

READ IOWA HISTORY

EDUCATOR MATERIALS

Industrial Revolution

LESSON PLAN FOR SUPPORTING QUESTION

**How did the Industrial Revolution
change the production of goods?**



4TH GRADE

**STATE HISTORICAL
SOCIETY OF IOWA**
IOWA DEPARTMENT OF CULTURAL AFFAIRS

LIBRARY
OF CONGRESS
TEACHING
WITH **PRIMARY**
SOURCES

Introduction to Read Iowa History

About Read Iowa History

Through the Library of Congress Teaching with Primary Sources grant, the State Historical Society of Iowa developed Read Iowa History — free, downloadable K-5 lesson plans to build and develop reading and critical thinking skills with primary sources in the classroom.

Primary sources (from the digital **Primary Source Sets collection**) are used to help students learn from multiple perspectives, develop primary source-based claims and evidence, and to interpret documents and images of the past. These lessons were developed with the Iowa Core Social Studies and Literacy Standards. Each unit includes ready-to-use source material, worksheets, educator lesson plans and assessment tools and activities. You, the educator, are encouraged to explore the unit, and use materials as they see fit for their students. You are welcome to alter lesson plans, worksheets and assessments to best align with their curriculum.

Please check out the **Primary Source Sets toolkit** to learn more about using primary sources in the classroom.

What's Included

Educator Materials

Sources are accompanied by an educator lesson plan. This plan includes: the unit compelling question, unit supporting question, objectives, background information, vocabulary lists or cards, a materials list and instructions. There also is a “formative assessment” to wrap up each part of the unit and to check for comprehension. You are welcome to use the activities that are suggested or create their own with the primary sources.

Student Materials

Many of the unit instructions are accompanied by a worksheet that can be copied and distributed to students as they analyze the primary source(s) to assist in their application and comprehension. These worksheets are optional but may provide a structure for students to think critically about the primary sources they are analyzing. These reproducible student worksheets are available in the **Student Materials PDF** (on website, below “Educator Materials”) for this topic.

Formative Assessments, Lesson Summative Assessment and Scoring Options

The formative assessments, lesson summative assessment and possible scoring options allow you

to evaluate how students comprehend and apply the knowledge they learned from the individual primary source activities. Assessment instructions, example worksheet(s) and possible scoring options are located at the end of this Read Iowa History section. Reproducible assessment worksheet(s) also are available in this topic's **Student Materials PDF**.



Courtesy of State Historical Society of Iowa, “Washing Machine Assembly Line in Maytag Plant,” 1949

Industrial Revolution

4th Grade

Overview

The Industrial Revolution marked a period of development in the latter half of the 18th century that transformed largely rural, agrarian societies in Europe and America into industrialized, urban ones. Goods that had once been crafted by hand started to be produced in mass quantities by machines in factories, thanks to the introduction of new machines and techniques in textiles, iron making and other industries. The positives and negatives of the Industrial Revolution are complex. On one hand, unsafe working conditions were widespread and pollution from coal and gas are still struggles of today. On the other, the move to cities and inventions that made clothing, communication and transportation more affordable and accessible to the masses changed the course of world history. Regardless of these questions, the Industrial Revolution had a transformative economic, social and cultural impact, and played an integral role in laying the foundations for modern society.



Unit Compelling Question

How does innovation impact people’s lives?



Unit Supporting Question

How did the Industrial Revolution change the production of goods?

Table of Contents

Compelling and Supporting Questions	4
Standards and Objectives	5
Background Essay	6
Pre-Lesson Activity 1: Think Like... Cards & Question Formulation Technique	8
• Think Like... Cards	10
• Worksheet, Check for Understanding	12
Pre-Lesson Activity 2: “Rise of Industrial America: Work in the Late 19th Century”	14
• Document, “Rise of Industrial America: Work in the Late 19th Century”	16
• Worksheets, Close Reading Strategy	17
Part 1: Skilled Craftspeople and the Industrial Revolution	20
• Primary Sources	21
• Worksheet, Image Analysis	25
• Worksheet, Answering Questions and Citing Sources	27
Part 2: Mill Workers	29
• Primary Sources	31
• Worksheet, KWL Chart	34
• Worksheet, Answering Questions and Citing Sources	36
Part 3: The Rise of Assembly Lines	37
• Image, “Assembly Line at the Ford Motor Company’s Highland Park Plant”	38
• Worksheet, KWL Chart	39
• Worksheet, Sentence Starters	41
Part 4: Manufacturing in Iowa	42
• Image, “Washing Machine Assembly Line in Maytag Plant in Newton, Iowa”	43
• Document, “More Than Just Washing Machines” Article about Maytag Plant in Newton, Iowa	44
• Worksheet, Triple Venn Diagram	46
Lesson Summative Assessment	47
• Worksheet, Opinion Writing about the Industrial Revolution	48
Vocabulary List	50
Additional Resources	51

4th Grade

How to Apply Read Iowa History Lessons to Other Primary Sources

The origin of Read Iowa History lessons stem from the **Primary Source Sets**, which are a collection of primary sources that focus on a topic and are structured under a compelling question and multiple supporting questions (typically three). Five or six primary sources are used to address and help students answer a single supporting question. Read Iowa History takes one supporting question, the primary sources addressing that question and instructions (divided into parts) to integrate these primary sources in the classroom through different activities.

These lessons, instructions, worksheets, tools and assessment suggestions can be applied to all of the **K-5 Primary Source Sets**.



Unit Compelling Question

The compelling question drives students to discuss, inquire and investigate the topic of a unit of understanding.

How does innovation impact people's lives?



Unit Supporting Questions

Supporting questions scaffold instruction to help students answer the compelling question. Their aim is to stimulate thought, to provoke inquiry and spark more questions. The supporting question that is highlighted above is the question that was used in this Read Iowa History. The **bolded** question below is the supporting question for this Read Iowa History unit.

1) How did the Industrial Revolution change the production of goods?

2) How did the changes in communication and transportation affect people's lives?

3) What were the advantages and disadvantages of industrialization?



Read Iowa History: Industrial Revolution

This Read Iowa History lesson addresses "How does innovation impact people's lives?" and "How did the Industrial Revolution change the production of goods?" and includes lesson plans, worksheets, suggested assessments and other tools.

Standards and Objectives

Iowa Core Social Studies Standards

No.	Standard
SS.4.2.	Use supporting questions to help answer the compelling question in an inquiry.
SS.4.3.	Cite evidence that supports a response to supporting or compelling questions.
SS.4.4.	Construct responses to compelling questions using reasoning, examples, and relevant details.
SS.4.23.	Explain probable causes and effects of events and developments.
SS.4.24.	Develop a claim about the past and cite evidence to support it.
SS.4.25.	Analyze the impact of technological changes in Iowa, across time and place.

Iowa Core Literacy Standards

No.	Standard
RI.4.1	Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
RI.4.2	Determine the main idea of a text and explain how it is supported by key details; summarize the text.
RI.4.3	Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.
RI.4.4	Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a grade 4 topic or subject area.
W.4.1	Write opinion pieces on topics or texts, supporting a point of view with reasons and information. <ol style="list-style-type: none"> Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose. Provide reasons that are supported by facts and details. Link opinion and reasons using words and phrases Provide a concluding statement or section related to the opinion presented

Objectives

- I can explain probable causes and effects of the Industrialization Revolution.
- I can develop a claim about the past and cite evidence to support it.
- I can analyze sources, evaluate evidence and make a claim.
- I can cite evidence that supports a response to supporting or compelling questions.
- I can write an opinion essay with supporting evidence with accuracy, clarity, and relevant details.

Background Essay

Utilize this background essay, in whole or in parts, with students to provide further context and understanding about how the Industrial Revolution changed the production of goods. You can read it aloud to students, utilize excerpts and introduce the vocabulary words. The essay is also referenced in parts of this Read Iowa History to assist students in their interpretation and analysis of primary sources.

In the latter 1700s, inventions in the textile industry in Great Britain were the first signs of major changes in a **revolution in production** that greatly altered many aspects of society. Steam-powered machines began to do what animals or people had formerly done by hand. Textile mills could produce high quality cloth cheaply and in huge quantities. Factories sprang up, creating new jobs for factory workers but driving individual weavers who usually worked at home out of business and leading to the growth of cities. **Industrialization** spread to the iron industry, creating greater demands for mining of ore and coal. Soon the factory system spread to the rest of Europe and the United States. For their owners, factories could create great wealth. Workers, however, often toiled for long hours for low pay under harsh working conditions.

