

Steam train on the Nancha Bank, China

Power plant in West Virginia, United States

# The Beginnings of Industrialization

## MAIN IDEA

**SCIENCE AND TECHNOLOGY**  
The Industrial Revolution started in England and soon spread to other countries.

## WHY IT MATTERS NOW

The changes that began in Britain paved the way for modern industrial societies.

## TERMS & NAMES

- Industrial Revolution
- enclosure
- crop rotation
- industrialization
- factors of production
- factory
- entrepreneur

## CALIFORNIA STANDARDS

**10.3.1** Analyze why England was the first country to industrialize.

**10.3.2** Examine how scientific and technological changes and new forms of energy brought about massive social, economic, and cultural change (e.g., the inventions and discoveries of James Watt, Eli Whitney, Henry Bessemer, Louis Pasteur, Thomas Edison).

**10.3.5** Understand the connections among natural resources, entrepreneurship, labor, and capital in an industrial economy.

**CST 1** Students compare the present with the past, evaluating the consequences of past events and decisions and determining the lessons that were learned.

**HI 1** Students show the connections, causal and otherwise, between particular historical events and larger social, economic, and political trends and developments.

**SETTING THE STAGE** In the United States, France, and Latin America, political revolutions brought in new governments. A different type of revolution now transformed the way people worked. The **Industrial Revolution** refers to the greatly increased output of machine-made goods that began in England in the middle 1700s. Before the Industrial Revolution, people wove textiles by hand. Then, machines began to do this and other jobs. Soon the Industrial Revolution spread from England to Continental Europe and North America.

## Industrial Revolution Begins in Britain

In 1700, small farms covered England's landscape. Wealthy landowners, however, began buying up much of the land that village farmers had once worked. The large landowners dramatically improved farming methods. These innovations amounted to an agricultural revolution.

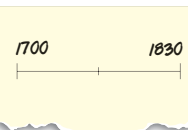
**The Agricultural Revolution Paves the Way** After buying up the land of village farmers, wealthy landowners enclosed their land with fences or hedges. The increase in their landholdings enabled them to cultivate larger fields. Within these larger fields, called **enclosures**, landowners experimented with more productive seeding and harvesting methods to boost crop yields. The enclosure movement had two important results. First, landowners tried new agricultural methods. Second, large landowners forced small farmers to become tenant farmers or to give up farming and move to the cities.

Jethro Tull was one of the first of these scientific farmers. He saw that the usual way of sowing seed by scattering it across the ground was wasteful. Many seeds failed to take root. He solved this problem with an invention called the seed drill in about 1701. It allowed farmers to sow seeds in well-spaced rows at specific depths. A larger share of the seeds took root, boosting crop yields.

**Rotating Crops** The process of **crop rotation** proved to be one of the best developments by the scientific farmers. The process improved upon older methods of crop rotation, such as the medieval three-field system. One year, for example, a farmer might plant a field with wheat, which exhausted soil nutrients. The next year he planted a root crop, such as turnips, to restore nutrients. This might be followed in turn by barley and then clover.

## TAKING NOTES

**Following Chronological Order** On a time line, note important events in Britain's industrialization.



The Industrial Revolution 283

## OBJECTIVES

- Explain the beginnings of industrialization in Britain.
- Describe key inventions that furthered the Industrial Revolution.
- Identify transportation improvements.
- Trace the impact of railroads on British industry.

## 1 FOCUS & MOTIVATE

Note that the Industrial Revolution included key changes in the way people and goods could travel from one place to another. What are some ways that people and goods travel today? (*car, airplane, train, truck, ship*)

## 2 INSTRUCT

### Industrial Revolution Begins in Britain

#### 10.3.1

#### Critical Thinking

- Why might it be easier for large farmers to experiment than for family farmers? (*more resources*)

## CALIFORNIA RESOURCES

California Reading Toolkit, p. L41  
California Modified Lesson Plans for English Learners, p. 77  
California Daily Standards Practice Transparencies, TT33  
California Standards Enrichment Workbook, pp. 33–34, 35–36, 41–42  
California Standards Planner and Lesson Plans, p. L73  
California Online Test Practice  
California Test Generator CD-ROM  
California Easy Planner CD-ROM  
California eEdition CD-ROM

## SECTION 1 PROGRAM RESOURCES

### ALL STUDENTS

#### In-Depth Resources: Unit 3

- Guided Reading, p. 1
- History Makers: James Watt, p. 16

#### Formal Assessment

- Section Quiz, p. 155

### ENGLISH LEARNERS

#### In-Depth Resources in Spanish

- Guided Reading, p. 74

#### Reading Study Guide (Spanish), p. 95

#### Reading Study Guide Audio CD (Spanish)

### STRUGGLING READERS

#### In-Depth Resources: Unit 3

- Guided Reading, p. 1
- Building Vocabulary, p. 5
- Reteaching Activity, p. 19

#### Reading Study Guide, p. 95

#### Reading Study Guide Audio CD

### GIFTED AND TALENTED STUDENTS

#### In-Depth Resources: Unit 3

- Primary Source: from "The Opening of the Liverpool to Manchester Railway," p. 9

### INTEGRATED TECHNOLOGY

#### eEdition CD-ROM

#### Voices from the Past Audio CD

#### Power Presentations CD-ROM

#### Patterns of Interaction Video Series

- The Industrial and Electronic Revolutions
- classzone.com

## More About . . .

### The Business of War

Warfare in the early 1800s actually helped promote British business. Although British trade with Europe declined during the Napoleonic Wars, British victories gained new colonies and new markets. The British navy ruled the seas, making shipping safe for British merchants. In fact, French troops marched into Russia wearing English-made overcoats.

### Tip for English Learners

List *land, labor, and capital* (wealth) on the board under the heading *factors of production*. Clarify what each factor means.

## Inventions Spur Industrialization

### 10.3.5

#### Critical Thinking

- Why do you think one invention led to another? (*Possible Answer: observers get new ideas from seeing other inventors' work; new inventions make others possible; exciting atmosphere*)
- How were England's cotton industry and America's cotton growers linked? (*Possible Answer: interdependent, each needed the other equally*)

► An English farmer plants his fields in the early 1700s using a seed drill.



A. Answer it pushed farmers off the land, sent workers to the cities, and created a ready market for new goods.

#### MAIN IDEA

#### Recognizing Effects

How did population growth spur the Industrial Revolution?

Livestock breeders improved their methods too. In the 1700s, for example, Robert Bakewell increased his mutton (sheep meat) output by allowing only his best sheep to breed. Other farmers followed Bakewell's lead. Between 1700 and 1786, the average weight for lambs climbed from 18 to 50 pounds. As food supplies increased and living conditions improved, England's population mushroomed. An increasing population boosted the demand for food and goods such as cloth. As farmers lost their land to large enclosed farms, many became factory workers.

**Why the Industrial Revolution Began in England** In addition to a large population of workers, the small island country had extensive natural resources. **Industrialization**, which is the process of developing machine production of goods, required such resources. These natural resources included

- water power and coal to fuel the new machines
- iron ore to construct machines, tools, and buildings
- rivers for inland transportation
- harbors from which merchant ships set sail

In addition to its natural resources, Britain had an expanding economy to support industrialization. Businesspeople invested in the manufacture of new inventions. Britain's highly developed banking system also contributed to the country's industrialization. People were encouraged by the availability of bank loans to invest in new machinery and expand their operations. Growing overseas trade, economic prosperity, and a climate of progress led to the increased demand for goods.

Britain's political stability gave the country a tremendous advantage over its neighbors. Though Britain took part in many wars during the 1700s, none occurred on British soil. Their military successes gave the British a positive attitude. Parliament also passed laws to help encourage and protect business ventures. Other countries had some of these advantages. But Britain had all the **factors of production**, the resources needed to produce goods and services that the Industrial Revolution required. They included land, labor, and capital (or wealth).

## Inventions Spur Industrialization

In an explosion of creativity, inventions now revolutionized industry. Britain's textile industry clothed the world in wool, linen, and cotton. This industry was the first to be transformed. Cloth merchants boosted their profits by speeding up the process by which spinners and weavers made cloth.

**Changes in the Textile Industry** As you will learn in the feature on textile technology on page 285, by 1800, several major inventions had modernized the cotton industry. One invention led to another. In 1733, a machinist named John Kay made a shuttle that sped back and forth on wheels. This flying shuttle, a boat-shaped piece

## DIFFERENTIATING INSTRUCTION: STRUGGLING READERS

### Understanding Technological Advances

**Class Time** 20 minutes

**Task** Identify machines powered by steam engines

**Purpose** To clarify the importance of the steam engine in the development of industrialization and transportation

**Instructions** Have students view the video, *The Industrial and Electronic Revolutions*. Provide them with additional information about technological advances from pages 287–288. Then have students work in groups. Ask them to use the video and text to brainstorm a list of some of the specific machines that were powered by steam engines.

Discuss the following questions:

- What else besides steam might be used to power factory machines?
- How else might boats be powered?
- How else might locomotives be powered?

If students need help with the text on pages 287–288, refer them to the Reading Study Guide for Section 1.

**Patterns of Interaction Video Series: The Industrial and Electronic Revolutions**

CHAPTER 9 Section 1 (pages 283–288)

### The Beginnings of Industrialization

**BEFORE YOU READ**

In the last section, you read about transportation and modern in the arts.

In this section, you will read about the beginning of the Industrial Revolution.

**AS YOU READ**

As you read, think about the important developments and conditions that led to industrialization.

**KEY TERMS AND IDEAS**

**Industrial Revolution:** Great increase in machine production that began in England in the 18th century.

**enclosure:** Large closed-in fields for farming.

**consolidation:** Putting a different thing in a different field than you put in the old field.

**Industrialization:** Process of developing machine production of goods.

**factors of production:** Conditions needed to produce goods and services.

**land:** The land on which goods are made.

**labor:** The workers who make goods and services.

**capital:** Money and equipment, machines, and tools used in the production of goods and services.

**Industrial Revolution Begins in Britain** (page 283)

**How did the Industrial Revolution begin?**

The Industrial Revolution was the great increase in machine production that began in England during the 18th century. Before the Industrial Revolution, people made most goods by hand. By the middle of the 1700s, more and more goods were made by machine.

The Industrial Revolution began with great cultural revolutions. In the early 1700s, large landowners in Britain began to fence off the land that had been used by poor farmers. The landowners collected these lands into large fields called **enclosures**. Many of the poor farmers who had their lands become **tenant farmers**. Others gave up farming and moved to the cities.

New laws made it easier for **tenant farmers** to get **land**. For example, **tenant farmers** had to rent a small **plot** of land from a **landowner**. They had to pay the **landowner** for the right to use the land. They also had to give the **landowner** a share of the crops they grew on the land.

The **landowners** gave the **land** to **tenant farmers** who had **land** available. People moved better than the people of Britain gave **tenant farmers** more **land** to grow food. More people began to make goods.



## Textiles Industrialize First

The Industrial Revolution that began in Britain was spurred by a revolution in technology. It started in the textile industry, where inventions in the late 1700s transformed the manufacture of cloth. The demand for clothing in Britain had greatly increased as a result of the population boom caused by the agricultural revolution. These developments, in turn, had an impact worldwide. For example, the consumption of cotton rose dramatically in Britain (see graph at right). This cotton came from plantations in the American South, where cotton production skyrocketed from 1820 to 1860 in response to demand from English textile mills.

► John Kay's flying shuttle (below) speedily carried threads of yarn back and forth when the weaver pulled a handle on the loom. The flying shuttle greatly increased the productivity of weavers.



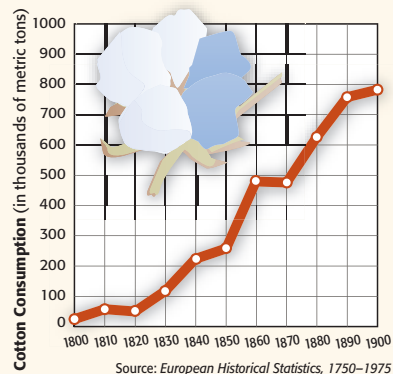
▲ Flying shuttle

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**10.3.1** Analyze why England was the first country to industrialize.

**HI 1** Students show the connections, causal and otherwise, between particular historical events and larger social, economic, and political trends and developments.

### British Cotton Consumption, 1800–1900



### Patterns of Interaction

*Technology Transforms an Age: The Industrial and Electronic Revolutions*

Inventions in the textile industry started in Britain and brought about the Industrial Revolution. This revolution soon spread to other countries. The process of industrialization is still spreading around the world, especially in developing countries. A similar technological revolution is occurring in electronics today, transforming the distribution of information around the world.

