



Lesson 11.3 “Factors of Production in New Hampshire Industries”

Unit 11: Big Factories and New Industries

Lesson Objectives

- Students will brainstorm the “production histories” of common objects and categorize their results according to the factors of production.
- Students will analyze historic photographs and read nonfiction to create a booklet about the three main industries of 19th-century New Hampshire.
- Students will develop and evaluate a plan for a new business in New Hampshire’s historic industries, focusing on the four factors of production and using historical resources.

Lesson Competencies

- I can initiate and sustain a focused discussion. (ELA 7)
- 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)
- I can locate, organize, and analyze information from print and non-print sources to support my development of central ideas and subtopics. (ELA 8)
- I can integrate information, distinguish relevant-irrelevant information (e.g., fact/opinion), and (visually, orally, in writing) present what was learned. (ELA 8)
- I can investigate and describe basic economic principles and explore how they impact communities. (Moose SS)

Essential Questions

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

Focus Questions

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

Estimated Time

Two or three 40-minute class sessions

Materials & Equipment

“Production History Activation Prompts,” class set or for projection
“Factors of Production” worksheet, class set or for projection
“Factors of Production Image Set,” class set or for projection
“Factors of Production Image Set Information” for reference
Class set of “Industry Booklet Packets” worksheet
Class set of “Industry Booklet Labels” worksheet
Class set of “Factors of Production Facts: Read and Sort” worksheet
Class set of “Analyze It! Industry Photographs” worksheet
Class set of “Industry Photographs” by group
Class set of “Plan Your 19th-century Business” worksheet
Available for students:
Map of Forest Cover in 1894
New Hampshire Major Lakes and Rivers
New Hampshire Town Boundaries
Railroad Map of New Hampshire 1890



Educator Introduction & Rationale

New Hampshire's industrial era in the 19th and early 20th centuries transformed the state from a collection of quiet, rural, agricultural communities to an economic powerhouse on the world stage. Although many industries flourished in New Hampshire, the state's three main manufacturing enterprises were textiles, shoes, and lumber. In the second half of the 19th century, industry became characterized by big factories, machine-driven manufacturing, and mass production. Reference the [Educator Overview](#) for more information.

This is the third lesson in Unit 11: Big Factories and New Industries. Achievement of the learning objectives in two earlier lessons, Lesson 11.1 "Water Power" and Lesson 11.2 "Bells and Conveyor Belts," is recommended. In this lesson, students explore the core economic concept of the factors of production through the lens of New Hampshire's three main industries of the 19th and early 20th centuries: textile, shoe, and lumber production. The factors of production are:

- **Labor:** people who do the work
- **Land:** natural resources
- **Capital:** human-made elements necessary for production
- **Entrepreneurship:** the people and systems in place that connect the other factors and grow the business

Students begin with a brainstorming activity about the production history of a contemporary product and use their prior knowledge to expand definitions of the four factors of production. Then, they create a booklet about the factors of production in the three industries using nonfiction excerpts. Students complete the lesson by developing a plan for a new business in one of the three industries. Whether they ultimately plan a business in textile production, shoe manufacturing, or lumber processing, students identify that all the industries depend upon the four factors of production. They also recognize that the factors of production for each reflect the geographic and demographic variations across the state.

If time is limited, it is possible to do either the booklet or the business plan activity. If you choose to skip making the booklet, consider having students make a business plan based on one of the photographs they analyze. They should reference the factors of production chart for guidance. Alternately, the lesson could end after the completion of the booklet, with students either reflecting as a whole group about the business plan or creating a quiz. Please note, lesson vocabulary and definitions are at the end of this document. You may wish to preview these with your students.

Two reinforcement activities are suggested for students who need to spend more time with the concepts of the lesson. An extension activity is suggested for students who are ready to investigate the concept of supply and demand and apply it to their business plan. Please adapt all the material in this lesson, as necessary, to meet the needs of the students in your classroom.

Learning Activity

Activation

How did this shoe get here? Divide the students into three groups and provide each group with large paper. Tell each group that they will have about five minutes to think of as many details as possible to explain how a certain common object came to be. The first group should focus on a group member's shoe, the second group should focus on a group member's shirt, and the third group should focus on a piece of paper (e.g., a worksheet). It may help students to have prompts based on the 5 Ws and H already written on the chart paper. See "Production History Activation Prompts" for suggestions.

Teaching tip: To help students focus on learning about the factors of production, it is recommended they stay in these industry groups throughout the lesson instead of switching industries.

Direct Instruction

Defining the factors of production. After the students complete the brainstorming activity, gather the whole group together to review and analyze their ideas. Post the three pieces of chart paper where everyone can read them. Give students time to look for similar ideas across the three production histories.

Explain that all three items are **products** (things people need or want) created by businesses for **consumers** (people who buy things). All products have similar elements in their stories of how they transform from raw materials to finished products. These elements are called the **factors of production**.