Industrialization of Agriculture

A tremendous growth of machine-power transformed agriculture in the 19th century. Using factory-produced machinery like the steel plow, the reaper, mowers and threshing machines powered by horses, farmers were able to expand the size of their operations and produce far more than they could when farming was done by hand. The invention of the cotton gin to separate seeds from the cotton fiber made cotton-growing profitable and increased the enslavement and abuse of people in southern states. Over the long term, it greatly reduced the number of people required to produce the nation's food and fiber. Around 1800, nearly 90 percent of Americans were farm families. Today, the number is under two percent. The growth of cities was a direct outcome of the **Industrial Revolution** as families left the farms to find work elsewhere.

Transportation, Electricity and More

By the mid-1800s, changes in transportation were making a big difference. Steam powered ships could travel much faster than those depending on the winds. Railroads were able to haul freight, mail and passengers long distances with greater convenience and reliability than horse-drawn vehicles. The invention of Morse code enabled rapid communication across great distances and helped draw the nation closer together. Telephones followed giving individuals the power to converse whenever they wanted regardless of whether they were together or not.

In the late 1800s, electricity began its **revolution** of the home and office. Light bulbs replaced smoky kerosene lamps, refrigerators replaced home deliveries of ice and electric washing machines and irons relieved some of the heavy drudgery of housework. At first, electricity was available only in towns because of the expense of stringing long lines through the countryside, but in 1936, Congress passed the Rural Electrification Act that helped to finance the creation of rural co-operatives to supply farm families with this advantage.

Beginning in the early 20th century, gasoline-powered engines led to the development of automobiles and tractors that further reduced our dependence on horses. Henry Ford built a factory that broke down the manufacture of an automobile into many small steps of an **assembly line** and allowed him to **mass produce** the Model-T that had a major impact on American life. Now a reliable automobile was available to the average family, providing a mobility undreamed of only a few generations earlier. Families were no longer bound to travel from town to town by rail but could drive where they wanted on short trips or even long family vacations. Farm children could attend high schools and other activities in town.

The invention of the computer, Internet and the entire digital industry is yet another stage of the **Industrial Revolution**, and one whose impact people are still experiencing. Who knows what another 20 years will bring?

Background Essay continued

Impact of the Industrial Revolution

With all the advantages of the **Industrial Revolution** that provides us with goods, services and opportunities unavailable to past generations, there are downsides, too. There is a much greater inequality in wealth, with some super-rich people while others live below the poverty level. Factories and **industrialization** make great demands on the environment for raw materials and often pollute the air by burning coal or the rivers with toxic dumps of toxic chemicals. Because Americans no longer produce (or even know how to produce) many of the items upon which they depend on, people are vulnerable to forces over which they have little control.

For the past 300 years, civilization has changed more than it had for thousands of years, and those changes are accelerating. What impact will those changes have on the environment and how will it affect the ability to cohabitate the globe with the natural world and other nations? The answers remain to be seen.

Vocabulary Words

- Assembly Line
- Industrial
- Innovation
- Labor
- Mass Production
- Mechanization
- Revolution
- Skilled Craftspeople
- Union

Think Like... Cards & Question Formulation Technique



Unit Compelling Question

How does innovation impact people's lives?



Unit Supporting Question

How did the Industrial Revolution change the production of goods?

Overview

This pre-lesson activity will illustrate tools students can use to help them analyze primary sources in later parts of Read Iowa History. One tool is the [Think Like... cards](#), which students use to identify disciplinary literacy perspectives, key vocabulary and questions asked by a historian, geographer, economist and political scientist. To prepare students to analyze images and documents, this activity is aimed to remind them that the impact of one's experience shapes their perspective on different topics, such as the Age of Industry.

The other tool is the [Question Formulation Technique \(QFT\)](#), which was created by the Right Question Institute. The steps of the QFT are designed to stimulate three types of thinking: divergent thinking, convergent thinking and metacognitive thinking.

Source Background

In the late 1700s, inventions in the textile industry in Great Britain were the first signs of major changes in a revolution in production. Steam-powered machines began to do what animals or people had formerly done by hand. Textile mills could produce high quality cloth cheaply and in huge quantities. Factories sprang up, creating new jobs for factory workers but driving individual weavers who usually worked at home out of business and leading to the growth of cities. Industrialization spread to the iron industry, creating greater demands for mining of ore and coal. For their owners, factories could create great wealth. Workers, however, often toiled for long hours for low pay under harsh working conditions.

Instructions

- 1 Introduce the compelling question: How does innovation impact people's lives?
 - Use the [vocabulary list](#) to define **innovation**.
- 2 **Question Formulation Technique (QFT):** This pre-lesson activity is meant to encourage students to ask questions, which is an important step in them taking ownership of their learning. Prior to class, it is recommended you watch the [12-minute QFT instruction video](#). In the video, a fourth-grade teacher uses QFT to learn more about what her students know or do not know about fractions.

Instructions continued on next page

Materials

- [Think Like... cards](#)
- [Vocabulary List](#)
- [QFT instruction video](#)
- [Industrial Revolution video](#)
- [Worksheet](#)
- Paper/Notebook
- Pencil

Think Like... Cards & Question Formulation Technique

Instructions continued

- 3 Have the class watch this [Turning Points in History - Industrial Revolution video](#) while considering the compelling question. Use the QFT to ask questions and assess the video with students. Follow the steps below to assist students in their analysis.
 - Write as many student questions as you can on the board or on chart paper.
 - Do not stop to discuss, judge or answer any questions.
 - Write down every question exactly as stated, change any statements to questions.
 - Sort and prioritize questions.
- 4 After sharing the prioritized questions, discuss with students what social studies discipline (use disciplines from the Think Like... Cards) that the question falls under. Use the [Think Like... cards](#) to assist with the inquiry. Post questions on chart paper or social studies notebook for students to answer as they learn more.
- 5 Model how to take notes on the [Check for Understanding worksheet](#), which focuses on the supporting question: How did the Industrial Revolution change the production of goods?
 - Some examples include: new machines, work done faster, cost less money, food cost less, steamboats, trains, transportation, factories, more jobs

Think Like...Cards

This is are the State Historical Society of Iowa's Think Like...Cards for the pre-lesson activity. The cards included focus on the perspective of a geographer, economist, political scientist and historian. A larger, printable version made for reproduction is available in the Student Materials PDF.

Think Like a Geographer

A person who studies the environment and how it impacts people.

- Describe details about this location. What do you notice that can help figure out where this place is located? What is unique?
- Why would people move to or leave this place?
- How would people travel to this location? How has traveling to this location changed over time?
- Describe details about people who live here and how they impact the location? How does the location impact the people who live there?

Think Like an Economist

A person who studies the way people make decisions about money.

- Describe the people in relation to the location. What jobs or occupations do you think people had? Why do you say that? How do you think they met their needs and wants?
- How do decisions made by individuals affect themselves and the economy?
- How do decisions made by businesses affect people?
- How do jobs impact people and the economy? Describe what happens when jobs are lost.

Think Like...Cards

This is are the State Historical Society of Iowa's Think Like...Cards for the pre-lesson activity. The cards included focus on the perspective of a geographer, economist, political scientist and historian. A larger, printable version made for reproduction is available in the Student Materials PDF.

Think Like a Historian

A person who explains changes that happened in the past.

- What happened in the past? Why is it important to understand what has happened in the past?
- How did past decisions or actions significantly transform people's lives?
- What has changed or stayed the same over time? Who benefited from the change? Why? Who did not benefit? Why?
- Who or what made changes happen? Who supported the change? Who didn't? Why?







Think Like a Political Scientist

A person who studies governments and how they work.

- What problems might people have faced in this society?
- What rights do people have? What rights are people missing?
- What might lead to people being treated fairly? What might lead to people being treated unfairly?
- What information can be gathered about trends at this location or time period that might change or impact the future?

Check for Understanding

This is an example worksheet that corresponds with the instructions throughout this Read Iowa History to take notes. This version of the worksheet is for you, the educator, to fill out, add notes and utilize. A version of this worksheet is available for reproduction to students in this topic's Student Materials PDF.