### Connect to Today

**1. Synthesizing** How might the technological innovation and industrialization that took place in the textile industry during the Industrial Revolution have provided a model for other industries?

See Skillbuilder Handbook, Page R21.

**2. Recognizing Effects** Research the textile industry today to learn how it has been affected by new technology, including computerization. Prepare a two-paragraph summary on the effects of the new technology.

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## Global Impact

### OBJECTIVE

- Explore the global impact of inventions in the past and today.

### INSTRUCT

Show the video. Point out that the first segment traces the origins of the Industrial Revolution and its effect on global relations. The second segment investigates how modern technology is creating opportunities for the worldwide exchange of information and ideas. Discuss how technology affects students' lives.

## History from Visuals

### Interpreting the Graph

Point out to students that the years increase by decades across the bottom of the chart. Also note that the scale on the left increases by 100,000 metric tons. Then ask students to identify the decade in which the steepest increase in British cotton consumption took place. (1850–1860)

**Extension** Have students suggest why cotton consumption might have fallen off between 1860 and 1870. (*Possible Answer: The American Civil War affected both cotton production and cotton consumption, as well as transportation.*)

## CONNECT TO TODAY: ANSWERS

### 1. Synthesizing

*Possible Answer:* Many of the techniques of production and standardization were applicable to other industries as the Industrial Revolution developed. This can be seen, for example, in improvements in transportation when the steam engine was adapted to boats and railroads.

### 2. Recognizing Effects

**Rubric** Summaries should

- identify technology used in the textile industry.
- draw cause-and-effect links between technology and industry.
- reflect effective research and critical thinking.

## History *in* Depth

### Inventions in America

Have students research one of the inventions listed here. Then have them explain basic facts about the invention and the inventor's life.

### INTEGRATED TECHNOLOGY

**Rubric** Successful photo exhibits should

- show a range of inventions.
- identify each invention and inventor.
- be visually appealing.

## Tip for Struggling Readers

Help students make a chart like the one below and list major inventions or improvements in each category.

Textiles	Transport
Flying shuttle	Steam engine

## More About . . .

### The Cotton Gin

Eli Whitney's cotton gin made Southern planters rich, but not the inventor. The gin was easy to make and therefore easy to pirate. Whitney later pioneered the concept of interchangeable parts, building muskets from machine-made components.

## History *in* Depth



### Inventions in America

In the United States, American inventors worked at making railroad travel more comfortable, inventing adjustable upholstered seats. They also revolutionized agriculture, manufacturing, and communications:

- 1831** Cyrus McCormick's reaper boosted American wheat production.
- 1837** Samuel F. B. Morse, a New England painter, first sent electrical signals over a telegraph.
- 1851** I. M. Singer improved the sewing machine by inventing a foot treadle (see photograph).
- 1876** Scottish-born inventor Alexander Graham Bell patented the telephone.

### INTEGRATED TECHNOLOGY

**INTERNET ACTIVITY** Create a photo exhibit on American inventions of the 19th century. Include the name of the inventor and the date with each photograph. Go to [classzone.com](http://classzone.com) for your research.

of wood to which yarn was attached, doubled the work a weaver could do in a day. Because spinners could not keep up with these speedy weavers, a cash prize attracted contestants to produce a better spinning machine. Around 1764, a textile worker named James Hargreaves invented a spinning wheel he named after his daughter. His spinning jenny allowed one spinner to work eight threads at a time.

At first, textile workers operated the flying shuttle and the spinning jenny by hand. Then, Richard Arkwright invented the water frame in 1769. This machine used the waterpower from rapid streams to drive spinning wheels. In 1779, Samuel Crompton combined features of the spinning jenny and the water frame to produce the spinning mule. The spinning mule made thread that was stronger, finer, and more consistent than earlier spinning machines. Run by waterpower, Edmund Cartwright's power loom sped up weaving after its invention in 1787.

The water frame, the spinning mule, and the power loom were bulky and expensive machines. They took the work of spinning and weaving out of the house. Wealthy textile merchants set up the machines in large buildings called **factories**. Factories needed waterpower, so the first ones were built near rivers and streams:

### PRIMARY SOURCE

A great number of streams . . . furnish water-power adequate to turn many hundred mills: they afford the element of water, indispensable for scouring, bleaching, printing, dyeing, and other processes of manufacture: and when collected in their larger channels, or employed to feed canals, they supply a superior inland navigation, so important for the transit of raw materials and merchandise.

EDWARD BAINS, *The History of Cotton Manufacture in Great Britain* (1835)

England's cotton came from plantations in the American South in the 1790s. Removing seeds from the raw cotton by hand was hard work. In 1793, an American inventor named Eli Whitney invented a machine to speed the chore. His cotton gin multiplied the amount of cotton that could be cleaned. American cotton production skyrocketed from 1.5 million pounds in 1790 to 85 million pounds in 1810.

### MAIN IDEA

**Summarizing** What inventions transformed the textile industry? **B. Answer** flying shuttle; spinning jenny; water frame; spinning mule; power loom

## DIFFERENTIATING INSTRUCTION: GIFTED AND TALENTED STUDENTS

### Connecting Inventions and Scientific Principles

**Class Time** 30 minutes

**Task** Researching inventions and their scientific principles

**Purpose** To understand the science behind the Industrial Revolution

**Instructions** Organize students in pairs or small groups. Challenge them with either of the following research tasks:

- Research James Watt's invention to determine the scientific principles on which it operated.

- Research Robert Fulton's steamboat, the *Clermont*. Students should find out how the boat used steam power to travel.

Students should draw a diagram to illustrate their findings, and then discuss their diagram and findings in class. The following resources might also be useful:

In-Depth Resources: Unit 3: "The Opening of the Liverpool-Manchester Railway," p. 9, and James Watt, p. 16.

NAME \_\_\_\_\_ DATE \_\_\_\_\_

**9** **INVENTIONS** James Watt  
Powering the World

**Lesson 1** "A New Invented Method of Increasing the Consumption of Steam and Heat in the Engines" — 1769 as a patent application to James Watt's first invention (1769)

Watt's invention was a steam engine that used a cylinder to heat water and produce steam. The steam was used to power a piston, which was connected to a crankshaft. The crankshaft was connected to a flywheel, which was used to store energy and keep the engine running. Watt's invention was a major improvement on the Newcomen engine, which was used to pump water out of mines. Watt's invention was used to power a variety of machines, including steamships and trains.

**Discussion Questions**

1. How many people ride on the first train ride on the Liverpool-Manchester Railway?
2. What happened to the first train ride?
3. Making a Difference: How did James Watt's invention change the world?

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## Tip for Gifted and Talented Students

Have students recall the factors that helped Britain establish itself as the world's first industrial power. Then tell students that, in 1997, Singapore topped the Geneva World Economic Forum's list of most competitive economies. Hong Kong came next, with the United States, Canada, New Zealand, Switzerland, and Great Britain following. Ask students how, if at all, the reasons for economic success might have changed since the 19th century.



▲ George Stephenson's Rocket

railroad engineers was George Stephenson. He had gained a solid reputation by building some 20 engines for mine operators in northern England. In 1821, Stephenson began work on the world's first railroad line. It was to run 27 miles from the Yorkshire coal fields to the port of Stockton on the North Sea. In 1825, the railroad opened. It used four locomotives that Stephenson had designed and built.

**The Liverpool-Manchester Railroad** News of this success quickly spread throughout Britain. The entrepreneurs of northern England wanted a railroad line to connect the port of Liverpool with the inland city of Manchester. The track was laid. In 1829, trials were held to choose the best locomotive for use on the new line. Five engines entered the competition. None could compare with the *Rocket*, designed by Stephenson and his son.

Smoke poured from the *Rocket*'s tall smokestack, and its two pistons pumped to and fro as they drove the front wheels. The locomotive hauled a 13-ton load at an unheard-of speed—more than 24 miles per hour. The Liverpool-Manchester Railway opened officially in 1830. It was an immediate success.

**Railroads Revolutionize Life in Britain** The invention and perfection of the locomotive had at least four major effects. First, railroads spurred industrial growth by giving manufacturers a cheap way to transport materials and finished products. Second, the railroad boom created hundreds of thousands of new jobs for both railroad workers and miners. These miners provided iron for the tracks and coal for the steam engines. Third, the railroads boosted England's agricultural and fishing industries, which could transport their products to distant cities.

Finally, by making travel easier, railroads encouraged country people to take distant city jobs. Also, railroads lured city dwellers to resorts in the countryside. Like a locomotive racing across the country, the Industrial Revolution brought rapid and unsettling changes to people's lives.

C. Answer Canals cut the cost of transporting materials; improved roads fostered the movement of heavy wagons; railroads linked manufacturing cities with raw materials.

### MAIN IDEA

#### Synthesizing

How did improvements in transportation promote industrialization in Britain?

## 3 ASSESS

### SECTION 1 ASSESSMENT

After students complete the questions independently, invite volunteers to share the letters they wrote for item 9.

#### Formal Assessment

- Section Quiz, p. 155

## 4 RETEACH

Use the section subheads to reteach the information in the section. Have student pairs generate two key ideas for each subhead. List these on the board in an outline format.

#### In-Depth Resources: Unit 3

- Reteaching Activity, p. 19

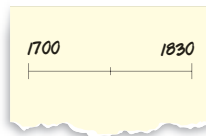
### SECTION 1 ASSESSMENT

**TERMS & NAMES** 1. For each term or name, write a sentence explaining its significance.

- Industrial Revolution
- enclosure
- crop rotation
- industrialization
- factors of production
- factory
- entrepreneur

#### USING YOUR NOTES

2. Which of the events listed do you think was the most important? Explain. (10.3.5)



#### MAIN IDEAS

3. What were four factors that contributed to industrialization in Britain? (10.3.1)  
 4. How did rising population help the Industrial Revolution? (10.3.1)  
 5. What American invention aided the British textile industry? (10.3.1)

#### CRITICAL THINKING & WRITING

6. **EVALUATING** Was the revolution in agriculture necessary to the Industrial Revolution? Explain. (10.3.5)  
 7. **MAKING INFERENCES** What effect did entrepreneurs have upon the Industrial Revolution? (10.3.5)  
 8. **FORMING AND SUPPORTING OPINIONS** Do you agree with the statement that the steam engine was the greatest invention of the Industrial Revolution? Why? (10.3.2)  
 9. **WRITING ACTIVITY** **SCIENCE AND TECHNOLOGY** Write a letter, as a British government official during the Industrial Revolution, to an official in a nonindustrial nation explaining how the railroad has changed Britain. (Writing 2.5.b)

#### CONNECT TO TODAY CREATING AN ILLUSTRATED NEWS ARTICLE

Find information on a recent agricultural or technological invention or improvement. Write a two-paragraph news article about its economic effects and include an illustration, if possible. (10.3.5)

## ANSWERS

1. Industrial Revolution, p. 283 • enclosure, p. 283 • crop rotation, p. 283 • industrialization, p. 284 • factors of production, p. 284 • factories, p. 286 • entrepreneur, p. 287

2. **Sample Answer:** Time lines should show events and inventions: seed drill, 1701; invention of flying shuttle, 1733; spinning jenny, 1764; steam engine, 1765; water frame, 1769; spinning mule, 1779; power loom, 1787; cotton gin, 1793; railroad opened, 1825. **Possible Answer:** the steam engine because it powered other inventions  
 3. large work force, expanding economy, natural resources, political stability

4. supplied extra workers, created demand  
 5. Eli Whitney's cotton gin  
 6. **Possible Answer:** Scientific farming was necessary to feed growing population, and also displaced small farmers into industrial labor force.  
 7. **Possible Answer:** They promoted it with willingness to risk capital on new inventions and ideas.

8. Opinions should be supported by facts.  
 9. **Rubric** Letters should  
 • show how railroads changed Britain.  
 • reflect a government official's view.

#### CONNECT TO TODAY

- Rubric** News articles should  
 • use journalistic style.  
 • describe the improvement clearly.  
 • include an illustration.



# Industrialization

## CASE STUDY: Manchester

### MAIN IDEA

**ECONOMICS** The factory system changed the way people lived and worked, introducing a variety of problems.

### WHY IT MATTERS NOW

Many less-developed countries are undergoing the difficult process of industrialization today.

