



Can a fish pay for your college education?

Objectives: This lesson will guide students through learning about Lake Whitefish, a valuable fish for commercial fishermen, and how climate and profit impacts fishermen's livelihood. Students will learn facts about whitefish, learn about local fishing businesses, and apply what they've learned using economics to decide whether their business can continue to stay open with different scenarios.

Subject Areas: Math, Science, Social Science/History

Grade Levels: 6-8, 9-12

Topics: Animals, Ecology, Economics, Human Culture, STEM (Science, Technology, Engineering, Math)

Great Lakes Literacy Principles:

3. The Great Lakes influence local and regional weather and climate.
4. Water makes Earth habitable; fresh water sustains life on land.
5. The Great Lakes support a broad diversity of life and ecosystems.
6. The Great Lakes and humans in their watersheds are inextricably interconnected.
7. Much remains to be learned about the Great Lakes.
8. The Great Lakes are socially, economically, and environmentally significant to the region, the nation and the planet.

Materials: (all of the following cards are in the supporting document. Print cards on double sided paper. Keep blank sheets where they are to print cards correctly)

- Whitefish Fact Cards (with fish on the front and fill-in-the-blank on back)
- Fisheries (with blank backs)
- Whitefish Challenge cards (with challenge on front, blank on back)

Directions:

Ask or have students write answers to the following:

“What do you value about nature?”

Have students share answers. Write what they say on the board.

Introduce Whitefish by dividing students into groups. Give each group one of the Whitefish Fact Cards. Groups must interact with each other to finish filling in the blanks. Alternative: Have three members from each group (provided there are 4+ students in each group) be travelers: one goes to one group, another traveler goes to the 2nd group, and the third traveler to the 3rd group. These students will report back to the rest of the group what the other group had. Note that the first Fact Card has all of the answers.

Now assign each group with a fisheries and hand out the group the Fisheries Card.

Have the students calculate out how many lbs of fish they would need to catch at 2002 rates. Then have them calculate how many pounds of fish they would need to catch at 2012 rates.

Use the 2002 catch as the base rate.

Hand out the Whitefish Challenge Cards, one to each group (you can also rotate the cards if you want the lesson to be longer). Reduce the lbs catch and calculate how much you make at the annual \$/lb.

Have students answer “What can you do to keep the business working?”