How did the Industrial Revolution change the production of goods?	
<p>Turning Points in History - Industrial Revolution (video)</p> 	<hr/> <hr/> <hr/> <hr/>
<p>Occupational Portrait of a Watchmaker, between 1840 and 1860</p> 	<hr/> <hr/> <hr/> <hr/>
<p>Occupational Portrait of a Blacksmith, between 1850 and 1860</p> 	<hr/> <hr/> <hr/> <hr/>
<p>Occupational Portrait of Two African American Chimney Sweeps, between 1860 and 1870</p> 	<hr/> <hr/> <hr/> <hr/>
<p>Barrel Makers in Union, Iowa</p> 	<hr/> <hr/> <hr/> <hr/>
<p>Occupational Portrait of a Woman Working at a Sewing Machine, ca. 1853</p> 	<hr/> <hr/> <hr/> <hr/>

Check for Understanding

<p>African-American Women Weaving Rug at Hampton Institute in Virginia, 1899</p> 	<hr/> <hr/> <hr/> <hr/> <hr/>
<p>Sadie Pfeifer, Child Worker, at Lancaster Cotton Mills in South Carolina, November 30, 1908</p> 	<hr/> <hr/> <hr/> <hr/> <hr/>
<p>"Assembly Line at the Ford Motor Company's Highland Park Plant," ca. 1913</p> 	<hr/> <hr/> <hr/> <hr/> <hr/>
<p>Washing Machine Assembly Line in Maytag Plant in Newton, Iowa, 1949</p> 	<hr/> <hr/> <hr/> <hr/> <hr/>
<p>"More Than Just Washing Machines" Article about Maytag Plant in Newton, Iowa, June 21, 2019</p> 	<hr/> <hr/> <hr/> <hr/> <hr/>

“Rise of Industrial America: Work in the Late 19th Century”



Unit Compelling Question

How does innovation impact people’s lives?



Unit Supporting Question

How did the Industrial Revolution change the production of goods?

Overview

This pre-lesson activity will provide an opportunity for students to use the close reading strategy while focusing on literacy standards of main idea, details and summarizing, as well as understanding context of the time period of industrialization. This reading passage will be a reference throughout the lesson.

Source Background

In the late 1700s, inventions in the textile industry in Great Britain were the first signs of major changes in a revolution in production. Steam-powered machines began to do what animals or people had formerly done by hand. Textile mills could produce high quality cloth cheaply and in huge quantities. Factories sprang up, creating new jobs for factory workers but driving individual weavers who usually worked at home out of business and leading to the growth of cities. Industrialization spread to the iron industry, creating greater demands for mining of ore and coal. For their owners, factories could create great wealth. Workers, however, often toiled for long hours for low pay under harsh working conditions.

Instructions

- 1 Distribute a copy of [“Rise of Industrial America: Work in the Late 19th Century”](#) to students from the Library of Congress for a close read of the text. This reading passage introduces students to what is the industrial revolution and effects of it on the United States.
- 2 Use the [close reading strategy](#) with students to analyze the passage. You can do this as a group or students can work independently as a formative assessment.
 - **First reading:** Read the passage carefully to gain basic understanding. What is the text mainly about? What is the main idea? Write the main idea in the top margin of the [“Take Notes” worksheet](#). *Students will highlight evidence on the passage in green.*
 - **Second reading:** Read again and dig deeper. What are the big ideas that connect to the main idea? *Students will highlight evidence on the passage in yellow and write them on the worksheet.*
 - **Third Reading:** Read again and dig for details. What are the details for your big ideas? *Students will highlight evidence on the passage in red and write them on the worksheet.*

Materials

- [“Rise of Industrial America: Work in the Late 19th Century”](#)
- Three worksheets: [Close Reading Strategy](#), [Take Notes about Passage](#), [Summary of Passage](#)
- Markers (*suggested colors: green, red, and yellow*)
- Pencil

Instructions continued on next page

“Rise of Industrial America: Work in the Late 19th Century”

Instructions continued

- **Fourth Reading:** Students will read the passage one more time to summarize their thinking. They will then summarize the passage in five to seven sentences using their main idea and details they collected on the worksheet to determine key concepts and ideas. Students will write the summary on the [Summary of Passage worksheet](#).
- 3 Students will refer back to this reading passage throughout the Read Iowa History to focus on different aspects.
 - 4 **Formative Assessment:** Use this activity as a formative assessment if you decide to have students complete this on their own. If students have not used this strategy or procedure before, you can use the worksheets as a modeling experience to teach the close reading strategy.

Rise of Industrial America

[Work in the Late 19th Century](#)

The late 19th-century United States is probably best known for the vast expansion of its industrial plant and output. At the heart of these huge increases was the mass production of goods by machines. This process was first introduced and perfected by British textile manufacturers.



In the century since such mechanization had begun, machines had replaced highly skilled craftspeople in one industry after another. By the 1870s, machines were knitting stockings and stitching shirts and dresses, cutting and stitching leather for shoes, and producing nails by the millions. By reducing labor costs, such machines not only reduced manufacturing costs but lowered prices manufacturers charged consumers. In short, machine production created a growing abundance of products at cheaper prices.

Mechanization also had less desirable effects. For one, machines changed the way people worked. Skilled craftspeople of earlier days had the satisfaction of seeing a product through from beginning to end. When they saw a knife, or barrel, or shirt or dress, they had a sense of accomplishment. Machines, on the other hand, tended to subdivide production down into many small repetitive tasks with workers often doing only a single task. The pace of work usually became faster and faster; work was often performed in factories built to house the machines. Finally, factory managers began to enforce an industrial discipline, forcing workers to work set--often very long--hours.

One result of mechanization and factory production was the growing attractiveness of labor organization. To be sure, craft guilds had been around a long time. Now, however, there were increasing reasons for workers to join labor unions. Such labor unions were not notably successful in organizing large numbers of workers in the late 19th century. Still, unions were able to organize a variety of strikes and other work stoppages that served to publicize their grievances about working conditions and wages. Even so, labor unions did not gain even close to equal footing with businesses and industries until the economic chaos of the 1930s.

To find other documents in American Memory relating to this topic, you might use the terms work or workers, factories, or specific occupations such as miner, machinist, factory worker, or machine operator.

Close Reading Strategy

These example worksheets correspond with the instructions in pre-lesson activity 2 to do a close read, take notes and write a summary. These versions of the worksheets are for you, the educator, to fill out, add notes and utilize. Versions of these worksheets are available for reproduction to students in this topic's Student Materials PDF.

Title of the text:

1. Read carefully to gain basic understanding.

What is the text mainly about? What is the **main idea**? Write the main idea in the top margin in the clouds of the paper. *Highlight evidence in green.*

2. Read again and dig deeper.

What are the **big ideas** that connect to the main idea? *Highlight evidence in yellow and write them on the note-taking sheet on the next page.*

3. Read again and dig for details.

What are the details for your big ideas? *Highlight evidence in red and write them on your note-taking sheet.*

4. Read again to summarize your thinking.

Summarize the article in five to seven sentences using your main idea, details, on your worksheet to determine key concepts and ideas. Write the summary on the back of the worksheet.

Taking Notes about Reading Passage

<p>Introductory Paragraph</p> <p>The main idea is...</p>	<hr/> <hr/> <hr/> <hr/>
<p>Paragraph 2</p> <p>Details...</p>	<p>The big idea of the paragraph is _____</p> <hr/> <ul style="list-style-type: none"> ● _____ ● _____ ● _____ ● _____ ● _____
<p>Paragraph 3</p> <p>Details...</p>	<p>The big idea of the paragraph is _____</p> <hr/> <ul style="list-style-type: none"> ● _____ ● _____ ● _____ ● _____ ● _____
<p>Paragraph 4</p> <p>Details...</p>	<p>The big idea of the paragraph is _____</p> <hr/> <ul style="list-style-type: none"> ● _____ ● _____ ● _____ ● _____ ● _____
<p>Conclusion Paragraph</p> <p>The concluding idea is...</p>	<hr/> <hr/> <hr/>

Skilled Craftspeople and the Industrial Revolution



Unit Compelling Question

How does innovation impact people's lives?



Unit Supporting Question

How did the Industrial Revolution change the production of goods?

Overview

Students will analyze historical images of craftsmen.

Source Background

As late as the 1820s, skilled craftspeople, known as artisans or mechanics, performed most manufacturing in small towns and larger cities. They made shoes and clothing, built houses, and set type for printed material. These craftspeople manufactured goods in traditional ways, by hand in their own homes or in small shops located nearby, and marketed the goods they produced.