### TERMS & NAMES

- urbanization
- middle class

**SETTING THE STAGE** The Industrial Revolution affected every part of life in Great Britain, but proved to be a mixed blessing. Eventually, industrialization led to a better quality of life for most people. But the change to machine production initially caused human suffering. Rapid industrialization brought plentiful jobs, but it also caused unhealthy working conditions, air and water pollution, and the ills of child labor. It also led to rising class tensions, especially between the working class and the middle class.

### Industrialization Changes Life

The pace of industrialization accelerated rapidly in Britain. By the 1800s, people could earn higher wages in factories than on farms. With this money, more people could afford to heat their homes with coal from Wales and dine on Scottish beef. They wore better clothing, too, woven on power looms in England's industrial cities. Cities swelled with waves of job seekers.

**Industrial Cities Rise** For centuries, most Europeans had lived in rural areas. After 1800, the balance shifted toward cities. This shift was caused by the growth of the factory system, where the manufacturing of goods was concentrated in a central location. Between 1800 and 1850, the number of European cities boasting more than 100,000 inhabitants rose from 22 to 47. Most of Europe's urban areas at least doubled in population; some even quadrupled. This period was one of **urbanization**—city building and the movement of people to cities.

▼ As cities grew, people crowded into tenements and row houses such as these in London.



### CALIFORNIA STANDARDS

**10.3.2** Examine how scientific and technological changes and new forms of energy brought about massive social, economic, and cultural change (e.g., the inventions and discoveries of James Watt, Eli Whitney, Henry Bessemer, Louis Pasteur, Thomas Edison).

**10.3.3** Describe the growth of population, rural to urban migration, and growth of cities associated with the Industrial Revolution.

**10.3.4** Trace the evolution of work and labor, including the demise of the slave trade and the effects of immigration, mining and manufacturing, division of labor, and the union movement.

**CST 1** Students compare the present with the past, evaluating the consequences of past events and decisions and determining the lessons that were learned.

**CST 3** Students use a variety of maps and documents to interpret human movement, including major patterns of domestic and international migration, changing environmental preferences and settlement patterns, the frictions that develop between population groups, and the diffusion of ideas, technological innovations, and goods.

### TAKING NOTES

**Outlining** Organize main ideas and details.

- I. Industrialization Changes Life
  - A.
  - B.
- II. Class Tensions Grow

CASE STUDY 289

## OBJECTIVES

- Describe the social and economic effects of industrialization.
- Examine growing tensions between the middle and working classes.
- Identify positive effects of the Industrial Revolution.
- Describe Manchester as an industrial city.

## 1 FOCUS & MOTIVATE

Tell students that industrialization had positive and negative effects on people's lives in Manchester. Ask students to name positive and negative ways that industry affects their own lives. (*Possible Answer: consumer goods and jobs; health problems, pollution*)

## 2 INSTRUCT

### Industrialization Changes Life

10.3.2; 10.3.3

#### Critical Thinking

- How do you think merchants viewed their workers? (*as property, as tools*)

### CALIFORNIA RESOURCES

California Reading Toolkit, p. L42  
 California Modified Lesson Plans for English Learners, p. 79  
 California Daily Standards Practice Transparencies, TT34  
 California Standards Enrichment Workbook, pp. 35–36, 37–38, 39–40  
 California Standards Planner and Lesson Plans, p. L75  
 California Online Test Practice  
 California Test Generator CD-ROM  
 California Easy Planner CD-ROM  
 California eEdition CD-ROM

## SECTION 2 PROGRAM RESOURCES

### ALL STUDENTS

#### In-Depth Resources: Unit 3

- Guided Reading, p. 2
- Geography Application, p. 7

#### Formal Assessment

- Section Quiz, p. 156

### ENGLISH LEARNERS

#### In-Depth Resources in Spanish

- Guided Reading, p. 75
- Geography Application, p. 79

#### Reading Study Guide, p. 97

#### Reading Study Guide Audio CD (Spanish)

### STRUGGLING READERS

#### In-Depth Resources: Unit 3

- Guided Reading, p. 2
- Building Vocabulary, p. 5
- Reteaching Activity, p. 20

#### Reading Study Guide, p. 97

#### Reading Study Guide Audio CD

### GIFTED AND TALENTED STUDENTS

#### In-Depth Resources: Unit 3

- Primary Source: Child Labor, p. 10
- Literature: from *Mary Barton*, p. 13

#### Electronic Library of Primary Sources

### INTEGRATED TECHNOLOGY

#### eEdition CD-ROM

#### Power Presentations CD-ROM

#### Geography Transparencies

- GT25 The Industrial Revolution in Great Britain, 1850

#### World Art and Cultures Transparencies

- AT54 Arkwright's Cotton Mill at Cromford, Derbyshire, England

#### Electronic Library of Primary Sources

- from "Child Labor in the Mines"
- "The Sentencing of the Luddites"

classzone.com

History from Visuals

The Day of a Child Laborer

Have students study the visuals and imagine what it would be like to be William Cooper. Ask them if they think child labor exists in the world today.

In-Depth Resources: Unit 3

- Primary Source: Testimony on Child Labor in Britain, p. 10

More About . . .

Urban Growth

In the 1700s, Britain was primarily a rural country. By 1851, however, more of the British people lived in cities than in the countryside. In 1901, the ratio of urban to rural population was 3 to 1. The population of London in 1901 was 4.5 million.

In-Depth Resources: Unit 3

- Geography Application: British Population Moves to the Cities, p. 7

Geography Transparencies

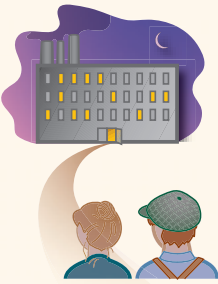
- GT25 The Industrial Revolution in Great Britain, 1850

World Art and Cultures Transparencies

- AT54 Arkwright's Cotton Mill at Cromford, Derbyshire, England

The Day of a Child Laborer, William Cooper

William Cooper began working in a textile factory at the age of ten. He had a sister who worked upstairs in the same factory. In 1832, Cooper was called to testify before a parliamentary committee about the conditions among child laborers in the textile industry. The following sketch of his day is based upon his testimony.



**5 A.M.** The workday began. Cooper and his sister rose as early as 4:00 or 4:30 in order to get to the factory by 5:00. Children usually ate their breakfast on the run.



**12 NOON** The children were given a 40-minute break for lunch. This was the only break they received all day.



Factories developed in clusters because entrepreneurs built them near sources of energy, such as water and coal. Major new industrial centers sprang up between the coal-rich area of southern Wales and the Clyde River valley in Scotland. But the biggest of these centers developed in England. (See map on page 281.)

Britain's capital, London, was the country's most important city. It had a population of about one million people by 1800. During the 1800s, its population exploded, providing a vast labor pool and market for new industry. London became Europe's largest city, with twice as many people as its closest rival (Paris). Newer cities challenged London's industrial leadership. Birmingham and Sheffield became iron-smelting centers. Leeds and Manchester dominated textile manufacturing. Along with the port of Liverpool, Manchester formed the center of Britain's bustling cotton industry. During the 1800s, Manchester experienced rapid growth from around 45,000 in 1760 to 300,000 by 1850.

**Living Conditions** Because England's cities grew rapidly, they had no development plans, sanitary codes, or building codes. Moreover, they lacked adequate housing, education, and police protection for the people who poured in from the countryside to seek jobs. Most of the unpaved streets had no drains, and garbage collected in heaps on them. Workers lived in dark, dirty shelters, with whole families crowding into one bedroom. Sickness was widespread. Epidemics of the deadly disease cholera regularly swept through the slums of Great Britain's industrial cities. In 1842, a British government study showed an average life span to be 17 years for working-class people in one large city, compared with 38 years in a nearby rural area.

Elizabeth Gaskell's *Mary Barton* (1848) is a work of fiction. But it presents a startlingly accurate portrayal of urban life experienced by many at the time. Gaskell provides a realistic description of the dank cellar dwelling of one family in a Manchester slum:

▼ Elizabeth Gaskell (1810–1865) was a British writer whose novels show a sympathy for the working class.



PRIMARY SOURCE

You went down one step even from the foul area into the cellar in which a family of human beings lived. It was very dark inside. The window-panes many of them were broken and stuffed with rags . . . the smell was so fetid [foul] as almost to knock the two men down. . . . they began to penetrate the thick darkness of the place, and to see three or four little children rolling on the damp, nay wet brick floor, through which the stagnant, filthy moisture of the street oozed up.

ELIZABETH GASKELL, *Mary Barton*

But not everyone in urban areas lived miserably. Well-to-do merchants and factory owners often built luxurious homes in the suburbs.

A. Answer by describing their terrible living conditions

MAIN IDEA

Analyzing Primary Sources

How does Gaskell indicate her sympathy for the working class in this passage?

DIFFERENTIATING INSTRUCTION: STRUGGLING READERS

Creating a Political Cartoon

**Class Time** 15 minutes

**Task** Cartooning to convey views

**Purpose** To understand problems of the Industrial Revolution

**Instructions** Review the primary source excerpt from this page, working with students to paraphrase its meaning in simple English. (*Life was very difficult for city residents. They lived in dark and crowded places. Children were cold. Buildings were polluted.*) Discuss other problems of industrialization. Then suggest that students create a political cartoon that highlights a condition or problem

associated with the Industrial Revolution in Great Britain. Provide the following suggestions:

- air pollution
- conditions of rich people and poor people
- dangerous conditions in factories
- crowded conditions in tenements

Cartoons should combine drawings and text. Remind students that a political cartoon conveys a message in a humorous and thought-provoking way.

Provide the Section 2 Guided Reading as a resource.

176 Unit 3, Chapter 9

9 GUIDED READING Industrialization Case Study: Manchester

A. Analyze the causes and consequences of effects. Use the space provided to answer the questions about the conditions in the industrialized cities.

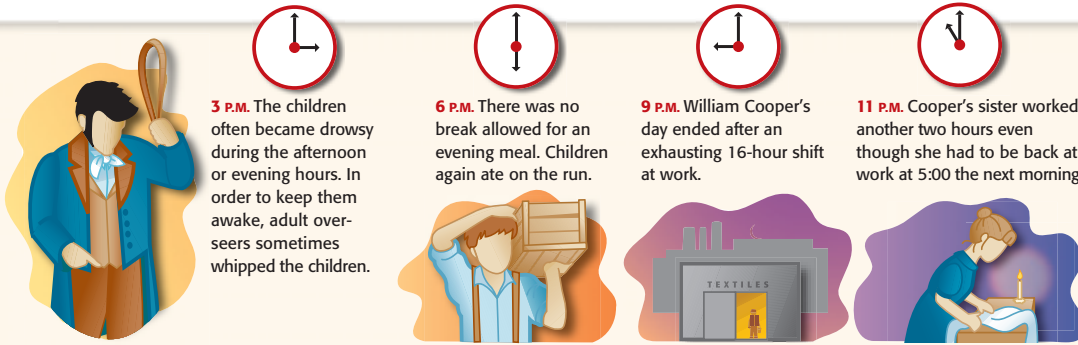
¿Qué condiciones prevalecieron en las ciudades grandes de la época?	
1. Condiciones físicas de las ciudades	
2. Situación social	
3. Condiciones económicas de las ciudades	
4. Salud	
5. Condiciones de vida de las familias de las ciudades	
6. Condiciones de vida de los niños	

¿Cuáles fueron las consecuencias a largo plazo de la Revolución Industrial para las ciudades?	
7. El entorno	8. La educación

B. Distribución de ideas principales. Al revisar de este texto, define y subraya el tema principal y los detalles que apoyan el tema principal.

In-Depth Resources: Unit 3





**3 P.M.** The children often became drowsy during the afternoon or evening hours. In order to keep them awake, adult overseers sometimes whipped the children.

**6 P.M.** There was no break allowed for an evening meal. Children again ate on the run.

**9 P.M.** William Cooper's day ended after an exhausting 16-hour shift at work.

**11 P.M.** Cooper's sister worked another two hours even though she had to be back at work at 5:00 the next morning.

**Working Conditions** To increase production, factory owners wanted to keep their machines running as many hours as possible. As a result, the average worker spent 14 hours a day at the job, 6 days a week. Work did not change with the seasons, as it did on the farm. Instead, work remained the same week after week, year after year.

Industry also posed new dangers for workers. Factories were seldom well lit or clean. Machines injured workers. A boiler might explode or a drive belt might catch an arm. And there was no government program to provide aid in case of injury. The most dangerous conditions of all were found in coal mines. Frequent accidents, damp conditions, and the constant breathing of coal dust made the average miner's life span ten years shorter than that of other workers. Many women and children were employed in the mining industry because they were the cheapest source of labor.