Display or project the "Factors of Production" worksheet in a size large enough to record ideas from the following discussion. Introduce students to each of the factors as described on the graphic organizer. Then ask them to look back at their production history brainstorms and look for details that correspond with each factor of production. As they share those, record them in the appropriate section of the graphic organizer.

Teaching tip: This activity may require more time if students had difficulty generating ideas during the activation. Be sure to help them expand their thinking during this stage, adding new ideas that they may not have considered while brainstorming. After the graphic organizer is complete, pause the lesson if time is limited.

Guided Practice **Historic industries images.** Remind students of the three objects they thought about during the activation: a shoe, a shirt, and a piece of paper. Tell them that those three items represent the three big industries that changed New Hampshire from a state focused mainly on farming to a manufacturing powerhouse in the 19th and early 20th centuries.

Share images from the "Factors of Production Image Set." Based on the images and the activation, ask the students if they can figure out what the three industries were. Confirm that the three major industries were:

- **textile production:** making fabric or cloth
- **shoe manufacturing:** making complete shoes
- **lumber processing:** turning cut trees into usable materials like boards and paper

Then, conduct a class discussion to identify which factors of production are represented in the image. Refer to the "Factors of Production Image Set Information" sheet for background about each image.

Student Reading **New Hampshire's industries.** Before moving into Independent Practice, direct students to read Unit 11: Learn It! "[New Hampshire's Main Industries](#)," pages 1 to 13. This section of reading is dense and includes several infographics that will be useful to students when they make their industry booklets and, later, their business plans. Break apart the reading into selections that are manageable for your students.

Independent Practice **Creating an industry booklet.** Explain that they will be making a booklet about the three industries and the factors of production. To do so, they will need to do some research: analyzing a historic photograph and reading and sorting facts.

Ideally, students will be grouped into the same industries as they had in the activation. The following tasks can be completed individually in the small groups, although they will need check-ins from a teacher:

- **Task 1:** Provide each student with the "Industry Booklet Template." Students need to cut out page sets, stack, fold, and staple to create a book. Then, they should cut and paste headings onto pages from the "Industry Booklet Labels" worksheet.
- **Task 2:** Direct students to cut, read, and sort facts from the "Factors of Production Facts: Read and Sort" worksheet and fill their booklets with facts about New Hampshire's industries.
- **Task 3:** Give students their "Industry Photographs" and the "Analyze It! Industry Photographs" worksheet and have them analyze the image. The Build task at the end asks them to write a short scene about the people and action in the photograph on the back of their booklet. If time is short, you may choose to have students complete only the Build task.

Note: There are various sizes of the “Industry Photographs” so that students may analyze details, then attach the image to their booklet if they choose.

Teaching Tip: This is a good place to pause the lesson if you are continuing to the business plan section of the Learning Activity. If not, consider moving to a reflection that involves a whole group plan for a business or developing one or two questions for a whole group quiz. Students can refer to information in their booklets.

Independent Practice

Making a business plan. Explain to students that the booklet they created is a helpful resource that they will use now that they are going to strike out on their own and start a new business in one of New Hampshire’s three big industries. Put students back into their industry groups.

First, they need to go back in time. They need to imagine that they are living in New Hampshire in the 1890s, over 100 years ago. Have a brief discussion about what life was like over a century ago. Consider asking students about how they think people would have traveled, dressed, and had fun back then. What do we have now that they did not have? Remind students that plastics, electricity, computers and phones, and even refrigeration, were not widely available in the 1890s.

After solidifying what world their business will operate in, provide each student with a “Plan Your 19th-century Business” worksheet so that groups can make a plan for a new business in that industry, specifically thinking about the factors of production. In addition to their booklets, provide copies or display the “Map of Forest Cover in 1894,” “New Hampshire Major Lakes and Rivers,” “New Hampshire Town Boundaries,” and “Railroad Map of New Hampshire 1890” for students to reference as they make their decisions and complete their plans. This activity can also be done in pairs and individually.

Teaching tip: Note that it would be helpful for students to have the same industries assigned as they have throughout the lesson.

Reflection

Sharing and evaluating plans. Have students gather with others and ask them to share and compare their business plans. Have groups report to the class what they did similarly or differently when planning their businesses to have a class discussion about the difficulty of meeting the factors of production in a successful business.

Discuss with students: Do you think the factors of production need to adapt at all to meet today’s changing times?

Note: Many economists add Technology as a fifth factor of production. By this, they mean the software or hardware that increase the output of or make more effective the other factors of production.

Reinforcement

1. **Factors of production sort.** Create a simple sorting game about the factors of production. Make a heading card for each factor. Then make three or four cards with examples of each factor. The examples may be general or specific. For example, the heading Entrepreneurship could have example cards that include "The manager who oversees workers at a textile mill" and "An advertisement in a newspaper for shoes."
2. **Image labeling.** Provide students with copies of the images of the New Hampshire industries used in the lesson. Ask students to look for, circle, and label evidence of the four factors of production in the images.