Instructions

- 1 Introduce students to the supporting question: How did the Industrial Revolution change the production of goods?
 - Use the [vocabulary list](#) to define **skilled craftspeople**.
- 2 Students will analyze the four primary source images using the [Image Analysis worksheet](#).
- 3 After completing the worksheet, students will share their questions and research to find answers to their questions. A possible website for research is "[Profiling Portraits: Occupational Portraits of the 19th Century](#)."
- 4 Have students record "notes" of their evidence on the [Check for Understanding worksheet](#) for each source that will help answer the supporting question: How did the Industrial Revolution change the production of goods?
- 5 **Formative Assessment:** Have students complete the [Answering Questions, Citing Sources worksheet](#).

Materials

- Primary sources
- Pencil
- [Image Analysis worksheet](#)
- [Answering Questions, Citing Sources worksheet](#)

Occupational Portrait of a Watchmaker, between 1840 and 1860

PART 1



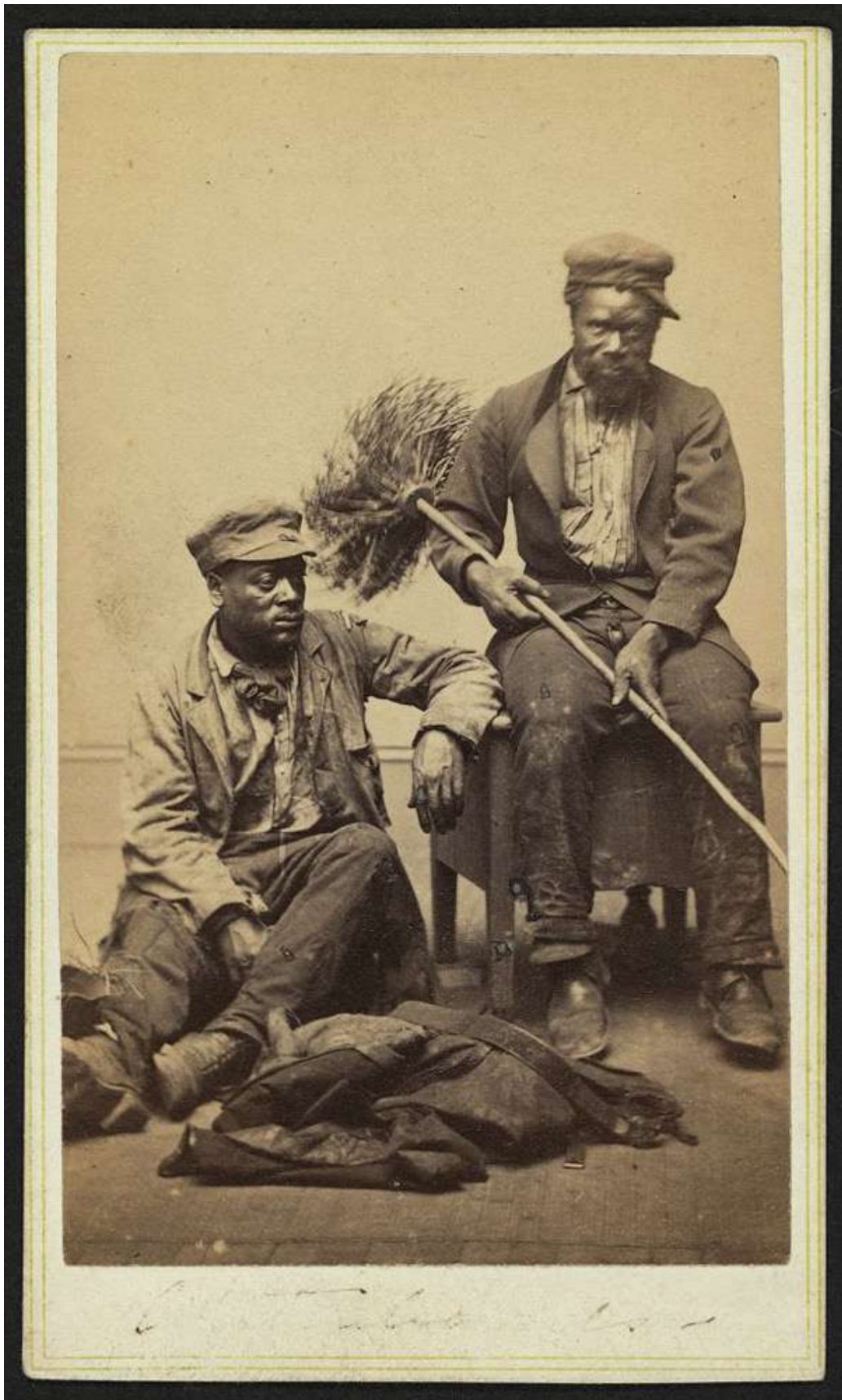
Courtesy of Library of Congress, "Occupational portrait of a watchmaker, three-quarter length, seated at table with watches," between 1840 and 1860



Courtesy of Library of Congress "Occupational Portrait of a Blacksmith," between 1850 and 1860

Occupational Portrait of Two African-American Chimney Sweeps, between 1860 and 1870

PART 1



Courtesy of Library of Congress, "Occupational Portrait of Two African American Chimney Sweeps," Charles D. Fredricks & Co., between 1860 and 1870



Courtesy of the State Historical Society of Iowa, "Barrel Makers in Union, Iowa," Date Unknown

Image Analysis Worksheet

These are example worksheets that corresponds with the instructions in Part 1 to analyze the images related to the Industrial Revolution. This version of the worksheet is for you, the educator, to fill out, add notes and utilize. A printable version of this worksheet is available for reproduction in this topic's Student Materials PDF.



Analyze Two Images

1. Stop and Source

2. Examine each image closely.

- Who is in the pictures? Describe the person(s) you see.

Image 1:

Image 2:

- What do the pictures tell us about the people in them? What are they doing?

Image 1:

Image 2:

- When were the pictures taken?

Image 1:

Image 2:

- Where were the pictures taken?

Image 1:

Image 2:

- Why do you think the photos were taken?

Image 1:

Image 2:

Image Analysis Worksheet

3. What questions do you have about each photo?

Image 1:

Image 2:

4. From which picture did you generate more questions?

5. Where could we go to investigate/research our questions?

Answering Questions and Citing Sources

This is an example worksheet that corresponds with the instructions in Part 1 to answer student questions and citing sources. This version of the worksheet is for you, the educator, to fill out, add notes and utilize. A version of this worksheet is available for reproduction to students in this topic's Student Materials PDF.



Answer Questions, Cite Sources

Question	Notes
Source Cited:	

Question	Notes
Source Cited:	

Question	Notes
Source Cited:	

Answering Questions and Citing Sources

Question	Notes
Source Cited:	

Question	Notes
Source Cited:	

Question	Notes
Source Cited:	

Mill Workers



Unit Compelling Question

How does innovation impact people's lives?



Unit Supporting Question

How did the Industrial Revolution change the production of goods?

Overview

Students will analyze primary sources, ask questions and research questions about the textile industry.

Source Background

The Industrial Revolution started in Great Britain in the mid-1700s. Textile production was the first great industry created. The textile industry in America began in New England during the late 18th century. By 1820, mills had spread South into Virginia and Kentucky and the first mill town was established in Massachusetts. The early mills used the putting-out system, where the mill did carding and spinning, but hand weavers were paid to weave the fabric then return it to the mill for finishing. In the 1830s, improved machinery allowed mills to do the entire process with machines, greatly reducing the cost of cotton cloth. In 1841, power looms that could manage wool were developed and affordable woollens appeared. Continued advances in textile machinery and the spread of railroads soon made inexpensive factory-produced fabrics available everywhere. By 1870, there were more than 2,400 woolen mills and hundreds of cotton mills all over the United States.

The mills completely changed how people dressed and the way they decorated their homes. By the 1830s, ordinary people could afford more clothing and poorer people began to copy the fashions of the wealthy. Curtains and other decorative textiles appeared in houses. By the middle of the century, families no longer had to spend time spinning and weaving. The factories provided a wide variety of textile products to everyone, everywhere. They were also an important source of new jobs. People moved from farms and small towns to larger towns and cities to work in factories and the many support businesses that grew up around them. The success of the textile industry fostered many other factory systems. Craftsmen and artisans of all types were replaced as stores and mail-order catalogs marketed inexpensive manufactured goods to all.