## Class Tensions Grow

Though poverty gripped Britain's working classes, the Industrial Revolution created enormous amounts of wealth in the nation. Most of this new money belonged to factory owners, shippers, and merchants. These people were part of a growing **middle class**, a social class made up of skilled workers, professionals, businesspeople, and wealthy farmers.

**The Middle Class** The new middle class transformed the social structure of Great Britain. In the past, landowners and aristocrats had occupied the top position in British society. With most of the wealth, they wielded the social and political power. Now some factory owners, merchants, and bankers grew wealthier than the landowners and aristocrats. Yet important social distinctions divided the two wealthy classes. Landowners looked down on those who had made their fortunes in the "vulgar" business world. Not until late in the 1800s were rich entrepreneurs considered the social equals of the lords of the countryside.

Gradually, a larger middle class—neither rich nor poor—emerged. The upper middle class consisted of government employees, doctors, lawyers, and managers of factories, mines, and shops. The lower middle class included factory overseers and such skilled workers as toolmakers, mechanical drafters, and printers. These people enjoyed a comfortable standard of living.

**The Working Class** During the years 1800 to 1850, however, laborers, or the working class, saw little improvement in their living and working conditions. They watched their livelihoods disappear as machines replaced them. In frustration, some smashed the machines they thought were putting them out of work.

**B. Answer upper class—landowners and aristocrats; upper middle class—managers, merchants, government employees, doctors, lawyers; lower middle class—factory overseers, skilled workers; a working class of unskilled laborers**

### MAIN IDEA

#### Summarizing

Describe the social classes in Britain.

### CASE STUDY 291

## DIFFERENTIATING INSTRUCTION: ENGLISH LEARNERS

### Understanding Workers and Factory Owners

**Class Time** 15 minutes

**Task** Role-playing a meeting between workers and factory owners

**Purpose** To clarify the differences between industrialists and workers

**Instructions** Make sure that students have read and understood the subsections "Class Tensions Grow" and "Positive Effects of the Industrial Revolution." Show the art transparency to set the mood for the role-play. Ask them to suggest words that describe the pictured building. (*grim, dark, ugly, scary, unfriendly*) Then organize

students in pairs. Have them create a short performance piece in which they role-play two main types of participants in the Industrial Revolution: factory owners and workers. Tell students that they should improvise a meeting between a worker and a factory owner in which the worker expresses his dissatisfaction with working conditions in the factory and the owner defends his practices on practical grounds.

Have students use the Reading Study Guide for Section 2, p. 97, to identify arguments for each side.

## Tip for Gifted and Talented Students

Tell students that Elizabeth Gaskell's *Mary Barton* reflects the literary style called realism. Have students read and discuss the excerpt.

### In-Depth Resources, Unit 3

- Literature: from *Mary Barton*, p. 13

## Class Tensions Grow

### 10.3.4

#### Critical Thinking

- Why might the way merchants make money make landowners look down on them? (*Possible Answers: merchants work hard; work viewed as menial*)
- Was destroying machines a good solution to the problem? (*Possible Answers: not wise; new ones could be built; also could lead to factory closings*)

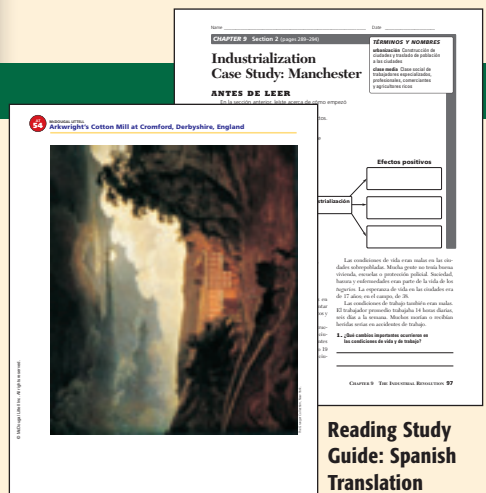
## More About . . .

### Luddites

The Luddites were angry not only about losing their jobs but also about the life changes forced on them by industrialization. Instead of working at home alongside their families, textile workers now faced dehumanizing factory conditions. People still sometimes use the term *Luddites* to refer to those opposed to modern technology.

### Electronic Library of Primary Sources

- "The Sentencing of the Luddites"



### Positive Effects of the Industrial Revolution

### Critical Thinking

- How did the Industrial Revolution provide hope of improvement?  
*(Possible Answer: Now status could be achieved by skill and work.)*
- How would joining together in groups help workers win better conditions and higher pay? *(Workers were needed; if enough took a stand, owners had to listen.)*

### The Mills of Manchester

### Critical Thinking

- How did geography play a role in Manchester's growth? (*Possible Answers: available resources and water access*)
- Why do you think young children continued to do heavy work in Manchester factories even after the Factory Act? What does this suggest about the relative power of industry compared to government? (*Possible Answer: Owners had no fear of the law, so they continued to use child labor. Industry was stronger than government.*)

One group of such workers was called the Luddites. They were named after Ned Ludd. Ludd, probably a mythical English laborer, was said to have destroyed weaving machinery around 1779. The Luddites attacked whole factories in northern England beginning in 1811, destroying labor-saving machinery. Outside the factories, mobs of workers rioted, mainly because of poor living and working conditions.

## Positive Effects of the Industrial Revolution

Despite the problems that followed industrialization, the Industrial Revolution had a number of positive effects. It created jobs for workers. It contributed to the wealth of the nation. It fostered technological progress and invention. It greatly increased the production of goods and raised the standard of living. Perhaps most important, it provided the hope of improvement in people's lives.

The Industrial Revolution produced a number of other benefits as well. These included healthier diets, better housing, and cheaper, mass-produced clothing. Because the Industrial Revolution created a demand for engineers as well as clerical and professional workers, it expanded educational opportunities.

The middle and upper classes prospered immediately from the Industrial Revolution. For the workers it took longer, but their lives gradually improved during the 1800s. Laborers eventually won higher wages, shorter hours, and better working conditions after they joined together to form labor unions.

**Long-Term Effects** The long-term effects of the Industrial Revolution are still evident. Most people today in industrialized countries can afford consumer goods that would have been considered luxuries 50 or 60 years ago. In addition, their living and working conditions are much improved over those of workers in the 19th century. Also, profits derived from industrialization produced tax revenues. These funds have allowed local, state, and federal governments to invest in urban improvements and raise the standard of living of most city dwellers.

The economic successes of the Industrial Revolution, and also the problems created by it, were clearly evident in one of Britain's new industrial cities in the 1800s—Manchester.

## CASE STUDY: Manchester

## The Mills of Manchester

Manchester's unique advantages made it a leading example of the new industrial city. This northern English town had ready access to waterpower. It also had available labor from the nearby countryside and an outlet to the sea at Liverpool.

“From this filthy sewer pure gold flows,” wrote Alexis de Tocqueville (ah•lehk•SEE duh TOHK•vihl), the French writer, after he visited Manchester in 1835. Indeed, the industrial giant showed the best and worst of the Industrial Revolution. Manchester’s rapid, unplanned growth made it an unhealthy place for the poor people who lived and worked there. But wealth flowed from its factories. It went first to the mill owners and the new middle class. Eventually, although not immediately, the working class saw their standard of living rise as well.

Manchester's business owners took pride in mastering each detail of the manufacturing process. They worked many hours and risked their own money. For their efforts, they were rewarded with high profits. Many erected gracious homes on the outskirts of town.

To provide the mill owners with high profits, workers labored under terrible conditions. Children as young as six joined their parents in the factories. There, for six days a week, they toiled from 6 A.M. to 7 or 8 P.M., with only half an hour for

## DIFFERENTIATING INSTRUCTION: GIFTED AND TALENTED STUDENTS

## Debating Effects of Industrialism

**Class Time** 30 minutes

**Task** Preparing position statements and debating the merits of the Industrial Revolution

**Purpose** To consider the economic, social, political, and environmental effects of industrialization

**Instructions** Organize students in groups. Assign each group a position in favor of or opposed to industrialization. Have groups research their position and gather evidence that supports it. Direct students to the Testimony on Child Labor in Britain on p. 10 in In-Depth Resources: Unit 3 and to the information about the effects of

industrialization on page 293. Students can then prepare position statements. Invite opposing groups to debate as you moderate. Remind students that their position statements should

- clearly state the issue being debated
- take a distinct position supported by facts and examples
- address opposing viewpoints directly and reasonably

[illegible]

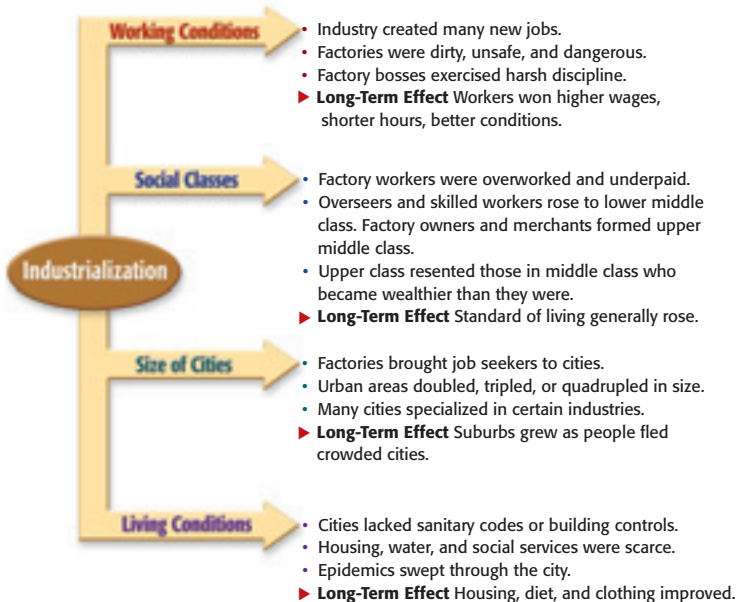


## Analyzing Key Concepts

# Industrialization

Industrialization is the process of developing industries that use machines to produce goods. This process not only revolutionizes a country's economy, it also transforms social conditions and class structures.

## Effects of Industrialization



### CALIFORNIA STANDARDS

**10.3.3** Describe the growth of population, rural to urban migration, and growth of cities associated with the Industrial Revolution.

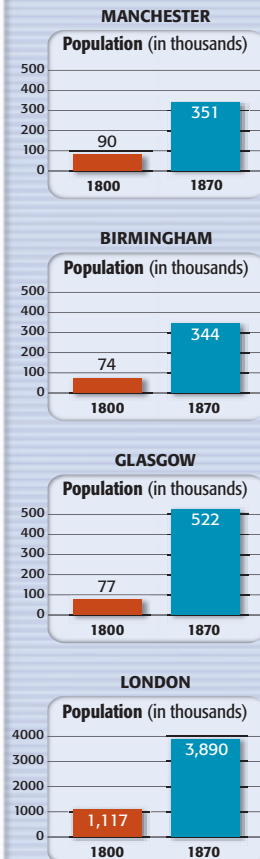
▼ This engraving shows urban growth and industrial pollution in Manchester.

### INTEGRATED TECHNOLOGY

**RESEARCH LINKS** For more on industrialization, go to [classzone.com](http://classzone.com)

## DATA FILE

### GROWTH OF CITIES



Source: *European Historical Statistics, 1750–1975*

## Analyzing Key Concepts

### OBJECTIVE

- Trace the effects of industrialization on the people and cities of Britain.

### INSTRUCT

Remind students that this period of history is called the Industrial Revolution. It was a revolution because industrialization changed nearly every aspect of people's lives, from their living and working conditions, to the structure of social classes and even the size of cities. As students study the chart, ask them to think of other categories that might be added.

## History from Visuals

### Interpreting the Chart

Ask students how many years each of the graphs covers. (70 years) Then ask how much the population of Manchester grew during this time period. (261,000) Have them repeat this calculation for the other cities. (Birmingham: 270,000; Glasgow: 445,000; London: 2,773,000) Which city grew the most? (London)

**Extension** Ask students which city's population in 1870 was the greatest number of times its population in 1800. (Glasgow; 6.78 times its population in 1800.)

## Connect to Today

- 1. Recognizing Effects** What were some advantages and disadvantages of industrialization?  
 See Skillbuilder Handbook, page R6.
- 2. Making Inferences** Many nations around the world today are trying to industrialize. What do you think they hope to gain from that process?

293

## CONNECT TO TODAY: ANSWERS

### 1. Recognizing Effects

**Possible Answers:** Advantages were the creation of a prosperous middle class, the creation of jobs and wealth, and improvements in diet and housing. Disadvantages were exploitation of workers and harsh working and living conditions.

