

Lesson Two: Moving Natural Resources on the Great Lakes (Part 1/3: 50 minute period)**Michigan GLCE's:**

Science E.ES.03.43- Describe the ways that humans are using, protecting, extending and restoring natural resources.

Social Studies 3-G5.0.1 -Locate natural resources in Michigan and explain the consequences of their use.

Social Studies 3-E1.0.3 Analyze how Michigan's location and natural resources influenced its economic development.

Warm-up: Listen to "The Seaway" from the Francey and Smith CD. Let students interpret the story it tells and make any connections from the names, places and topics we studied about in the previous two classes. Review pp 8 and 9 worksheets from Exploring Logbook and large NOAA Great Lakes chart on display on front board.

Activity: Clear out a space in the middle of the room for placement of the 9'x12' canvas Great Lakes floor map in TC (Luckily my room can accommodate its dimensions.) Explain that the object of the game is to mark the spot of as many places on the map by placement of the laminated labels on the floor map. No shoes are to touch the surface of the map. I call the table groups to do so according to the lake name. Reference maps are placed around the room to help out. Collaboration not competition is stressed in completing label placement. Once most of the labels have been placed and the picture looks close to complete we discuss the enormity of this whole system, from all the way west and north up into Ontario to out east to the Atlantic Ocean and the province of Quebec. Return labels to zip-lock bags according to the lake order to reinforce where these ports are located once again.

Wrap-up: Pass out the Nystrom maps to groups and focus on the inset that emphasizes Michigan's natural resources and their location throughout the state. Show classroom samples of mined, salt, copper, iron ore and taconite pellets to demonstrate these minerals in their raw material state. Pose the question: What do we make from these raw materials? Have table groups make their lists then share out to class when discussion looks like its reached productive levels, several items listed on group's hand-held whiteboard. Take home question to ponder: add to your table's list of finished products that we make from Michigan's natural resources and name some companies that make those things around our state. Ask your parents if they can think of any.

Lesson Two: Moving Natural Resources on the Great Lakes (Part 2/3: 50-minute period)

Warm-up: Francey/Smith song *21st Century Great Lakes Navigator* from previous CD. This is a rap song about modern commercial sailing on the Great Lakes. Discuss the vocabulary words in the song which contains references to the many ports and materials that are moved on the Great Lakes.

Activity: Return to floor map setup but this time we'll concentrate on the ports that ship out and that receive the natural resources from this state and from others. Concentration will be on wood products, stone, cement, salt and iron ore and coal for discussion. The Lake Carrier's Association pamphlet (TC) that specifies ports by material will also be used in this activity. The vocabulary raw material, bulk material carriers, shipping and receiving will be emphasized in this part of the floor map activity. I will make a lake-specific transported material master list on the class white board for all to see. When a good number of materials and ports have been accounted for we will wrap up the floor activity and return to our seats to analyze where these materials move to and from on the Great Lakes. The discussion should

be such as to allow students to draw conclusions as to why materials are shipped to and from different ports and how those areas developed to become manufacturing centers such as Detroit with the auto industry.

Wrap-up: Read aloud the book *Mail by the Pail* (Bergel and Koenig, Wayne State U. Press, 2000) TC The story about the mailboat operation of the J. W. Wescott II that is located just blocks from our school. Gives a glimpse of what life is like on a great Lakes freighter from a family perspective. Some students will have prior knowledge by having seen this boat in action but may not understand the significance of its operation. We'll probably have to finish the book and discussion in part three of lesson two. Assign p. 40 of Great Lakes Logbook, "Great Lakes Commercial Shipping" for homework as an informational text reading practice.

Lesson Two: Moving Resources on the Great Lakes (Part 3/3: 50 minute period)

Warm-up: Finish *Mail in the Pail* reading and discussion. Emphasize in discussion that this is a local business that serves a very important purpose for the freighters even in this modern day of instant communication. Freighters can't just pull over off the river and pick up the mail because of the time and money it would cost them. Review answers from p. 40 homework assignment that was handed in today.

Activity: Review the four previous periods of the lessons reviewing maps and vocabulary and again discussing the sizes and distances of the lakes that were calculated on the pp. 8 and 9 Great Lakes Logbook worksheets.

Distribute post-test and students work independently without the aid of any of the visuals that had been used previously.

Final Assessment Goal: The student will achieve a minimum of 12/16 correct on the post-test.

Lesson Follow-up: The third graders will take part in a field trip to the **Dossin Great Lakes Museum** on Belle Isle after the lesson has been presented. The themes that were presented in these lessons will be reinforced with their program plus the recreational aspect of boating on the Detroit River and connecting waterways will also be presented.

A **walking field trip** to Riverside Park to visit to the Wescott Company mailboat will make the Mail in the Pail Story come alive for the students.

A True Book series on the Great Lake selections are also available to students in our school's library for independent informational text reading enrichment.