



Lesson 11.2 “Bells and Conveyor Belts”

Unit 11: Big Factories and New Industries

Lesson Objectives

- Students will use sources to define the factory system and the cottage industry.
- Students will compare the experience of working in the factory system with working in the cottage industry.
- Students will evaluate what advice to give a new worker coming to the factories from a farm.

Lesson Competencies

- I can determine the central message/lesson/theme of a text and support my interpretation (saying why my evidence is accurate and convincing). (ELA 1)
- I can locate relevant key ideas using text features including visual and graphic information, to make connections within or across sources and explain how various parts of information contribute to overall meaning. (ELA 3)
- I can interpret and use information delivered orally or visually and respond by asking relevant questions, summarizing key points, or elaborating on ideas. (ELA 7)

Essential Questions

How has New Hampshire come to be the way it is?

Focus Questions

How did industrialization change the way people worked in New Hampshire?

Estimated Time

Two 40-minute class sessions

Materials & Equipment

Ox-Cart Man, by Donald Hall
Class set of “Products in *Ox-Cart Man*” worksheet
Class set of “3-D Shoe Model” worksheet
Markers or colored pencils for decorating 3-D shoes
“Amoskeag Mill Timetable, 1855” for projection
“[Mason Explains: Factory Work](#)” explainer video for projection (access on the Unit 11 Find It! page on [moose.nhhistory.org](#))
Class set of “Positives and Negatives of Factory Work” worksheet
“Factory Work Simulation Directions” for reference
“Recording Clock” for projection
Numerous copies of the “Factory Work Simulation: Shoes” worksheet
Two pairs scissors per group
Two glue sticks per group
Several markers per group
Class set of “What Will You Tell Them?” worksheet



Educator Introduction & Rationale

Beginning in the early 1800s with the introduction of textile mills, New Hampshire was one of the first New England states to experience the Industrial Revolution. As new industries were introduced and expanded throughout the Granite State, products once made by hand in the cottage industry were now mechanized, creating a new type of workforce entirely dependent on the system of bells.

Because of the demands of mass production, these bells dictated how workers spent their days. Timetables produced by factories told workers when to get up, when to eat, when to be at work, and when the work day was over. This regimented schedule was in stark contrast to the more flexible rhythms of life for those working in cottage industry production, when products were created whenever raw materials were available and at a pace determined by the workers, not a manager or floor boss. As a result, the Industrial Revolution greatly changed how people in New Hampshire lived and worked in the late 19th and 20th centuries.

This is the second lesson in Unit 1: Big Factories and New Industries and can stand alone from the unit. This lesson explores how industrialization changed the way people worked in New Hampshire. Students first learn about the cottage industry and how products were primarily made at home with raw materials. They then explore through two simulation activities the differences in production between products made in the cottage industry and those mass produced in factories through specialized tasks. The first, to mimic cottage industry methods of making shoes, is completed individually, while the second is designed to portray assembly line production in a shoe factory. Finally, they give advice to a new hire about how the factory is different from working at home. Please adapt all material in this lesson, as necessary, to meet the needs of the students in your classroom. Unit vocabulary and definitions are at the end of this document. You may wish to preview them with your students.

A reinforcement activity is suggested for students who will benefit from more time with the concepts of the cottage industry. Three extension activities are suggested for students who are ready to continue their analysis of primary and secondary sources. The first encourages students to create a narrative based on a photograph of men standing in an assembly line at a shoe factory. The second and third are reading comprehension activities with *The Bobbin Girl*, which tells the story of a young girl's experience in a factory in Lowell, Massachusetts, and with a primary source account of mill girls' experiences in New England factories.

Learning Activity

Activation

The cottage industry. Before factories, how did people get the products they needed? Brainstorm with students. Guide them towards the idea that people had to make or trade for everything, from pots to mittens to the food they ate. This was called the **cottage industry**.

Read *Ox-Cart Man* as a class. Have students use the "Products in *Ox-Cart Man*" worksheet to trace the products he and his family make. Create a list on the board of all the products discussed in the book.