### 2. Making Inferences

**Possible Answer:** They probably want to gain opportunity for their people, to experience economic growth, and to trade on the world market.

## Connect to Today

### Child Labor Today

Some studies estimate that over half the clothing sold in the United States is made in sweatshops where children work. Like the children of 19th-century Manchester, they labor to help support their families. Ask students to find out about overseas manufacturing operations that use child labor in such places as Haiti, Indonesia, and Honduras. Refer them to Web sites for CWFA and ILRF, as well as to the *Readers' Guide to Periodical Literature*, to locate current information. Have students share their findings, including steps being taken to correct the practice.

#### In-Depth Resources: Unit 3

- Primary Source: Testimony on Child Labor in Britain, p. 10

#### Electronic Library of Primary Sources

- from "Child Labor in the Mines"

## Connect to Today



### Child Labor Today

To save on labor costs in the 1990s and 2000s, many corporations moved their manufacturing operations overseas to developing countries. There, in sweatshops, young children work long hours under wretched conditions. They are unprotected by child labor laws. For mere pennies per hour, children weave carpets, sort vegetables, or assemble expensive athletic shoes.

Several organizations are working to end child labor, including the Child Welfare League of America and the International Labor Rights Fund.

lunch and an hour for dinner. To keep the children awake, mill supervisors beat them. Tiny hands repaired broken threads in Manchester's spinning machines, replaced thread in the bobbins, or swept up cotton fluff. The dangerous machinery injured many children. The fluff filled their lungs and made them cough.

Until the first Factory Act passed in 1819, the British government exerted little control over child labor in Manchester and other factory cities. The act restricted working age and hours. For years after the act passed, young children still did heavy, dangerous work in Manchester's factories.

Putting so much industry into one place polluted the natural environment. The coal that powered factories and warmed houses blackened the air. Textile dyes and other wastes poisoned Manchester's Irwell River. An eyewitness observer wrote the following description of the river in 1862:

### PRIMARY SOURCE

Steam boilers discharge into it their seething contents, and drains and sewers their fetid impurities; till at length it rolls on—here between tall dingy walls, there under precipices of red sandstone—considerably less a river than a flood of liquid manure.

HUGH MILLER, "Old Red Sandstone"

Like other new industrial cities of the 19th century, Manchester produced consumer goods and created wealth on a grand scale. Yet, it also stood as a reminder of the ills of rapid and unplanned industrialization.

As you will learn in Section 3, the industrialization that began in Great Britain spread to the United States and to continental Europe in the 1800s.

### MAIN IDEA

#### Drawing Conclusions

Whose interests did child labor serve?

#### C. Possible

Answer Factory owners profited by being able to pay children low wages; families also benefited from the wages children earned.

## 3 ASSESS

### SECTION 2 ASSESSMENT

Organize students in groups of four. After answering the questions independently, have students discuss answers as a group.

#### Formal Assessment

- Section Quiz, p. 156

## 4 RETEACH

Use the Reteaching Activity to help students review Section 2.

#### In-Depth Resources: Unit 3

- Reteaching Activity, p. 20

## SECTION 2 ASSESSMENT

**TERMS & NAMES** 1. For each term or name, write a sentence explaining its significance.

- urbanization
- middle class

### USING YOUR NOTES

2. Which change brought about by industrialization had the greatest impact? (10.3.4)

I. Industrialization Changes Life  
A.  
B.  
II. Class Tensions Grow

### MAIN IDEAS

3. Why did people flock to British cities and towns during the Industrial Revolution? (10.3.3)
4. What social class expanded as a result of industrialization? (10.3.3)
5. What were some of the negative effects of the rapid growth of Manchester? (10.3.2)

### CRITICAL THINKING & WRITING

6. **SUMMARIZING** How did industrialization contribute to city growth? (10.3.3)
7. **EVALUATING** How were class tensions affected by the Industrial Revolution? (10.3.4)
8. **FORMING AND SUPPORTING OPINIONS** The Industrial Revolution has been described as a mixed blessing. Do you agree or disagree? Support your answer with text references. (10.3.4)
9. **WRITING ACTIVITY** **ECONOMICS** As a factory owner during the Industrial Revolution, write a **letter** to a newspaper justifying working conditions in your factory. (Writing 2.5.d)

### CONNECT TO TODAY CREATING A COMPARISON CHART

Make a **comparison chart** listing information on child labor in three developing nations—one each from Asia, Africa, and Latin America—and compare with data from the United States. (10.3.4)

## ANSWERS

1. urbanization, p. 289 • middle class, p. 291

2. **Sample Answer:** I. A. population growth, B. living and working conditions deteriorate. II. A. middle class prospers, B. working class protests. III. A. improved standard of living, B. increased hope for improvement. IV. A. great wealth for merchants, B. pollution, C. child labor. Students may say that an increased standard of living has the greatest impact.
3. to find jobs in factories
4. middle class

5. crowded housing, poor sanitation, pollution
6. **Possible Answer:** factory system led to manufacturing in central locations, creating jobs and economic opportunity
7. **Possible Answer:** upper classes looked down on new middle class; lower class rebelled against poor conditions
8. Answers will vary but should consider working conditions, living standards, family relations, and distribution of wealth.

9. **Rubric** Letters should
- state and support the owner's position.
  - rebut other viewpoints.

### CONNECT TO TODAY

#### Rubric Charts should

- list a country from each continent.
- clearly analyze data on child labor.
- compare three countries and the United States.



Steam train on the Nancha Bank, China

Power plant in West Virginia, United States

# Industrialization Spreads

## MAIN IDEA

**EMPIRE BUILDING** The industrialization that began in Great Britain spread to other parts of the world.

## WHY IT MATTERS NOW

The Industrial Revolution set the stage for the growth of modern cities and a global economy.

## TERMS & NAMES

- stock
- corporation

**SETTING THE STAGE** Great Britain's favorable geography and its financial systems, political stability, and natural resources sparked industrialization. British merchants built the world's first factories. When these factories prospered, more laborsaving machines and factories were built. Eventually, the Industrial Revolution that had begun in Britain spread both to the United States and to continental Europe. Countries that had conditions similar to those in Britain were ripe for industrialization.

## Industrial Development in the United States

The United States possessed the same resources that allowed Britain to mechanize its industries. America had fast-flowing rivers, rich deposits of coal and iron ore, and a supply of laborers made up of farm workers and immigrants. During the War of 1812, Britain blockaded the United States, trying to keep it from engaging in international trade. This blockade forced the young country to use its own resources to develop independent industries. Those industries would manufacture the goods the United States could no longer import.

**Industrialization in the United States** As in Britain, industrialization in the United States began in the textile industry. Eager to keep the secrets of industrialization to itself, Britain had forbidden engineers, mechanics, and tool-makers to leave the country. In 1789, however, a young British mill worker named Samuel Slater emigrated to the United States. There, Slater built a spinning machine from memory and a partial design. The following year, Moses Brown opened the first factory in the United States to house Slater's machines in Pawtucket, Rhode Island. But the Pawtucket factory mass-produced only one part of finished cloth, the thread.

In 1813, Francis Cabot Lowell of Boston and four other investors revolutionized the American textile industry. They mechanized every stage in the manufacture of cloth. Their weaving factory in Waltham, Massachusetts, earned them enough money to fund a larger

◀ Teenage mill girls at a Georgia cotton mill

## CALIFORNIA STANDARDS

**10.3.2** Examine how scientific and technological changes and new forms of energy brought about massive social, economic, and cultural change (e.g., the inventions and discoveries of James Watt, Eli Whitney, Henry Bessemer, Louis Pasteur, Thomas Edison).

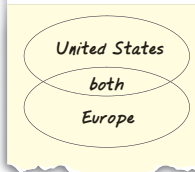
**10.3.3** Describe the growth of population, rural to urban migration, and growth of cities associated with the Industrial Revolution.

**10.3.5** Understand the connections among natural resources, entrepreneurship, labor, and capital in an industrial economy.

**10.4.1** Describe the rise of industrial economies and their link to imperialism and colonialism (e.g., the role played by national security and strategic advantage; moral issues raised by the search for national hegemony, Social Darwinism, and the missionary impulse; material issues such as land, resources, and technology).

## TAKING NOTES

**Comparing** Use a Venn diagram to compare industrialization in the United States and in Europe.



The Industrial Revolution 295

## OBJECTIVES

- Describe industrialization in the United States and Europe.
- Identify the effects of industrialization on the rest of the world.

## 1 FOCUS & MOTIVATE

Explain that industrialization spread unevenly to other parts of the world. Ask students to name countries they know of that are industrialized or are still developing. (*Possible Answers: Industrialized—U.S., any European nation, Canada, Australia. Still developing—Most African and Asian nations, many South American nations.*)

## 2 INSTRUCT

### Industrial Development in the United States

#### 10.3.5

#### Critical Thinking

- Why might railroads be even more important to U.S. industrialization than to that of Britain? (*Possible Answer: bigger country, more distance*)

## CALIFORNIA RESOURCES

California Reading Toolkit, p. L43  
 California Modified Lesson Plans for English Learners, p. 81  
 California Daily Standards Practice Transparencies, TT35  
 California Standards Enrichment Workbook, pp. 35–36, 37–38, 41–42, 47–48  
 California Standards Planner and Lesson Plans, p. L77  
 California Online Test Practice  
 California Test Generator CD-ROM  
 California Easy Planner CD-ROM  
 California eEdition CD-ROM

## SECTION 3 PROGRAM RESOURCES

### ALL STUDENTS

#### In-Depth Resources: Unit 3

- Guided Reading, p. 3

#### Formal Assessment

- Section Quiz, p. 157

### ENGLISH LEARNERS

#### In-Depth Resources in Spanish

- Guided Reading (Spanish), p. 76

#### Reading Study Guide (Spanish), p. 99

#### Reading Study Guide Audio CD (Spanish)

### STRUGGLING READERS

#### In-Depth Resources: Unit 3

- Guided Reading, p. 3
- Building Vocabulary, p. 5
- Reteaching Activity, p. 21

#### Reading Study Guide, p. 99

#### Reading Study Guide Audio CD

### GIFTED AND TALENTED STUDENTS

#### In-Depth Resources: Unit 3

- Primary Source: "Life in a New England Factory," p. 11

### Electronic Library of Primary Sources

- from *A New England Girlhood*

## INTEGRATED TECHNOLOGY

### eEdition CD-ROM

### Power Presentations CD-ROM

### World Art and Cultures Transparencies

- AT55 Monet's *Arrival of the Normandy Train, Gare Saint-Lazare*

### Electronic Library of Primary Sources

- from *A New England Girlhood*

classzone.com

## History from Visuals

### Interpreting the Map

Have students calculate the increase in trackage between 1840 and 1890.

**Extension** Ask students to name three states formed in the West between 1840 and 1890. (*Wyoming, California, Texas, New Mexico, Arizona, Oregon, Montana*)

### SKILLBUILDER Answers

1. **Region:** East, Midwest
2. **Movement:** east to west

## Tip for Gifted and Talented Students

Explain that Lucy Larcom was well educated and, while working in the Lowell mills, began a literary journal. She later became a teacher and journalist. Have students describe Lucy's attitude toward factory work. (*better than being a servant*)

### Electronic Library of Primary Sources

- from *A New England Girlhood*

## More About . . .

### Early Railroads

Trains of the early 1800s were drawn by horses or even used sails to harness wind power. Passengers even had to get out and pull the train at times. Trains also had no lights, so they couldn't travel at night. With single tracks, trains often had to wait on sidings for hours to let other trains pass.

### World Art and Cultures Transparencies

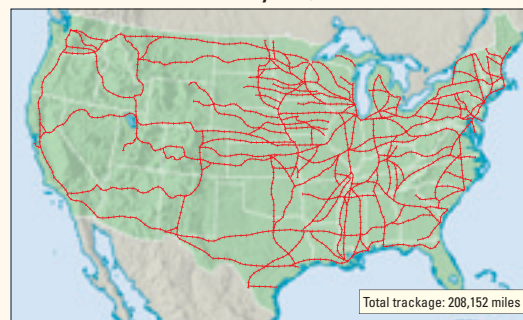
- AT55 Monet's *Arrival of the Normandy Train, Gare Saint-Lazare*

## The Growth of Railroads in the United States

Railroad System, 1840



Railroad System, 1890



### GEOGRAPHY SKILLBUILDER: Interpreting Maps

1. **Region** In what part of the country were the first railroads built? By 1890, what other part of the country was densely covered by railroad tracks?
2. **Movement** In what direction did the railroads help people move across the country?

operation in another Massachusetts town. When Lowell died, the remaining partners named the town after him. By the late 1820s, Lowell, Massachusetts, had become a booming manufacturing center and a model for other such towns.