Extension

1. **Supply and demand.** Explain to students that businesses depend on the relationship between supply (how much they have of their product) and demand (how much people need or want their product) to make money. Talk about what it would mean if a business had too much of their product and there wasn't enough need or want for it. Or, what would happen if people really wanted their product and they had to make more? Provide students with a scenario to apply to the business they planned in the lesson: Imagine there's a slump in demand for your product and now you have too much. What do you need to do in order to increase the demand for what your business makes? Students should brainstorm ideas and then write a paragraph explaining their solution.

Supporting Materials

New Hampshire Historical Society Resources

1. Logging at Amoskeag Falls, 1856
2. Shoe Advertisement, circa 1875–1890
3. Weaving Machines at Amoskeag Manufacturing Company, circa 1872–1935
4. Processing Lumber, circa 1927–1950
5. Textile Factory Workers, circa 1900–1934
6. Pittsfield Shoe Company Workers, 1905
7. Forest Cover in 1894
8. Railroad Map of New Hampshire 1890

Other Resources

- New Hampshire Major Lakes and Rivers, NH GRANIT Database, Complex Systems Research Center, University of New Hampshire
- New Hampshire Town Boundaries, NH GRANIT Database, Complex Systems Research Center, University of New Hampshire
- Bales of Cotton, Alabama, 1900–1907. Photograph. loc.gov/item/2012647870/

Standards

“Moose on the Loose” Content:

- ✓ Students will understand that economic activities in New Hampshire were varied and have changed over time with improvements in transportation and technology. (3-5.T4.1)

“Moose on the Loose” Skills

- ✓ Gathering, Interpreting, and Using Evidence (3-5.S1.2)
- ✓ Communicating and Critiquing Conclusions (3-5.S2.2)
- ✓ Effective Historical Thinking (3-5.S3.1)
- ✓ Comprehensive Geographic Reasoning (3-5.S4.1, 3-5.S4.2)
- ✓ Understanding Economics and Economic Systems (3-5.S5.1)

New Hampshire Social Studies Frameworks:

- ✓ Economics: Economics and the Individual (SS:EC:4:1.1)
- ✓ Environment and Society (SS:GE:4:5.1, SS:GE:4:5.2)
- ✓ US / NH History: Economic Systems & Technology (SS:HI:4:4.1, SS:HI:4:4.2, SS:HI:4:4.3)

NCSS Themes:

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

C3 Frameworks:

- ✓ Exchange and Markets (D2.Eco.3.3-5)
- ✓ Geographic Representations: Spatial Views of the World (D2.Geo.3.3-5)
- ✓ Human Population: Spatial Patterns and Movements (D2.Geo.7.3-5, D2.Geo.8.3-5)

Common Core ELA Grade 3:

- ✓ Key Ideas and Details in Informational Text (RI.3.1, RI.3.3)
- ✓ Comprehension and Collaboration in Speaking and Listening (SL.3.1c, SL.3.1d, SL.3.2)
- ✓ Presentation of Knowledge and Ideas (SL.3.4)
- ✓ Vocabulary Acquisition and Use (L.3.4, L.3.4a, L.3.6)

Common Core ELA Grade 4:

- ✓ Key Ideas and Details in Informational Text (RI.4.1, RI.4.3)
- ✓ Research to Build and Present Knowledge (W.4.9)
- ✓ Comprehension and Collaboration in Speaking and Listening (SL.4.1c, SL.4.1d, SL.4.2)
- ✓ Presentation of Knowledge and Ideas (SL.4.4)
- ✓ Vocabulary Acquisition and Use (L.4.4, L.4.4a, L.4.6)

Common Core ELA Grade 5:

- ✓ Key Ideas and Details in Informational Text (RI.5.1, RI.5.3)
- ✓ Research to Build and Present Knowledge (W.5.9)
- ✓ Comprehension and Collaboration in Speaking and Listening (SL.5.1c, SL.5.1d, SL.5.2)
- ✓ Presentation of Knowledge and Ideas (SL.5.4)
- ✓ Vocabulary Acquisition and Use (L.5.4, L.5.4a, L.5.6)

Lesson Vocabulary

capital	(noun) 1 The money and goods that a person owns 2 One of the four factors of production; the human-made items used to make a product, like factories and machines
consumer	(noun) Someone who buys products or goods
entrepreneurship	(noun) 1 Setting up a business 2 One of the four factors of production; the people and systems that connect the other three factors and help them grow
factors of production	(noun) Four economic resources necessary to create a successful product: capital, entrepreneurship, labor, land
factory	(noun) A building designed to house machines and other technology
industry	(noun) 1 Making products by using machinery and factories 2 A group of businesses that provide a particular product or service
labor	(noun) 1 Work, especially hard physical work 2 One of the four factors of production; the human workers needed to make a product
land	(noun) One of the four factors of production; the natural resources needed to make a product
lumber	(noun) Wood that has been processed from a tree into usable boards or pieces
manufacturing	(noun) Making products, especially with machines in factories
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
wood pulp	(noun) Very small pieces of wood crushed into a spongy, thick material that is used to make paper