Great Lakes Trade

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Topic: The different parts of the Great Lakes economic system and the importance of shipping in this system.

Target Grade: 11\textsuperscript{th} grade Economics

Duration: multiple class periods needed to complete this lesson

Lesson Overview
In this lesson the students will evaluate the importance of Great Lakes shipping and its’ role in local, national, and world economies. Students will also examine the different aspects of the economic system by focusing on real life commerce in the Great Lakes region. This lesson will require students to view economic situations, and mathematical computations that are aligned in the eleventh grade benchmarks for the state of Ohio.

Objective:
At the end of this lesson, students will be able to….
1. Evaluate the efficiency of Great Lake shipping compared to rail and road.
2. Explain the impact Great Lakes shipping has on local, national, and world economies.
3. Identify the process goods go through starting with raw materials to become finished products.

State of Ohio Content Standards:
• 11\textsuperscript{th} Grade Social Studies: Economics – Production, Distribution and Consumption. (4) Describe the functions of the components that make up an economic system and describe the relationship among them including: Business, Productive resources, Financial institutions, Government, Consumers.

• 11\textsuperscript{th} Grade Mathematics: Number, Number Sense and Operations Standard – Computations and Estimations. (7) Compute sums, differences, products and quotients of complex numbers

Materials
• Computers with internet connection
• Maps of the Great Lakes (1 for each group)
• Maps of the World (1 for each group)
• Samples of the following natural resources; taconite, coal, grain, limestone

New Vocabulary
Port – A coast city where ships load and unload; a harbor; a haven.
Shipping Route – Routes used by ships when transporting goods.
**Background Information**
This lesson is a student centered research assignment. Very little prior knowledge is needed for the teacher. The students must have an understanding of basic economic concepts and internet researching skills.

**Attention-getter:**
“Pretend you are the head of a big company that needs to transport your goods from Duluth, MN to Cleveland, OH. What form of transportation would you pick to move your product to Cleveland? Remember that the more efficient your transportation method the more money you make on this sale.” (Have students work in groups to answer this question and tell them that they must explain why they picked the specific form of transportation) – After 3-5 minutes have the students share their answers. Once all students have presented their decisions and explanations introduce the new lesson/assignment by telling the students that you think Great Lakes shipping is the most efficient way to transport goods between these locations. Their job is to do some investigative work to find the answer to this question and in the process discover how important Great Lakes shipping is to the economy of the Great Lakes region.

**Describe classroom activity:**
1) Divide the class into four groups and have one member from each group pick a product from the bag. The bag should contain one sample of each of the following; taconite, coal, limestone, and grain. (If you can’t get real samples use something to represent each product)
2) Tell students that their group will be doing research to answer the following questions about their product (groups should divide themselves into sub-groups and split the questions up so that each student is required/responsible for answering at least a few questions);
   a. Where does your product originate?
   b. What does your product become when it is finally sold to the average consumer?
   c. What is the whole process your product goes through in transforming from a raw material to a consumer good?
   d. How many different businesses benefit from this product/how many jobs depend on this product?
   e. How is this product most commonly transported?
   f. What are the different shipping routes and ports around the Great Lakes that your product visits?
   g. Does your product trade outside of the Great Lakes region; nationally, globally? (starting from the Great Lakes)
   h. How much does it cost to ship your product by train, truck, and Lake Freighter? (Pick one starting point and three different destinations, calculate the differences)
   i. What is the difference in mileage between train, truck, and Lake Freighter? (Use the same cities you used in (e.) above) Which source of transportation provides the shortest route?
j. How much of your product (tons) can be transported in one freighter, one train car, and one truck? Calculate the differences to find out how many trains = 1 freighter, and trucks = 1 freighter.

Students should answer these last questions as a whole group:

k. How important do you think this product is to the economy of the Great Lakes region?

l. Do you think Great Lakes shipping is the most efficient way to transport goods throughout the Great Lakes? Support your answer with details.

m. How important do you think Great Lakes shipping is to the economy of the Great Lakes?

3) After the students answer the questions above and finish gathering research they must put their information into a PowerPoint and create an organized presentation to be presented to their fellow classmates. The PowerPoint must address each of the questions above.

4) Along with the PowerPoint the students must also create a map visual-aid to show the different shipping routes. They should use the Great Lakes region map, world map (if applicable) and yarn, markers, or colored pencils to mark the routes. (what ever works best)

Assessment: Students will be graded on how well they address each question on a 4-point scale for each question. 4 = answer contains specific details, 0 = question not addressed. 13 X 4 = 52 pts. (PowerPoint) + 8pts. (Map) = 60 total pts.

Resources:

Great Lakes Maritime Research Institute,  http://www(glmri.org/links/  Wonderful site with many useful links!

Great Lakes Seaway and Shipping, “Facts & Figures” http://www.boatnerd.com/  This site provides distances between ports along with other useful information

Great Lakes Ports and Shipping  http://www.great-lakes.net/teach/business/ship/ship_3.html  This site covers specifics about the different natural resources shipped on the Great Lakes. A very informative site!