Instructions

- 1 Ask students to think about the compelling (How does innovation impact people's lives?) and supporting question (How did the Industrial Revolution change the production of goods?) as they investigate sources.
- 2 Analyze the images below using a [K-W-L \(Know-Wonder-Learn\) chart](#):
 - [African-American Women Weaving Rug at Hampton Institute in Virginia, 1899](#)
 - [Sadie Pfeifer, Child Worker, at Lancaster Cotton Mills in South Carolina, November 30, 1908](#)
 - [Occupational Portrait of a Woman Working at a Sewing Machine, ca. 1853](#)

Instructions continued on next page

Materials

- Primary sources
- [K-W-L chart](#)
- Pencil
- **Suggested Books:** *The Bobbin Girl* by Emily Arnold McCully; more books listed on the next page

Mill Workers

Instructions continued

- 3 Students will use the vocabulary words ([see definitions](#)) listed and relate them to the images.
- Innovation
 - Industrial
 - Revolution
 - Mechanization
 - Labor
 - Union
- 4 Have students create and share questions while considering it through [disciplinary literacy lenses](#).
- 5 Read and connect the analyzed images to the reading passage, "[Rise of Industrial America: Work in the Late 19th Century](#)" (transcribed excerpt [available](#)). Explain how the events and concepts in this text, including what happened and why, impacted innovation and how they changed the production of goods.
- 6 Students will generate questions that will help answer the compelling and supporting questions. Have them use the [Answering Questions, Citing Sources worksheet](#). Below are some possible research websites and books:
- [Industrial Revolution](#): This webpage from the History Channel provides some important historical context about the Industrial Revolution.
 - [The Rise of the Industrial Revolution](#): This video focuses on the development of the spinning machine by Sir Richard Arkwright in England, which led directly to the rise of the Industrial Revolution, and a new world of manufactured products.
 - [The Industrial Revolution](#): This video shows an assembly line at work during the Industrial Revolution. Beginning in the 19th century, advances in manufacturing revolutionize the American way of life.
 - [The Mill Girls of Lowell](#): This website from the National Park Service focuses on the stories of the girls and young women that worked at the textile mills in Lowell, Massachusetts.
 - *The Bobbin Girl* by Emily Arnold McCully
 - *Brave Girl: Clara and the Shirtwaist Makers' Strike of 1909* by Michelle Markel
 - *The Industrial Revolution for Kids: The People and Technology That Changed the World* by Cheryl Mullenbach
- 7 Discuss the research, answers and sources from students and relate them back to the compelling and supporting questions.
- 8 **Formative Assessment:** Ask students to record "notes" of their evidence for each source that will help answer the supporting question: How did the Industrial Revolution change the production of goods? Students will record these notes on their [Check for Understanding worksheet](#).

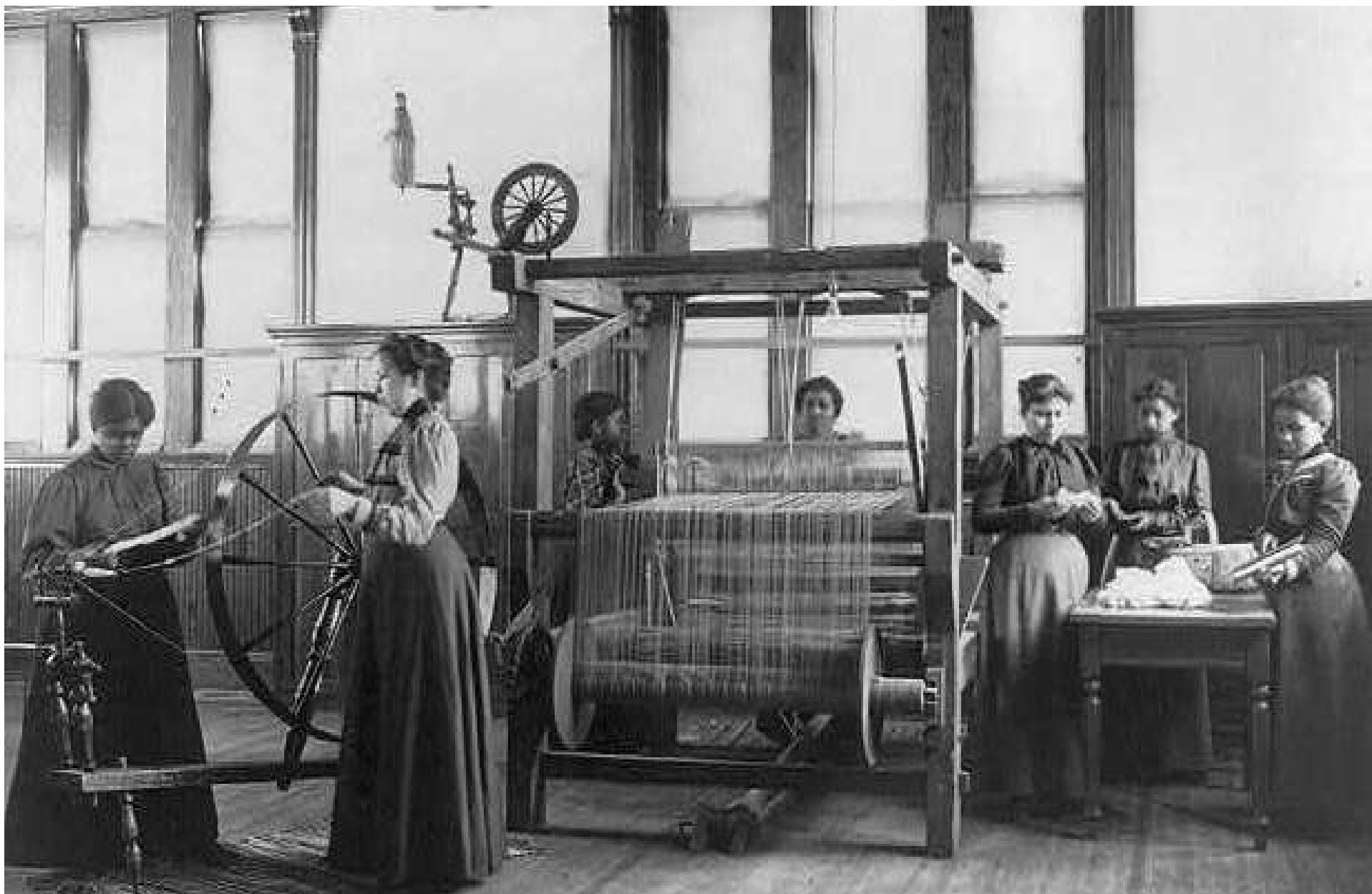
More Materials

• Suggested Books:

Brave Girl: Clara and the Shirtwaist Makers' Strike of 1909 by Michelle Markel;
The Industrial Revolution for Kids: The People and Technology That Changed the World by Cheryl Mullenbach

African-American Women Weaving Rug at Hampton Institute in Virginia, 1899

PART 2



Courtesy of Library of Congress, Roskam, Edwin, "Swimming pool created by CCC (Civilian Conservation Corps) dam, Huntingdon, Pennsylvania," July 1941

**Sadie Pfeifer, Child Worker, at Lancaster Cotton Mills in South Carolina,
November 30, 1908**

PART 2



Courtesy of Library of Congress, Hine, Lewis Wickes, "Sadie Pfeifer, 48 inches high, has worked half a year...," 30 November 1908

Occupational Portrait of a Woman Working at a Sewing Machine, ca. 1853

PART 2



Courtesy of Library of Congress, "Occupational Portrait of a Woman Working at a Sewing Machine," ca. 1853

K-W-L Chart: Image Analysis

This is an example K-W-L worksheet that corresponds with the instructions to analyze primary source images. This directed-learning version of the worksheet is for you, the educator, to fill out, add notes and utilize. A printable version of this worksheet is available for reproduction in this topic’s Student Materials PDF.



K-W-L Chart

K What We Think We Know	W What We Want to Know	L What We Hope to Learn
Stop and Source	Why do you think they’re doing this?	Where could you find the answers?
People:	How do you think they are feeling?	
Objects:	When do you think these photos were taken? How do you know?	
What are they doing?	Questions these photos raise:	

K-W-L Chart: Image Analysis

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K-W-L Chart

K What We Think We Know	W What We Want to Know	L What We Hope to Learn

Answering Questions and Citing Sources

Question	Notes
Source Cited:	

Question	Notes
Source Cited:	

Question	Notes
Source Cited:	

The Rise of Assembly Lines



Unit Compelling Question

How does innovation impact people's lives?