Thousands of young single women flocked from their rural homes to work as mill girls in factory towns. There, they could make higher wages and have some independence. However, to ensure proper behavior, they were watched closely inside and outside the factory by their employers. The mill girls toiled more than 12 hours a day, 6 days a week, for decent wages. For some, the mill job was an alternative to being a servant and was often the only other job open to them:

### PRIMARY SOURCE

Country girls were naturally independent, and the feeling that at this new work the few hours they had of everyday leisure were entirely their own was a satisfaction to them. They preferred it to going out as "hired help." It was like a young man's pleasure in entering upon business for himself. Girls had never tried that experiment before, and they liked it.

LUCY LARCOM, *A New England Girlhood*

Textiles led the way, but clothing manufacture and shoemaking also underwent mechanization. Especially in the Northeast, skilled workers and farmers had formerly worked at home. Now they labored in factories in towns and cities such as Waltham, Lowell, and Lawrence, Massachusetts.

**Later Expansion of U.S. Industry** The Northeast experienced much industrial growth in the early 1800s. Nonetheless, the United States remained primarily agricultural until the Civil War ended in 1865. During the last third of the 1800s, the country experienced a technological boom. As in Britain, a number of causes contributed to this boom. These included a wealth of natural resources, among them oil, coal, and iron; a burst of inventions, such as the electric light bulb and the telephone; and a swelling urban population that consumed the new manufactured goods.

Also, as in Britain, railroads played a major role in America's industrialization. Cities like Chicago and Minneapolis expanded rapidly during the late 1800s. This

### MAIN IDEA

#### Analyzing Primary Sources

Why did Lucy Larcom think mill work benefited young women?

**A. Answer** Larcom believed that mill work offered women more free time and suited the independence of their country upbringing.

## DIFFERENTIATING INSTRUCTION: ENGLISH LEARNERS

### Analyzing a Primary Source

**Class Time** 20 minutes

**Task** Expressing Lucy Larcom's words in simpler language

**Purpose** To gain increased understanding of factory workers

**Instructions** Organize students in four groups and assign each group one sentence from the Lucy Larcom quotation. Ask students to discuss what their sentence means and to write it in simple language. Encourage students to use the following strategies as they paraphrase:

- break long sentences into parts, using commas when possible
- define unfamiliar words, using context or a dictionary
- paraphrase figures of speech
- reread paraphrase to check for sense

Write the following examples on the chalkboard as a guide:

*hired help* means "working as a servant for another family"

*girl* means "young woman"

*entering upon business for himself* means "starting a business"

When students have completed their paraphrases, have groups work together to construct the entire excerpt.

*Farm girls liked to do things their own way. They liked factory work because they had freedom after work. They liked this better than working as a servant for another family. Men feel this way when they run their own business. Women hadn't been able to go into business, and now they had a chance to be on their own.*



was due to their location along the nation's expanding railroad lines. Chicago's stockyards and Minneapolis's grain industries prospered by selling products to the rest of the country. Indeed, the railroads themselves proved to be a profitable business. By the end of the 1800s, a limited number of large, powerful companies controlled more than two-thirds of the nation's railroad tracks. Businesses of all kinds began to merge as the railroads had. Smaller companies joined together to form a larger one.

**The Rise of Corporations** Building large businesses like railroads required a great deal of money. To raise the money, entrepreneurs sold shares of **stock**, or certain rights of ownership. Thus people who bought stock became part owners of these businesses, which were called corporations. A **corporation** is a business owned by stockholders who share in its profits but are not personally responsible for its debts. Corporations were able to raise the large amounts of capital needed to invest in industrial equipment.

In the late 1800s, large corporations such as Standard Oil (founded by John D. Rockefeller) and the Carnegie Steel Company (founded by Andrew Carnegie) sprang up. They sought to control every aspect of their own industries in order to make big profits. Big business—the giant corporations that controlled entire industries—also made big profits by reducing the cost of producing goods. In the United States as elsewhere, workers earned low wages for laboring long hours, while stockholders earned high profits and corporate leaders made fortunes.

## Continental Europe Industrializes

European businesses yearned to adopt the “British miracle,” the result of Britain's profitable new methods of manufacturing goods. But the troubles sparked by the French Revolution and the Napoleonic wars between 1789 and 1815 had halted trade, interrupted communication, and caused inflation in some parts of the continent. European countries watched the gap widen between themselves and Britain. Even so, industrialization eventually reached continental Europe.

▼ Danish workers labor in a steel mill in this 1885 painting by Peter Severin Kroyer.



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## DIFFERENTIATING INSTRUCTION: GIFTED AND TALENTED STUDENTS

### Planning an Industrial Fair

**Class Time** 30 minutes

**Task** Planning an industrial fair that compares today's products with those displayed at London's 1851 Great Exhibition

**Purpose** To compare and contrast industrial technologies of the 1800s with those of the present

**Instructions** Tell students that London hosted the Great Exhibition in 1851 to showcase industry throughout the world. Have students research this exhibition. Then ask them to plan another exhibition that places modern products and technologies alongside those of the 1800s.

Invite students to write a description of the exhibits, with a sampling of images and text that show and describe major aspects of each exhibition. Tell students to include the following in their descriptions:

- reasons the featured technologies or products were chosen
- links between the Industrial Revolution and the industries of today

Have students post their exhibit samples and explain them to the class. When they have finished the activity, have students complete the Self-Assessment worksheet.

## More About . . .

### U.S. Railroads

Tell students that the number of miles of railroad track in the United States increased dramatically during the second half of the 1800s. Post the following years and figures: 1840—3,000 miles; 1865—35,000 miles; 1890—200,000 miles. Sketch a quick graph on the board to show the growth. Ask students to speculate about the impact of this growth on the nation. How might the railroads have helped unify the country? (*Possible Answer: through commerce, travel, exchange of ideas and information*)

## Continental Europe Industrializes

### 10.3.2

#### Critical Thinking

- Why do you think Cockerill took secret plans to Belgium? (*to make money*)
- How did German industry help create political unity? (*Possible Answer: railroads linked factories; the growing economy helped create political unity*)

PRODUCT AND PERFORMANCE ASSESSMENT	
<b>Self-Assessment</b>	
Directions: After you have completed a project or made a presentation, use this form to reflect on your work. Fill in the boxes to answer the questions at the left.	
1. Imagine that someone from another culture asked you about your project. How would you describe what you did?	
2. What steps did you take to get the project done?	
3. Do you feel good about the results? Why or why not?	
4. Did you meet with others? If so, how did you describe the project? Did the group work well together?	
5. What was the best thing you did about the project?	
6. Are there any things you would do differently? If you did the project again? Please explain.	
7. What advice would you give another student who is planning a group project or presentation?	


### Integrated Assessment

## Global Impact

### Industrialization in Japan

Japan was one of the few countries outside Europe and the United States to attempt industrialization in the 1800s. Others included Mexico and Egypt, both in the late 1800s. Muhammad Ali, Egypt's ruler at the time, led his nation's progress. He reformed Egypt's government and improved communications. He also established cotton mills, a glass factory, and a sugar refinery. As with other industrialization processes, Egypt's often came at the expense of workers. For example, to develop commercial agriculture, landlords forced peasants to become tenant farmers and grow cash crops for sale to European markets.

**Global Impact**



**Industrialization in Japan**

With the beginning of the Meiji era in Japan in 1868, the central government began an ambitious program to transform the country into an industrialized state. It financed textile mills, coal mines, shipyards, and cement and other factories. It also asked private companies to invest in industry.

Some companies had been in business since the 1600s. But new companies sprang up too. Among them was the Mitsubishi company, founded in 1870 and still in business.

The industrializing of Japan produced sustained economic growth for the country. But it also led to strengthening the military and to Japanese imperialism in Asia.

## More About . . .

### German Unification

In the early 1800s, Germany was a confederation of 39 independent states. One man played a key role in changing that. Otto von Bismarck became prime minister of Prussia in 1862. Bismarck worked to establish Prussia's dominance and led several successful military campaigns to expand its influence. Victorious, Bismarck took lands for Prussia and restructured the German states into the North German Confederation. In 1871, Bismarck became chancellor and head of a united German nation.

**Beginnings in Belgium** Belgium led Europe in adopting Britain's new technology. It had rich deposits of iron ore and coal as well as fine waterways for transportation. As in the United States, British skilled workers played a key role in industrializing Belgium.

Samuel Slater had smuggled the design of a spinning machine to the United States. Much like him, a Lancashire carpenter named William Cockerill illegally made his way to Belgium in 1799. He carried secret plans for building spinning machinery. His son John eventually built an enormous industrial enterprise in eastern Belgium. It produced a variety of mechanical equipment, including steam engines and railway locomotives. Carrying the latest British advances, more British workers came to work with Cockerill. Several then founded their own companies in Europe.

**Germany Industrializes** Germany was politically divided in the early 1800s. Economic isolation and scattered resources hampered countrywide industrialization. Instead, pockets of industrialization appeared, as in the coal-rich Ruhr Valley of west central Germany. Beginning around 1835, Germany began to copy the British model. Germany imported British equipment and engineers. German manufacturers also sent their children to England to learn industrial management.

Most important, Germany built railroads that linked its growing manufacturing cities, such as Frankfurt, with the Ruhr Valley's coal and iron ore deposits. In 1858, a German economist wrote, "Railroads and machine shops, coal mines

and iron foundries, spinners and rolling mills seem to spring up out of the ground, and smokestacks sprout from the earth like mushrooms." Germany's economic strength spurred its ability to develop as a military power. By the late 1800s, a unified, imperial Germany had become both an industrial and a military giant.

**Expansion Elsewhere in Europe** In the rest of Europe, as in Germany, industrialization during the early 1800s proceeded by region rather than by country. Even in countries where agriculture dominated, pockets of industrialization arose. For example, Bohemia developed a spinning industry. Spain's Catalonia processed more cotton than Belgium. Northern Italy mechanized its textile production, specializing in silk spinning. Serf labor ran factories in regions around Moscow and St. Petersburg.

In France, sustained industrial growth occurred after 1830. French industrialization was more measured and controlled than in other countries because the agricultural economy remained strong. As a result, France avoided the great social and economic problems caused by industrialization. A thriving national market for new French products was created after 1850, when the government began railroad construction.

For a variety of reasons, many European countries did not industrialize. In some nations, the social structure delayed the adoption of new methods of production. The accidents of geography held back others. In Austria-Hungary and Spain, transportation posed great obstacles. Austria-Hungary's mountains defeated railroad builders. Spain lacked both good roads and waterways for canals.

#### MAIN IDEA

#### Analyzing Causes

What factors slowed industrialization in Germany? **B. Answer** Germany was politically divided, economically isolated, and its resources were scattered.

## DIFFERENTIATING INSTRUCTION: STRUGGLING READERS

### Understanding Obstacles to Industrial Growth

**Class Time** 15 minutes

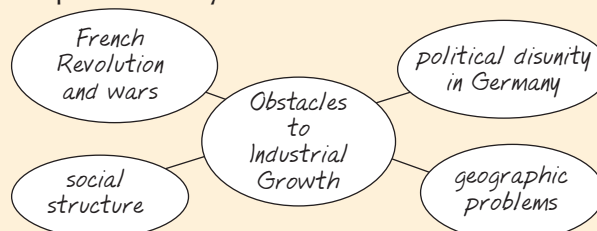
**Task** Making a web graphic to show obstacles to industrial growth in Europe

**Purpose** To show why some European nations industrialized more quickly than others

**Instructions** Review the text under "Continental Europe Industrializes," using the Reading Study Guide pp. 99–100 to build understanding. For each nation discussed, ask students to list one or two factors that affected the rate of industrialization. Invite students to complete a web with factors that impeded the growth of

industry in continental Europe. Tell students to consider the following:

- geography
- political stability
- war
- social structure



**CHAPTER 9 Section 3 (pages 297–301)**

### Industrialization Spreads

**BEFORE YOU READ**  
Do you think that the spread of industrialization was a good thing? Why or why not?

**AS YOU READ**  
How did industrialization spread to other nations?

**United States**  
Began as a frontier of frontier society.

**Belgium**

**Germany**

**France**

**Industrial Development in the United States (see pp. 99–100)**  
How did industrialization begin in the United States?

Other countries began to industrialize after Great Britain. The United States was one of the first. Like Britain, the United States had a great deal of coal and water to create power. There was also plenty of iron. In addition, the immigrants that came to the United States created a large supply of workers.