Discuss as best for your class, and ensure that students understand:

- The cottage industry meant that everything was made at home, usually by members of the family. The products were then either used by the family, traded for other goods, or sold at market to earn extra money.
- The cottage industry ended when products made from mills became a more popular and faster process.

Teaching tip: If *Ox-Cart Man* is unavailable to you, do the reinforcement activity "Products in the Cottage Industry" as a class.

Guided Practice

The cottage industry to the factory system. To highlight the change from the cottage industry to the factory system, use the "3-D Shoe Model" to have students individually cut out, decorate, and build their own shoe to demonstrate how products were made in the cottage industry. Make a note with students how long it takes them to create their shoes. Spend a few minutes examining the individuality of the shoes in the classroom and note decorative or detailed student work.

Teaching tip: If you wish to break the lesson into two teaching periods, this is a good place to pause.

Direct Instruction & Discussion

Mill schedule. Tell students that they will now pretend they have left the cottage industry for the shoe factory, where they can make money to send back to their families. Project "Amoskeag Mill Timetable, 1855." Inform students that this is a real schedule for mills in Manchester and was used for adults and children who worked there. Examine the timetable together.

- What do you notice about this timetable in general?
- What do you notice about the mealtimes?
- What do you notice about the work day? How long were people at work? How many days did people have to go to work?
- What do you notice about the bell times? Note that lunchtime used to be called dinner.

Student Reading

Notice and wonder: mill schedule. As an alternative to a whole group discussion of the Amoskeag timetable, direct students to examine the infographic "[Living by the Bells](#)" on Unit 11: Learn It! "[Factory Workers](#)," page 2. Students can answer the provided questions as they look at the source.

Factory work simulation. Watch "[Mason Explains: Factory Work](#)" video as a class. Find the video on the Unit 11 Find It! page on the "Moose on the Loose" website. Distribute the "Positives and Negatives of Factory Work" worksheet to complete during the video. Review as a class.

Then, conduct your own classroom factory system simulation. See "Factory Work Simulation Directions" on page 7 of the [Worksheets and Resources](#) file for this lesson plan for activity instructions. Display "Recording Clock" image, and tell students that they would have had to punch a timecard every day so that their bosses would know when they were working.

When the simulation has run its course, bring the class together for discussion:

- How did you feel during the simulation?
- How was the experience of making one shoe yourself different from participating in a factory job?
- How was the factory system similar/different to the cottage industry?
- What were some of the positives of working this way? What were some of the negatives?
- What was the quality of the product, and how did it change throughout the simulation?
- How did the simulation change after layoffs?
- How might the people who actually experienced these working conditions have felt about these changes?
- Would you complain about the working conditions to your boss? Why or why not? What might be some consequences if you did complain?

Student Reading

The factory system in New Hampshire. Before moving into Discussion & Reflection, reinforce student understanding by directing them to read Unit 11: Learn It! "[The Factory System](#)," pages 4 and 5, and "[Factory Workers](#)," pages 1 to 5. The infographic "[Bobbins and Shuttlecocks](#)" on page 4 and the primary source selection "[Description of Factory Life](#)" on page 5 of "Factory Workers" are useful for reading groups or students who will benefit from an extension activity.

Discussion & Reflection

Focus question. Discuss the focus question as best for your class or complete the "What Would You Tell Them?" worksheet in pairs. A helpful way to start discussion around the focus question (How did industrialization change the way people worked in New Hampshire?) is to compare the factory system to the cottage industry. Review as best for your class.

Reinforcement

1. **Tracing a product.** Using the “Products in the Cottage Industry” worksheet, follow the timeline of products made by hand in the cottage industry.

Extension

1. **Tell a story.** Create a narrative for one of the workers shown in the “Workers in a Shoe Factory” photograph. Questions to spark ideas:
 - What job do you have in this factory?
 - What is working there like?
 - Did you move to New Hampshire from another state or country?
 - Do you have family members who also work in this mill?
2. **Literature connections.** Read *The Bobbin Girl* by Emily Arnold McCully and complete the chart to think about the positives and negatives of working in a factory during this time.