Unit Supporting Question

How did the Industrial Revolution change the production of goods?

Overview

Students will investigate Henry Ford and the assembly line process to understand the cause and effect impacts of technology and factory work.

Source Background

On December 1, 1913, Henry Ford installed the first moving assembly line for the mass production of an entire automobile. His innovation reduced the time it took to build a car from more than 12 hours to one hour and 33 minutes. Ford's Model T, introduced in 1908, was simple, sturdy and relatively inexpensive – but not inexpensive enough for Ford, who was determined to build motor cars for any citizen to own.

Instructions

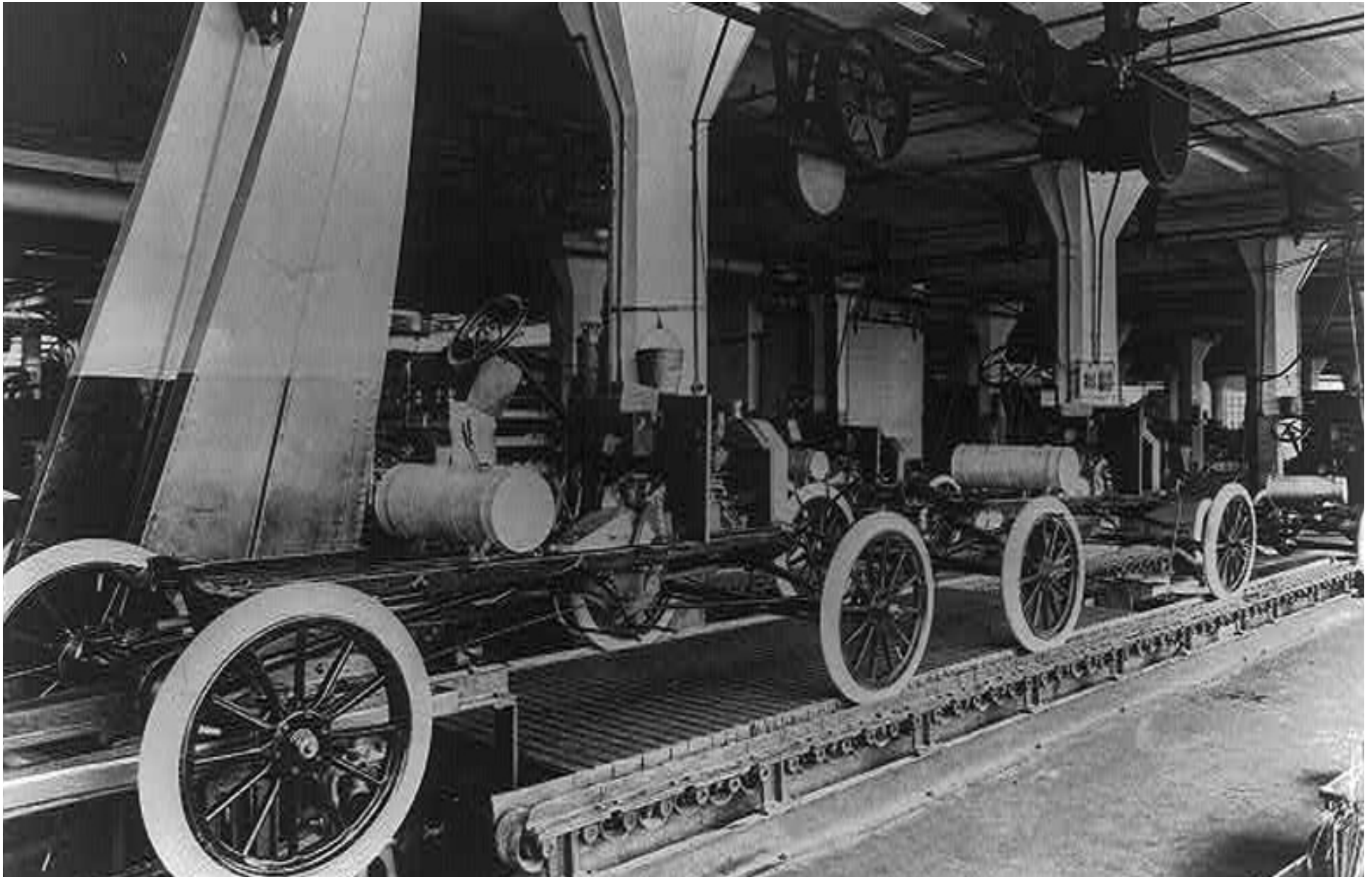
- 1 Introduce new words through the [vocabulary list](#) to define **mechanization**, **mass production** and **assembly line**.
- 2 Students will analyze the image “Assembly Line at the Ford Motor Company’s Highland Park Plant” and record their thinking in a [KWL \(Know, Wonder Learn\) chart](#). Have students create and share questions about Henry Ford and the assembly line while considering [disciplinary literacy lenses](#).
- 3 As a class, read about Henry Ford to answer student-generated questions. Suggested books are listed in the materials box.
- 4 Watch the [Ford assembly line video](#) and discuss the cause and effects and the impact of technological changes.
- 5 Refer back to the close read, [“Rise of Industrial America: Work in the Late 19th Century.”](#) Have students make connections to the assembly line, mass production and pros and cons of the age of industry.
- 6 **Formative Assessment:** Ask students to record “notes” of their evidence for each source that will help answer the supporting question: How did the Industrial Revolution change the production of goods? Use the Sentence Starter worksheet to encourage students to make a claim about cause and effects and the impact of technological changes of the assembly line.

Materials

- “Assembly Line at the Ford Motor Company’s Highland Park Plant” image
- [KWL chart](#)
- [Ford assembly line video](#)
- [Sentence Starter worksheet](#)
- **Suggested Book:** *Full of Beams: Henry Ford Grows A Car* by Peggy Thomas; *Henry Ford: Father of the Auto Industry (A True Book: Great American Business)* by Josh Gregory

**"Assembly Line at the Ford Motor Company's Highland Park Plant,"
ca. 1913**

PART 3



Courtesy of Library of Congress "Assembly Line at the Ford Motor Company's Highland Park Plant," ca. 1913

K-W-L Chart: Image Analysis

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K-W-L Chart

K What We Think We Know	W What We Want to Know	L What We Hope to Learn
Stop and Source	Why do you think they’re doing this?	Where could you find the answers?
People:	How do you think they are feeling?	
Objects:	When do you think this photo was taken? How do you know?	
What are they doing?	Questions this photo raises:	

K-W-L Chart: Image Analysis

This is an example K-W-L worksheet that corresponds with the instructions to analyze primary source images. This blank version of the worksheet is for you, the educator, to fill out, add notes and utilize. A printable version of this worksheet is available for reproduction in this topic's Student Materials PDF.



K-W-L Chart

K What We Think We Know	W What We Want to Know	L What We Hope to Learn

This is an example sentence starter worksheet that corresponds with the instructions to Part 3 to make a claim. This version of the worksheet is for you, the educator, to utilize. A printable version of this worksheet is available in this topic's Student Materials PDF.

Claim	Evidence	Reasoning
<div data-bbox="352 544 525 714" data-label="Image"> </div> <p data-bbox="342 753 535 893"> My claim is... I think... I noticed... </p> <hr data-bbox="170 1015 709 1018"/> <hr data-bbox="170 1149 709 1153"/> <hr data-bbox="170 1255 709 1258"/> <hr data-bbox="170 1360 709 1364"/> <hr data-bbox="170 1466 709 1469"/>	<div data-bbox="961 544 1134 714" data-label="Image"> </div> <p data-bbox="840 753 1260 915"> I found...; My evidence is... My proof is... Another example... I know this is true because... </p> <hr data-bbox="779 1015 1318 1018"/> <hr data-bbox="779 1149 1318 1153"/> <hr data-bbox="779 1255 1318 1258"/> <hr data-bbox="779 1360 1318 1364"/> <hr data-bbox="779 1466 1318 1469"/>	<div data-bbox="1570 544 1743 714" data-label="Image"> </div> <p data-bbox="1470 753 1848 893"> This happened because... The reason for this is... I conclude... </p> <hr data-bbox="1388 1015 1927 1018"/> <hr data-bbox="1388 1149 1927 1153"/> <hr data-bbox="1388 1255 1927 1258"/> <hr data-bbox="1388 1360 1927 1364"/> <hr data-bbox="1388 1466 1927 1469"/>

Manufacturing in Iowa



Unit Compelling Question

How does innovation impact people's lives?



