

**Lesson 8.2**

**THINK FOR YOURSELF: HOW DID MAINE FACTORIES  
AFFECT THE ENVIRONMENT?**

**Objective:** Given a set of information about selected Maine industries in the mid- to late-1800s, students will infer the ways in which these industries might have affected the environment at the time.

**Materials:**

- **Sheet 8.2A:** Think For Yourself: How Did Maine Factories Affect the Environment? Student Chart
- **Sheet 8.2B:** Answer Sheet

**Timing:** One class period

**Background Reading:** Chapter Eight, especially the sidebar titled “Economic and Environmental History” (p. 246)

**Procedure:**

1. Discuss the sidebar titled “Economic and Environmental History”(p. 246) with students. Together, brainstorm ways in which the environment can be affected by human industries (i.e. air pollution, water pollution, wildlife depletion or extinction, resource exhaustion). Make a list together on the board.
2. Hand out the worksheet Think For Yourself: How Did Maine Factories Affect the Environment? Tell them they will have to do some independent thinking in order to complete the chart. Go over the first example with the class. How might you assess the environmental risks of textile mills from the information supplied on the chart?
3. Give students time to complete the worksheets on their own. Collect the worksheets when they are finished.
4. Share answers on the board together, after students have completed their worksheets. List the many possible effects on the environment these industries might have had. See how many the class can come up with.
5. Then, ask students to offer suggestions for solutions to these environmental effects. How could these industries continue to make their products while making only a minimal impact on the environment? See how many solutions students can come up with. List these on the board next to the problems.

**Evaluation:** Grade student charts according to thoughtfulness and accuracy. Refer to answer sheet for the expected answers, though creative and intelligent alternatives should be honored as well.

**Follow-Up Activity:**

- Have students research a current industry in Maine, looking for information on how that industry affects the environment. Have them write a brief report and present their findings to the class. A good source for current environmental information is *The Maine Times* newspaper.

**Alignment with Learning Results:**

Grade Level: **9th-dipl.**

Content Area: Social Studies: **GEOGRAPHY**

Standard: **Geographic Knowledge, Concepts, Themes, and Patterns**

Students understand the geography of the United States and various regions of the world and the effect of geographic influences on decisions about the present and future.

Descriptor **D1c:** Analyze local, national, and global geographic data on physical, environmental, and cultural processes that shape and change places and regions.

Grade Level: **6<sup>th</sup>-8<sup>th</sup>**

Content Area: Social Studies: **GEOGRAPHY**

Standard: **Geographic Knowledge, Concepts, Themes, and Patterns**

Students understand the geography of the community, Maine, and the U.S., and various regions of the world and the geographic influences on life in the past, present, and future.

Descriptor **D1d:** Describe the impact of change, including technological change, on the physical and cultural environment.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

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Study the information below about some of Maine's factories during the late 1800s. Then, make an educated guess as to how these industries *may have* affected the environment. Follow the example.

Type of Industry	Primary Location in Maine, if any	Primary Power Source	Materials and/or Equipment Used
Example: <u>Textile Mills</u> , <u>Cotton and Wool</u>	Lewiston, Biddeford, Saco	Water (use of dams and canals to control flow)	Cotton/wool Spinning machines Power looms Water wheels
<b>Possible Environmental Concerns:</b> <i>Mills might dump their waste in the rivers. Dams block the migration of fish and decrease the fish supply for people and animals.</i>			
1. <u>Boot and Shoe Making</u>	Auburn	Steam	Coal (to power steam engines) Leather, Machines
<b>Possible Environmental Concerns:</b>			
2. <u>Canneries</u>	Portland, Eastport	Hand	Tin or aluminum cans Lobster, Herring Sweet corn, blueberries
<b>Possible Environmental Concerns:</b>			
3. <u>Paper Mills</u>	Many	Water (use of canals and dams to control flow)	Wood pulp, Machines Lime for bleaching Other chemicals
<b>Possible Environmental Concerns:</b>			
4. <u>Saw Mills</u>	Many	Water (use of canals and dams to control flow)	Logs Mechanical saws Booms in the rivers
<b>Possible Environmental Concerns:</b>			

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**THINK FOR YOURSELF: HOW DID MAINE FACTORIES AFFECT THE ENVIRONMENT?  
ANSWER SHEET**

Type of Industry	Primary Location in Maine, if any	Primary Power Source	Materials and/or Equipment Used
Example: <u>Textile Mills, Cotton and Wool</u>	Lewiston, Biddeford, Saco	Water (use of dams and canals to control flow)	Cotton Wool Spinning machines Power looms Water wheels
<b>Possible Environmental Concerns:</b> <i>Mills might dump their waste in the rivers. Dams block the migration of fish and decrease the fish supply for people and animals.</i>			
1. <u>Boot and Shoe Making</u>	Auburn	Steam	Coal (to power steam engines) Leather, Machines
<b>Possible Environmental Concerns:</b> <i>Smoke and soot from the coal-fired ovens could pollute the air. Chemicals used to tan the leather might be toxic to workers, or pollute a nearby water supply.</i>			
2. <u>Canneries</u>	Portland, Eastport	Hand	Tin or aluminum cans Lobster, Herring Sweet corn, blueberries
<b>Possible Environmental Concerns:</b> <i>Over-harvesting could deplete the supply of lobster or herring. Farmers who were specializing in one crop for the canneries may have contributed to soil erosion.</i>			
3. <u>Paper Mills</u>	Many	Water (use of canals and dams to control flow)	Wood pulp Machines Lime for bleaching Other chemicals Rags
<b>Possible Environmental Concerns:</b> <i>Over-harvesting wood for use in the paper mills might deplete the resource. Paper mills might dump their waste, including harmful bleaching chemicals and lime, into the rivers. Dams block the migration of fish.</i>			
4. <u>Saw Mills</u>	Many	Water (use of canals and dams to control flow)	Logs Mechanical saws Booms in the rivers
<b>Possible Environmental Concerns:</b> <i>Dams block the migration of fish. Wood and sawdust clog up the rivers, choking plant and fish life and making the water unfit to drink or harvest ice from.</i>			