The United States also benefited from conflict with Britain. During the War of 1812, Britain stopped supplying goods to the United States. As a result, American industries began to make many of the goods that Americans wanted.

In the United States, industrialization began in the textile industry. By 1790, Samuel Slater, a British worker, brought the secret of Britain's textile machinery to North America. Slater built a textile mill in Rhode Island.

By 1815, a group of Massachusetts inventors built textile factories in Waltham, Massachusetts. Just a few years later they built even more factories.

**CHAPTER 9 The Industrial Revolution 99**



## The Impact of Industrialization

The Industrial Revolution shifted the world balance of power. It increased competition between industrialized nations and poverty in less-developed nations.

**Rise of Global Inequality** Industrialization widened the wealth gap between industrialized and nonindustrialized countries, even while it strengthened their economic ties. To keep factories running and workers fed, industrialized countries required a steady supply of raw materials from less-developed lands. In turn, industrialized countries viewed poor countries as markets for their manufactured products.

Britain led in exploiting its overseas colonies for resources and markets. Soon other European countries, the United States, Russia, and Japan followed Britain's lead, seizing colonies for their economic resources. Imperialism, the policy of extending one country's rule over many other lands, gave even more power and wealth to these already wealthy nations. Imperialism was born out of the cycle of industrialization, the need for resources to supply the factories of Europe, and the development of new markets around the world. (See Chapter 11.)

**Transformation of Society** Between 1700 and 1900, revolutions in agriculture, production, transportation, and communication changed the lives of people in Western Europe and the United States. Industrialization gave Europe tremendous economic power. In contrast, the economies of Asia and Africa were still based on agriculture and small workshops. Industrialization revolutionized every aspect of society, from daily life to life expectancy. Despite the hardships early urban workers suffered, population, health, and wealth eventually rose dramatically in all industrialized countries. The development of a middle class created great opportunities for education and democratic participation. Greater democratic participation, in turn, fueled a powerful movement for social reform.



▲ The Crystal Palace Exposition in London in 1851 (shown above) celebrated the "works of industry of all nations."

### MAIN IDEA

#### Clarifying

Why did imperialism grow out of industrialization?

**C. Answer**  
Industrialized countries seized colonies for raw materials and as markets.

### SECTION 3

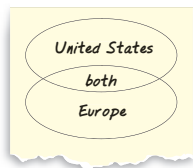
### ASSESSMENT

**TERMS & NAMES** 1. For each term or name, write a sentence explaining its significance.

- stock
- corporation

#### USING YOUR NOTES

2. Which development had the most impact in the United States? in continental Europe? (10.3.2)



#### MAIN IDEAS

- What early industries mechanized in the United States? (10.3.2)
- Why did Belgium lead Europe in adopting industrialization? (10.3.5)
- How did the Industrial Revolution shift the world balance of power? (10.3.2)

#### CRITICAL THINKING & WRITING

- RECOGNIZING BIAS** Go back to the quote from Lucy Larcom on page 296. Do you think her feelings about working in the mill are typical? Why or why not? (10.3.2)
- MAKING INFERENCES** Why was Britain unable to keep industrial secrets away from other nations? (10.3.5)
- FORMING AND SUPPORTING OPINIONS** What was the most significant effect of the Industrial Revolution? (10.3.3)
- WRITING ACTIVITY** **EMPIRE BUILDING** Draw a **political cartoon** that could have been used by the British government to show their sense of superiority over nonindustrialized nations they planned to colonize. (Writing 2.2.a)

#### INTEGRATED TECHNOLOGY INTERNET ACTIVITY

Use the Internet to research the economy of a less-developed nation in either Asia, Africa, or South America. Create a **database** of economic statistics for that country. (10.3.5)

**INTERNET KEYWORD**  
country profiles

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## The Impact of Industrialization

10.3.3; 10.4.1

### Critical Thinking

- What did less-developed countries get from industrialized nations? (*jobs, markets for their raw materials*)
- How do you think industrialized nations chose the areas they would colonize? (*Possible Answer: on the basis of their natural resources*)

## 3 ASSESS

### SECTION 3 ASSESSMENT

Have pairs of students answer the questions, then trade partners with another pair. The new pairs can compare answers and exchange ideas before returning to their original partners to finalize answers.

#### Formal Assessment

- Section Quiz, p. 157

## 4 RETEACH

Have students complete the Reading Study Guide worksheet for Section 3, then review the diagrams students made for item 2 in the section assessment.

Reading Study Guide, p. 99

#### In-Depth Resources: Unit 3

- Reteaching Activity, p. 21

## ANSWERS

1. stock, p. 297 • corporation, p. 297

2. **Sample Answer:** U.S.—Political unity, large distances. Both—Began in textiles, railroads important, resources important. Europe—Slowed by geography and social structure. Answers should show impact of industrialization on U.S. and on continental Europe.
3. textiles, clothing, shoemaking
4. rich deposits of iron and coal; good water transportation
5. promoted competition between industrialized nations and increased poverty in less-developed countries

6. **Possible Answer:** No, given her written record she may have been more independent than others of her time. Yes, she seems pleased with the experience and says others were also.
7. British workers wanted profits of making new industries in other nations.
8. **Possible Answers:** changes in society; greater gap between rich and poor; development of middle class; exploitation of colonies

9. **Rubric** Political cartoons should
- show a British point of view.
  - reflect knowledge of industrialization.
  - include vivid details.

#### INTEGRATED TECHNOLOGY

- Rubric** Databases should
- explain the nation's economic structure.
  - contain sufficient economic data.
  - present information clearly.

## LESSON PLAN

### OBJECTIVES

- Identify thinkers and ideas that supported industrialization.
- Explain the origins and main concepts of socialism and Marxism.
- Examine unionization and legislative reform.
- Describe other reform movements of the 1800s.

### 1 FOCUS & MOTIVATE

Ask students how today's American government regulates industry and protects workers. (*Possible Answers: safety laws, taxes, workplace rules*)

### 2 INSTRUCT

#### The Philosophers of Industrialization

10.3.2; 10.3.5; 10.3.6

##### Critical Thinking

- How does laissez-faire economics reflect Enlightenment ideas of challenging power and authority? (*Possible Answer: minimizes government's role in economy*)

#### CALIFORNIA RESOURCES

California Reading Toolkit, p. L44  
California Modified Lesson Plans for English Learners, p. 83  
California Daily Standards Practice Transparencies, TT36  
California Standards Enrichment Workbook, pp. 35–36, 39–40, 41–42, 43–44  
California Standards Planner and Lesson Plans, p. L79  
California Online Test Practice  
California Test Generator CD-ROM  
California Easy Planner CD-ROM  
California eEdition CD-ROM



Steam train on the Nancha Bank, China

Power plant in West Virginia, United States

## Reforming the Industrial World

#### MAIN IDEA

**ECONOMICS** The Industrial Revolution led to economic, social, and political reforms.

#### WHY IT MATTERS NOW

Many modern social welfare programs developed during this period of reform.

#### TERMS & NAMES

- laissez faire
- Adam Smith
- capitalism
- utilitarianism
- socialism
- Karl Marx
- communism
- union
- strike

#### CALIFORNIA STANDARDS

**10.3.2** Examine how scientific and technological changes and new forms of energy brought about massive social, economic, and cultural change (e.g., the inventions and discoveries of James Watt, Eli Whitney, Henry Bessemer, Louis Pasteur, Thomas Edison).

**10.3.4** Trace the evolution of work and labor, including the demise of the slave trade and the effects of immigration, mining and manufacturing, division of labor, and the union movement.

**10.3.5** Understand the connections among natural resources, entrepreneurship, labor, and capital in an industrial economy.

**10.3.6** Analyze the emergence of capitalism as a dominant economic pattern and the responses to it, including Utopianism, Social Democracy, Socialism, and Communism.

**CST 4** Students relate current events to the physical and human characteristics of places and regions.

**HI 6** Students conduct cost-benefit analyses and apply basic economic indicators to analyze the aggregate economic behavior of the U.S. economy.

**SETTING THE STAGE** In industrialized countries in the 19th century, the Industrial Revolution opened a wide gap between the rich and the poor. Business leaders believed that governments should stay out of business and economic affairs. Reformers, however, felt that governments needed to play an active role to improve conditions for the poor. Workers also demanded more rights and protection. They formed labor unions to increase their influence.

### The Philosophers of Industrialization

The term **laissez faire** (LEHS•ay•FAIR) refers to the economic policy of letting owners of industry and business set working conditions without interference. This policy favors a free market unregulated by the government. The term is French for “let do,” and by extension, “let people do as they please.”

**Laissez-faire Economics** Laissez-faire economics stemmed from French economic philosophers of the Enlightenment. They criticized the idea that nations grow wealthy by placing heavy tariffs on foreign goods. In fact, they argued, government regulations only interfered with the production of wealth. These philosophers believed that if government allowed free trade—the flow of commerce in the world market without government regulation—the economy would prosper.

**Adam Smith**, a professor at the University of Glasgow, Scotland, defended the idea of a free economy, or free markets, in his 1776 book *The Wealth of Nations*. According to Smith, economic liberty guaranteed economic progress. As a result, government should not interfere. Smith's arguments rested on what he called the three natural laws of economics:

- the law of self-interest—People work for their own good.
- the law of competition—Competition forces people to make a better product.
- the law of supply and demand—Enough goods would be produced at the lowest possible price to meet demand in a market economy.

**The Economists of Capitalism** Smith's basic ideas were supported by British economists Thomas Malthus and David Ricardo. Like Smith, they believed that natural laws governed economic life. Their important ideas were the foundation of laissez-faire capitalism. **Capitalism** is an economic system in which the factors of production are privately owned and money is invested in business ventures to make a profit. These ideas also helped bring about the Industrial Revolution.

#### TAKING NOTES

**Summarizing** Use a chart to summarize the characteristics of capitalism and socialism.

Capitalism	Socialism
1.	1.
2.	2.
3.	3.

300 Chapter 9

## SECTION 4 PROGRAM RESOURCES

### ALL STUDENTS

#### In-Depth Resources: Unit 3

- Guided Reading, p. 4
- History Makers: Henri de Saint-Simon, p. 17
- Skillbuilder Practice, p. 6

#### Formal Assessment

- Section Quiz, p. 158

### ENGLISH LEARNERS

#### In-Depth Resources in Spanish

- Guided Reading, p. 77
- Skillbuilder Practice, p. 78

Reading Study Guide (Spanish), p. 101

300 Chapter 9

### Reading Study Guide Audio CD (Spanish)

### STRUGGLING READERS

#### In-Depth Resources: Unit 3

- Guided Reading, p. 4
- Building Vocabulary, p. 5
- Reteaching Activity, p. 22

Reading Study Guide, p. 101

Reading Study Guide Audio CD

### GIFTED AND TALENTED STUDENTS

#### In-Depth Resources: Unit 3

- Primary Source: from *The Wealth of Nations*, p. 12

- Connections Across Time and Cultures, p. 18

#### Electronic Library of Primary Sources

- from *The Communist Manifesto*
- from “How I Served My Apprenticeship”

### INTEGRATED TECHNOLOGY

#### eEdition CD-ROM

#### Power Presentations CD-ROM

#### Critical Thinking Transparencies

- CT25 Industrialists and Reformers
- CT61 Chapter 25 Visual Summary

Electronic Library of Primary Sources  
classzone.com



## History Makers



**Adam Smith**  
1723–1790

In his book *The Wealth of Nations*, Smith argued that if individuals freely followed their own self-interest, the world would be an orderly and progressive place. Social harmony would result without any government direction, “as if by an invisible hand.”

Smith applied an invisible hand of his own. After his death, people discovered that he had secretly donated large sums of his income to charities.

## INTEGRATED TECHNOLOGY

**RESEARCH LINKS** For more on Adam Smith, go to [classzone.com](http://classzone.com)

## History Makers

## Adam Smith

Ask students how they think buyers and sellers would act in the economy Adam Smith describes. (*buyers buy what they most want; sellers make or sell what buyers most want*) Tell students that Smith opposed government interference in business on principle. For example, he opposed the mercantilist policy of supporting industry through tariffs and other restrictions on competition. Discuss how trying to help business might be as harmful as trying to restrict it.