Unit Supporting Question

How did the Industrial Revolution change the production of goods?

Overview

Students will analyze sources related to Maytag, an Iowa company that impacted technological changes over time in Iowa. They will view three sources that can be compared.

Source Background

Many people think of Iowa as a farming state. Would it be surprising to hear that many different types of industry and manufacturing have existed in Iowa for a long time? Early Iowa industry was focused on processing the materials grown and raised on the land. Later, industry expanded to include many different manufactured items. Some Iowa companies have specialized in making appliances for the home. These companies started in the early 1900s when many homes were first wired for electricity. The Maytag Company in Newton began making washing machines in 1907. In 1934, George Foerstner of Amana founded a company that made refrigerators. By the 1960s, his company, Amana Refrigeration, introduced the Radarange, the first microwave oven.

Instructions

- Analyze the impact of technological changes in Iowa while viewing the three resources below:
 - [Washing Machine Assembly Line in Maytag Plant in Newton, Iowa, 1949](#)
 - ["The 1938 Maytag Strike" article](#)
 - ["More Than Just Washing Machines" Article about Maytag Plant in Newton, Iowa, June 21, 2019](#) (transcribed excerpts [available](#))
- Use a [triple Venn diagram](#) to record similarities and differences of the three sources.
- Discuss: How did the production of goods change over time for Maytag? In the "More Than Just Washing Machines" article, Bill Perrenoud, executive director of the Jasper County Historical Museum, said one of the catchphrases was "Newton needs Maytag." He also said, "...And I think there's a lot of truth to that. Newton would not have been half the community it would have." What text evidence supports this statement?
- Refer back to the close read ["Rise of Industrial America: Work in the Late 19th Century"](#) to make connections between Iowa and industry in the U.S.
- Formative Assessment:** Students will make a claim regarding "How did Maytag's change production of goods impact Iowa?" Students will record their evidence in their [Check for Understanding worksheet](#) for each source to answer the supporting question: How did the Industrial Revolution change the production of goods?

Materials

- [Washing Machine Assembly Line in Maytag Plant in Newton, Iowa, 1949 image](#)
- ["The 1938 Maytag Strike" article](#)
- [Triple Venn diagram](#)



Courtesy of State Historical Society of Iowa, "Washing Machine Assembly Line in Maytag Plant," 1949

"More Than Just Washing Machines" Article about Maytag Plant in Newton, Iowa, June 21, 2019

More than just washing machines Museum delves into Maytag's varied production history

*By Christopher Braunschweig Newton Daily News
June 21, 2019*

Jack Streeter, board president of the Jasper County Historical Society, conducts a tour Thursday at the Jasper County Historical Society. As one might expect, displays are dedicated to the Maytag Corporation, which once held offices and factories in Newton until its purchase to the Whirlpool Corporation.

Surrounded by, at one time, nine similar businesses in Newton, a place that many folks considered to be the "washing machine center of the world," the Maytag Corporation emerged on top as the premiere company that outlasted its competition, until it was purchased by Whirlpool Corporation in 2006 and subsequently closed its facilities.

As one might expect, the longtime manufacturer's flagship products — wooden, aluminum and metal variants alike — take up a lot of space at the Jasper County Historical Museum, but as do its other, lesser known appliances and items.

Jack Streeter, board president of the Jasper County Historical Society, said the Maytag factories used to produce agricultural equipment and other home appliances. A seed grader and an old vacuum are on display at the local museum to prove it. One item the museum doesn't have is an old Maytag tractor, which are very difficult to come by. For now, a picture will suffice.

"We started out making farm equipment and made threshing machines and things like that, and then they dabbled into washing machines," Streeter, 92, said Thursday. "And finally they found out the market for washing machines was a lot better than the market for farm equipment."

Founded 126 years ago by F. L. Maytag, the Newton business was once the workplace of the 92-year-old Streeter, who became head of the maintenance department for Maytag Plant 2. He retired from the company after 39 years. Streeter's mother and father had also worked at Maytag. Now, he gets to revisit his old employment and teach others about the company at the museum.

Maytag was the first company, Streeter added, to build a cast aluminum washing machine body in the 1920s, a style that was very popular among customers and would eventually kickstart the company into national recognition. Streeter said his parents had a similar model in their basement for "20-some years."

Bill Perrenoud, executive director of the Jasper County Historical Museum, said Maytag was known for its dependability, at least that's how the company sold itself as. Calling it a "top notch business" back in its heyday, Perrenoud referred to a piece on display in the museum that says: "When you meet a Maytag salesman, you meet a gentleman."

He added, “That was their image, and they portrayed that. The locations where they sold their washers appreciated that. They knew they were going to have gentleman; if they were to make an agreement they’d follow through on it. The Maytags hired good people (to make and sell products).”

Curiously enough, the gas-powered engines packed inside Maytag’s washing machines found other uses and could power other appliances like lawnmowers and pumps. Staff at the Jasper County Historical Museum have arranged the engines like marble busts inside its South 15th Avenue West facility.

A small race car on display at the museum, Street said, was not sold commercially, but rather was a promotional or sales item. And how did that car operate exactly? The gas-powered engine that was used in a Maytag-brand washing machine.

Researching new additions for its signature product was nothing new for Maytag either. Streeter pointed out a machine on display that was able to do more than wash clothes. With the right kind of attachment, it could churn butter and grind meat. Granted, it couldn’t do all three actions at once. Maytag had even tried adding an ice cream maker attachment.

Ironing machines, dishwashers, refrigerators and more. If Maytag determined a need for something, the company would make it. Staff said a Maytag room is currently under development that further highlight’s the Maytag family’s other ventures besides washing machines, like craft beer and blue cheese.

Maytag didn’t seem to be afraid to try new products, successful or not. However, Perrenoud said the choice in products was not random. The company, he said, likely put in a lot of research hours and listened to the needs of its customers to decide what appliance would be distributed.

“It was well-thought-out,” Perrenoud said. “You take a look at the different washing machines they produced and the changes they made from one model to the next would be looking for improvements. And before they made those improvements they tested them.”

When he toured Maytag many years ago, Perrenoud remembered seeing the company’s test facility where researchers were, among other things, analyzing “load after load after load” of laundry to see how well their machines held up. Niche items, he continued, didn’t seem to scare away Maytag.

