How far in miles is where these goods are going? How far have the goods come?
  - i. How big and what kind of ships use these ports?
  - j. How much can each of these ships carry?

4. Students create a poster depicting the information found from research that should include: The name of the port, a map showing location of the port, pictures and descriptions of the goods handled at the port, map showing where the goods are coming from and going to, modes of transportation used before and after port, how big the ships used are, and the quantity of goods handled at the port.
5. Each group of students presents the poster to the class showing their findings.
6. Class discussion after presentations of differences between inland ports on rivers, the Great Lakes, and Seaports. Topics of Discussion include, Differences in boat construction between Great Lakes and Ocean, size differences between Great Lakes and Ocean going vessels, differences between the groups ports.

**Evaluation and Assessment:**

Questions to the class after the presentations and discussion are complete.

- 1.) The largest or busiest port researched in class is? \_\_\_\_\_.
- 2.) This port is on:
  - a) River
  - b) Ocean
  - c) Great Lake
  - d) Other Inland Lake
- 3.) What kind of freight is mainly shipped from this port? \_\_\_\_\_.
- 4.) \_\_\_\_\_ is a port in Minnesota.
- 5.) What is the closest port to where you live? \_\_\_\_\_.
- 6.) What are 2 items that you use that are handled at a port? \_\_\_\_\_  
\_\_\_\_\_.
- 7.) What is the most interesting thing that you learned from this activity? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.