Supporting Materials

New Hampshire Historical Society Resources

1. Shoe Factory Workers, 1905
2. Recording Clock, 1900-1910

Other Resources

- Amoskeag Mills Timetable, 1855; courtesy of the Manchester (NH) Historic Association
- *Ox-Cart Man* by Donald Hall



Standards

“Moose on the Loose” Content:

- ✓ Students will understand that improved technology such as the steam engine and telegraph made transportation and communication faster and easier. They will understand that this led to rapid industrialization in the state and the world and the growth of various industries and manufacturing. (3-5.T5.1)
- ✓ Students will understand that industrialization in the 19th century changed patterns of settlement as well as the way people lived in New Hampshire (Key Idea 3-5.T5.3)

“Moose on the Loose” Skills:

- ✓ Gathering, Interpreting, and Using Evidence (3-5.S1.2)
- ✓ Effective Historical Thinking (3-5.S3.1, 3-5.S3.2)
- ✓ Understanding Economics and Economic Systems (3-5.S5.1)

New Hampshire Social Studies Frameworks:

- ✓ US / NH History: Economic Systems & Technology (SS:HI:4:4.1, SS:HI:4:4.2, SS:HI:4:4.3)

National Council for Social Studies Themes:

- ✓ Theme 2: Time, Continuity, and Change
- ✓ Theme 3: People, Places, and Environments
- ✓ Theme 7: Production, Distribution, and Governance

C3 Frameworks:

- ✓ Exchange and Markets (D2.Eco.3.3-5)
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- ✓ The National Economy (D2.Eco.13.3-5)
- ✓ Gathering and Evaluating Sources (D3.1.3-5)
- ✓ Communicating Conclusions (D4.2.3-5)

Common Core ELA Grade 3:

- ✓ Key Ideas and Details in Reading Literature (RL.3.1)
- ✓ Craft and Structure in Reading Literature (RL.3.5)
- ✓ Integration of Knowledge and Ideas in Literature (RL.3.7)
- ✓ Comprehension and Collaboration in Speaking and Listening (SL.3.1, SL.3.1b, SL.3.1c, SL.3.1d)

Common Core ELA Grade 4:

- ✓ Key Ideas and Details in Reading Literature (RL.4.1)
- ✓ Craft and Structure in Informational Text (RI.4.5)
- ✓ Comprehension and Collaboration in Speaking and Listening (SL.4.1, SL.4.1b, SL.4.1c, SL.4.1d)

Common Core ELA Grade 5:

- ✓ Key Ideas and Details in Reading Literature (RL.5.1)
- ✓ Craft and Structure in Informational Text (RI.5.5)
- ✓ Comprehension and Collaboration in Speaking and Listening (SL.5.1, SL.5.1b, SL.5.1c, SL.5.1d)

Lesson Vocabulary

assembly line	(noun) An arrangement of machines, equipment, and workers in which work passes from station to station in a direct line until the product is complete
cottage industry	(noun) Making products to sell when people work in their own homes and use their own equipment
efficiency	(noun) The ability to accomplish a job in a short period of time and with little effort
factory	(noun) A building designed to house machines and other technology
Industrial Revolution	(noun) A period of major change in the economy focusing on the change from making things at home to making things in factories
industrialization	(noun) The shift to making many products on a large scale, using machinery and factories
industry	(noun) 1 Making products by using machinery and factories 2 A group of businesses that provide a particular product or service
manufacturing	(noun) Making products, especially with machines in factories
mass production	(noun) Making goods in large numbers, usually by machinery
mechanization	(noun) Replacing human workers with machinery and other technology
product	(noun) An object made by labor, either by hand or by machine
raw material	(noun) Material that has not yet been processed or manufactured into a final form
textiles	(noun) Types of cloth or fabric