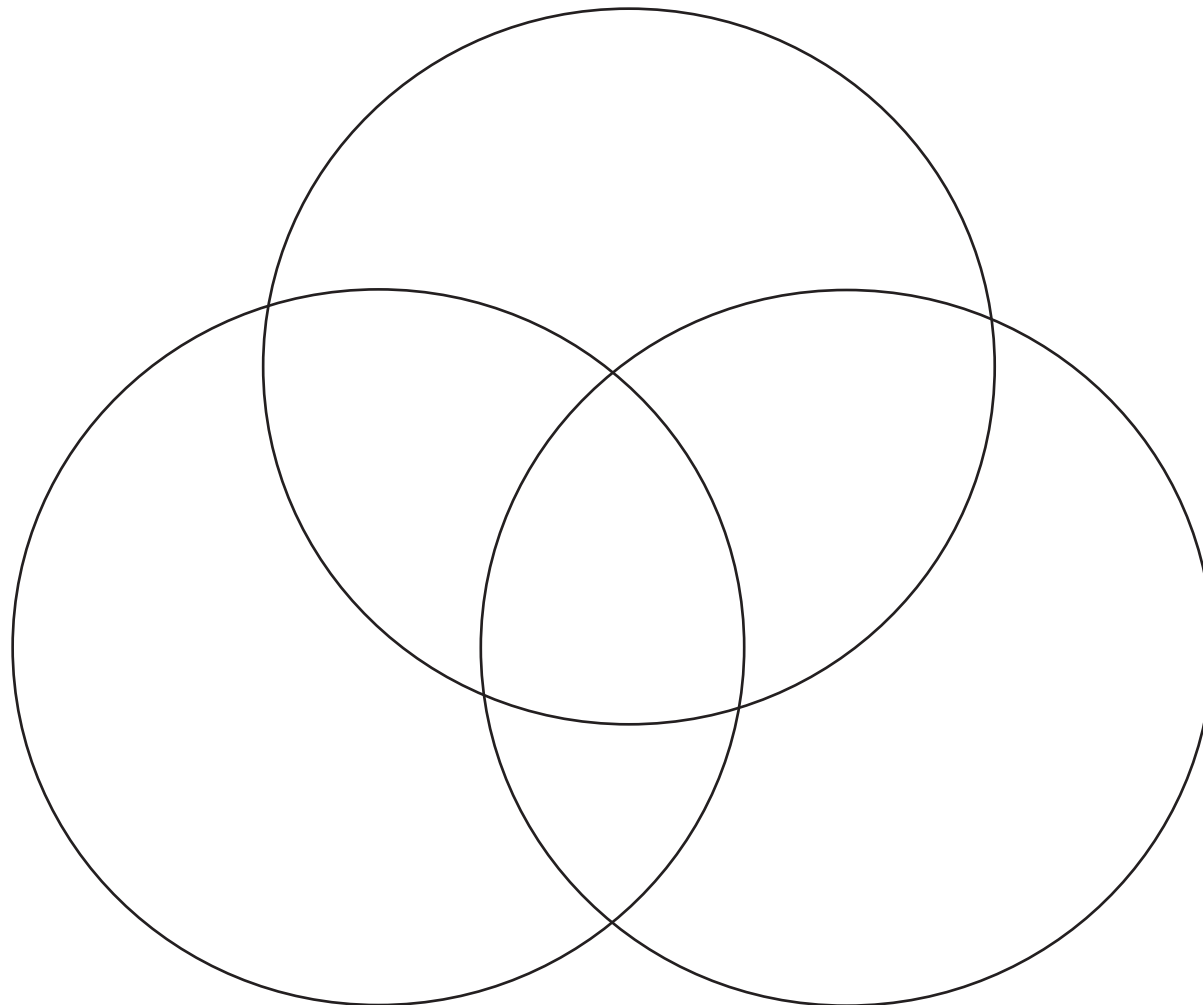
Although Maytag Corporation is no longer in Newton, the company certainly left a lasting impression on the community. The family name is ingrained in the town’s infrastructure. Perrenoud recalled an old Maytag advertising campaign in which the company’s mascot repairman, Ol’ Lonely, had a dog — a Basset Hound named Newton.

“One of the catchphrases was: ‘Newton needs Maytag,’” Perrenoud said. “... And I think there’s a lot of truth to that. Newton would not have been half the community it would have.”

Editor’s Note: “History Lesson” is a weekly series inspired by the Jasper County Historical Museum’s 40-year anniversary. Newton Daily News will publish a story every Friday (until the museum is closed) featuring the people who work to preserve and promote the region’s past endeavors, while also showcasing the historical and educational significance of artifacts and exhibits on display in the museum.

Triple Venn Diagram

This is an example worksheet that corresponds with instructions from Part 4 to compare sources about the impact of Maytag, an Iowa company. This version of the worksheet is for you, the educator, to utilize. A printable version of this worksheet is available in this topic's Student Materials PDF.



Lesson Summative Assessment



Unit Compelling Question

How does innovation impact people's lives?



Unit Supporting Question

How did the Industrial Revolution change the production of goods?

Assessment Instructions

- 1 Students assemble their evidence within their [Check for Understanding worksheet](#) into an essay.
- 2 Distribute the [lesson summative assessment worksheet](#). Allow students plenty of time to write. Students can go back to the sources and the answers to their questions as they write.
- 3 Students can use the worksheet or regular notebook paper, and they can write on the notebook paper or even type their essay. Have them keep the worksheet nearby in order to consider the prompts that are in each section.
- 4 **Writing Standards:**
Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
 - W.4.1.a Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose.
 - W.4.1.b Provide reasons that are supported by facts and details.
 - W.4.1.c Link opinion and reasons using words and phrases
 - W.4.1.d Provide a concluding statement or section related to the opinion presented.

Assessment Scoring Options

Proficient	Student shows understanding of how the Industrial Revolution changed the production of goods with answers that are accurate.
Developing	Mixture of some accurate and some inaccurate parts.
Beginning	Student unable to write any ideas in the given time and/ or ideas are very inaccurate.

Opinion Writing about the Industrial Revolution

This is an example worksheet that corresponds with instructions from the lesson summative assessment. This version of the worksheet is for you, the educator, to utilize. A printable version of this worksheet is available in this topic's Student Materials PDF.

Topic _____	
<p>Introduction/Lead Sentence</p> <p>Introduce a topic or text clearly, state an opinion:</p> <ul style="list-style-type: none"> • Hook the reader. • Restate the Question, and answer the Question: "How does innovation impact people's lives?" 	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p>Supporting Details & Evidence</p> <ul style="list-style-type: none"> • Use a transition to begin..... • Start with a big idea sentence to state a reason and explain with evidence (tell how the evidence connects to the lead sentence). 	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p>Supporting Details & Evidence</p> <ul style="list-style-type: none"> • Use a transition to begin..... • Start with a big idea sentence to state a reason and explain with evidence (tell how the evidence connects to the lead sentence). 	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Taking Notes about Reading Passage

<p>Supporting Details & Evidence continued</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p>Supporting Details & Evidence</p> <ul style="list-style-type: none"> • Use a transition to begin..... • Start with a big idea sentence to state a reason and explain with evidence (tell how the evidence connects to the lead sentence). 	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p>Conclusion Sentence(s)</p> <p>Create a concluding statement(s).</p> <ul style="list-style-type: none"> • Restate the lead/topic sentence in a new way • Give a final, convincing thought to leave with the reader 	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Industrial Revolution Vocabulary List

Assembly Line

An assembly line is a line of machines, tools and workers in a factory that a product moves along while it is being built or produced.

Industrial

Industrial is a word used to describe things that relate to or are used in industry. This includes the people who work in factories or the things made in factories.

Innovation

An innovation describes a new method, idea, product, etc. It can refer to something completely new or to a new change made to an existing product, idea or field.

Labor

Labor is work. It is a human activity that provides the goods or services in an economy. Labor includes the services performed by workers.

Mass Production

The production of large quantities of a product by an automated mechanical process.

Mechanization

Mechanization is the introduction of machines or automatic devices into a process, activity or place. Sometimes the act or process of introducing machines into an industry or other area of activity is in order to replace human labor.

Revolution

A revolution is the sudden, complete or marked change in something. This could be related to changes in areas such as an industry, an established government, a political system or other societal norms and practices.

Skilled Craftsperson

A skilled craftsperson is a worker who practices a trade or handicraft, creating something from start to finish by hand.

Union

An organization of workers formed for the purpose of advancing and advocating for its members' interests in respect to wages, benefits and working conditions.

Additional Resources for Educators

Industrial Revolution Primary Source Set

This is a digital collection of primary and secondary sources about the history of the Industrial Revolution. This Read Iowa History unit is based on this primary source set.

Industrial Revolution

This webpage from the History Channel provides some important historical context about the Industrial Revolution.

Profiling Portraits: Occupational Portraits of the 19th Century

This resource from the Library of Congress provides more information about occupational portraits from the 19th Century and what they tell people about the past.

The Rise of the Industrial Revolution Video

This video focuses on the development of the spinning machine by Sir Richard Arkwright in England, which led directly to the rise of the Industrial Revolution, and a new world of manufactured products.

The Industrial Revolution Video

This video shows an assembly line at work during the Industrial Revolution. Beginning in the 19th Century, advances in manufacturing revolutionize the American way of life.

Inside Ford's Moving Assembly Line Video

In celebration of the 100th anniversary of the moving assembly line, introduced by Ford Motor Company and led by Henry Ford on October 7th, 1913, the automaker went inside its manufacturing facilities to document the fast-paced and efficient assembly lines.

History of Iowa Farmers - Living History Farms

This webpage from Living History Farms looks at the history of farming in Iowa and the people who are important to its growth.

"Inside the LEGO Factory: How robots & machines make LEGO" Video

This video focuses on the creation of a LEGO by robots and machines.

Invention of the Telegraph

This collection from the Library of Congress includes primary sources from Samuel Morse that follow his journey to creating the telegraph.

Industrial Revolution and Technology from National Geographic

This article from National Geographic highlights inventions created during the Industrial Revolution.

Full of Beams: Henry Ford Grows A Car by Peggy Thomas

This biographical story walks through Henry Ford's life and the challenges that came from it, from the failed tractor that Henry Ford made as a teenager, to the Great Depression, as well as the switch in production that came with the beginning of World War II.