## In-Depth Resources: Unit 3

- Primary Source: from *The Wealth of Nations*, p. 12
- Connections Across Time and Cultures: Enlightenment Ideals in an Industrial Age, p. 18

In *An Essay on the Principle of Population*, written in 1798, Thomas Malthus argued that population tended to increase more rapidly than the food supply. Without wars and epidemics to kill off the extra people, most were destined to be poor and miserable. The predictions of Malthus seemed to be coming true in the 1840s.

David Ricardo, a wealthy stockbroker, took Malthus's theory one step further in his book, *Principles of Political Economy and Taxation* (1817). Like Malthus, Ricardo believed that a permanent underclass would always be poor. In a market system, if there are many workers and abundant resources, then labor and resources are cheap. If there are few workers and scarce resources, then they are expensive. Ricardo believed that wages would be forced down as population increased.

Laissez-faire thinkers such as Smith, Malthus, and Ricardo opposed government efforts to help poor workers. They thought that creating minimum wage laws and better working conditions would upset the free market system, lower profits, and undermine the production of wealth in society. 🗣️

## The Rise of Socialism

In contrast to laissez-faire philosophy, which advised governments to leave business alone, other theorists believed that governments should intervene. These thinkers believed that wealthy people or the government must take action to improve people's lives. The French writer Alexis de Tocqueville gave a warning:

## PRIMARY SOURCE

Consider what is happening among the working classes. . . . Do you not see spreading among them, little by little, opinions and ideas that aim not to overturn such and such a ministry, or such laws, or such a government, but society itself, to shake it to the foundations upon which it now rests?

ALEXIS DE TOCQUEVILLE, 1848 speech

**Utilitarianism** English philosopher Jeremy Bentham modified the ideas of Adam Smith. In the late 1700s, Bentham introduced the philosophy of **utilitarianism**. Bentham wrote his most influential works in the late 1700s. According to Bentham's theory, people should judge ideas, institutions, and actions on the basis of their utility, or usefulness. He argued that the government should try to promote the greatest good for the greatest number of people. A government policy was only useful if it promoted this goal. Bentham believed that in general the individual should be free to pursue his or her own advantage without interference from the state.

John Stuart Mill, a philosopher and economist, led the utilitarian movement in the 1800s. Mill came to question unregulated capitalism. He believed it was wrong that workers should lead deprived lives that sometimes bordered on starvation. Mill wished to help ordinary working people with policies that would lead to a more equal division of profits. He also favored a cooperative system of agriculture and women's rights, including the right to vote. Mill called for the government to do away with great differences in wealth. Utilitarians also pushed for reforms in the legal and prison systems and in education. 🗣️

**A. Answer** Malthus said population growth could lead to starvation. Ricardo said it caused low wages.

## MAIN IDEA

## Summarizing

🗣️ What did Malthus and Ricardo say about the effects of population growth?

**B. Answer** He wanted to equalize the distribution of wealth and give the poor a break; he favored a cooperative system of agriculture.

## MAIN IDEA

## Clarifying

🗣️ How did Mill want to change the economic system?

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## DIFFERENTIATING INSTRUCTION: GIFTED AND TALENTED STUDENTS

## Researching Socialist, Marxist, and Utopian Societies

**Class Time** 45 minutes

**Task** Finding and sharing information about socialist, Marxist, and utopian societies

**Purpose** To examine how different economic approaches have been implemented around the world

**Instructions** Have students do research in response to one of the following prompts:

- Find out about countries that used socialist or Marxist forms of government, e.g. Scandinavia, Russia, China, Vietnam, Cuba, or the nations of eastern Europe. Learn how socialism was implemented and what

happened as a result. Determine whether any countries today still practice socialism.

- Find out about utopian communities in Britain or the United States. Identify a particular community or group of communities and describe the principles that inspired them. Possible communities include New Harmony in Indiana or Brook Farm near Boston.

Invite students to share their research findings and materials orally, then respond to questions. Have students complete the Standards for Evaluating an Oral Presentation worksheet.

## The Rise of Socialism

10.3.4; 10.3.6

## Critical Thinking

- How does the utilitarian approach judge the worth of ideas? (*Possible Answer: Utilitarians ask if an idea helps enough people.*)
- Why do you think New Harmony lasted only three years? (*Possible Answer: perhaps people didn't really like living in a utopia*)

## In-Depth Resources: Unit 3

- History Makers: Henri de Saint-Simon, p. 17

STANDARDS FOR EVALUATING AN ORAL PRESENTATION

	Exceeds	Meets	Approaches	Does Not Meet
<b>Delivery</b>				
1. Speaks clearly and distinctly.				
2. Presents information in a logical, interesting sequence.				
3. Uses visual media creatively.				
<b>Engage with Audience</b>				
4. Other makes eye contact.				
5. Listens to questions and responds accurately.				
6. Displays a variety of tones.				
<b>Content</b>				
7. Stays on topic, facing the audience.				
8. Uses appropriate movements, without fidgeting.				
<b>Conclusion</b>				
9. Closes the topic well in the time allowed.				
10. Uses appropriate detail.				

Comments \_\_\_\_\_

Overall rating \_\_\_\_\_

16 COURSE 3 PRACTICE AND PERFORMANCE ASSESSMENT

## Integrated Assessment





## Capitalism vs. Socialism

The economic system called capitalism developed gradually over centuries, beginning in the late Middle Ages. Because of the ways industrialization changed society, some people began to think that capitalism led to certain problems, such as the abuse of workers. They responded by developing a new system of economic ideas called socialism.

Capitalism	Socialism
• Individuals and businesses own property and the means of production.	• The community or the state should own property and the means of production.
• Progress results when individuals follow their own self-interest.	• Progress results when a community of producers cooperate for the good of all.
• Businesses follow their own self-interest by competing for the consumer's money. Each business tries to produce goods or services that are better and less expensive than those of competitors.	• Socialists believe that capitalist employers take advantage of workers. The community or state must act to protect workers.
• Consumers compete to buy the best goods at the lowest prices. This competition shapes the market by affecting what businesses are able to sell.	• Capitalism creates unequal distribution of wealth and material goods. A better system is to distribute goods according to each person's need.
• Government should not interfere in the economy because competition creates efficiency in business.	• An unequal distribution of wealth and material goods is unfair. A better system is to distribute goods according to each person's need.

### SKILLBUILDER: Interpreting Charts

- Developing Historical Perspective** Consider the following people from 19th-century Britain: factory worker, shop owner, factory owner, unemployed artisan. Which of them would be most likely to prefer capitalism and which would prefer socialism? Why?
- Forming and Supporting Opinions** Which system of economic ideas seems most widespread today? Support your opinion.

**The Future According to Marx** Marx believed that the capitalist system, which produced the Industrial Revolution, would eventually destroy itself in the following way. Factories would drive small artisans out of business, leaving a small number of manufacturers to control all the wealth. The large proletariat would revolt, seize the factories and mills from the capitalists, and produce what society needed. Workers, sharing in the profits, would bring about economic equality for all people. The workers would control the government in a “dictatorship of the proletariat.” After a period of cooperative living and education, the state or government would wither away as a classless society developed.

Marx called this final phase pure communism. Marx described **communism** as a form of complete socialism in which the means of production—all land, mines, factories, railroads, and businesses—would be owned by the people. Private property would in effect cease to exist. All goods and services would be shared equally.

Published in 1848, *The Communist Manifesto* produced few short-term results. Though widespread revolts shook Europe during 1848 and 1849, Europe's leaders eventually put down the uprisings. Only after the turn of the century did the fiery Marxist pamphlet produce explosive results. In the 1900s, Marxism inspired revolutionaries such as Russia's Lenin, China's Mao Zedong, and Cuba's Fidel Castro. These leaders adapted Marx's beliefs to their own specific situations and needs.

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## Analyzing Key Concepts

### Capitalism vs. Socialism

Point out that the chart is a list of ideas that do not necessarily match up from one column to the other. Note that capitalism and Marxism differ in their ideas of progress. In capitalism, progress occurs when people pursue their self-interest. In Marxism, it occurs when the state is destroyed and a classless society emerges.

### SKILLBUILDER Answers

#### 1. Developing Historical Perspective

The factory worker and unemployed artisan would prefer socialism because it sought to protect the working class. The shop owner and factory owner would prefer capitalism because it encouraged the acquisition of wealth.

#### 2. Forming and Supporting Opinions

Capitalism seems most widespread; many countries are moving more and more toward that system.

## More About . . .

### Revolutionary Upheaval

The most successful workers' revolt of the 1800s occurred in Paris in 1871. Calling for an end to unfair wages and working conditions, workers seized Paris and set up a people's government, called the Paris Commune. The Commune lasted just two months, then was crushed by French troops.

## DIFFERENTIATING INSTRUCTION: ENGLISH LEARNERS

### Analyzing Key Terms

**Class Time** 15 minutes

**Task** Defining key terms and examining their word parts to expand understanding

**Purpose** To broaden vocabulary and practice word analysis

**Instructions** Pair less-fluent English speakers with more-fluent speakers and have them work with the following terms from this section:

- laissez faire
- capitalism
- utilitarianism
- socialism
- communism
- union
- strike

Encourage students to quiz each other on the meaning of the terms. More fluent students might also explain the meaning of terms based on word parts. For example, *capitalism*, *utilitarianism*, *socialism*, and *communism* all combine root words with the suffix *-ism*. In this context, *-ism* is added to designate a doctrine, theory, or system of principles related to the root word. Thus, socialism means “the belief that the wealth of a country should be shared equally among all its citizens—or its entire *society*.”

Students who need more help might use the Reading Study Guide in Spanish for Section 4.

CHAPTER 9 • Section 4 (pages 303–305)

### Reforming the Industrial World

**ANTES DE LEER**

En la sección anterior, leíste acerca de la expansión de la industrialización a distintas naciones. En esta sección, aprenderás acerca de nuevas ideas y reformas.

**AL LEER**

Lee la red con los principales ideas y cambios que ves.

**THE PHILOSOPHERS OF INDUSTRIALIZATION**

¿Qué es el capitalismo?

La industrialización llevó a nuevas formas de producción y a la creación de nuevas ideas. ¿Qué es el capitalismo? ¿Qué es el socialismo? ¿Qué es el comunismo? ¿Qué es el utilitarismo? ¿Qué es el laissez-faire?

**EXERCICIOS Y ACTIVIDADES**

**Actividad 1:** Lee el texto y responde las preguntas.

**Actividad 2:** Lee el texto y responde las preguntas.

**Actividad 3:** Lee el texto y responde las preguntas.

**Actividad 4:** Lee el texto y responde las preguntas.

**Actividad 5:** Lee el texto y responde las preguntas.

Reading Study Guide: Spanish Translation

## Connect to Today

### Communism Today

In the late 1980s, Soviet leaders decided that communism no longer served their people well. Instead, democratic and capitalist systems became the goal. In 1991, the Soviet Union disbanded, and Russia and 12 other nations became independent countries. China, on the other hand, continued to operate under communism, although the ideology has evolved. As a more open marketplace led to increased economic growth in the late 1980s, China moved away from the strict communist model. In fact, a 1999 People's Congress officially endorsed private enterprise.

## Labor Unions and Reform Laws

### 10.3.4

#### Critical Thinking

- How did the growth of unions help workers? (*Possible Answer: More workers had more bargaining power.*)
- How do you think joining a union or supporting a reform law made workers feel? (*Possible Answer: less helpless and more hopeful*)

## Connect to Today



### Communism Today

Communism expanded to all parts of the world during the Cold War that followed the end of World War II. (See map on page 529.) At the peak of Communist expansion in the 1980s, about 20 nations were Communist-controlled, including two of the world's largest—China and the Soviet Union. However, dissatisfaction with the theories of Karl Marx had been developing.

Eventually, most Communist governments were replaced. Today, there are only five Communist countries—China, North Korea, Vietnam, and Laos in Asia and Cuba in the Caribbean. (See map above.)

In *The Communist Manifesto*, Marx and Engels stated their belief that economic forces alone dominated society. Time has shown, however, that religion, nationalism, ethnic loyalties, and a desire for democratic reforms may be as strong influences on history as economic forces. In addition, the gap between the rich and the poor within the industrialized countries failed to widen in the way that Marx and Engels predicted, mostly because of the various reforms enacted by governments.

## Labor Unions and Reform Laws

Factory workers faced long hours, dirty and dangerous working conditions, and the threat of being laid off. By the 1800s, working people became more active in politics. To press for reforms, workers joined together in voluntary labor associations called **unions**.

**Unionization** A union spoke for all the workers in a particular trade. Unions engaged in collective bargaining, negotiations between workers and their employers. They bargained for better working conditions and higher pay. If factory owners refused these demands, union members could **strike**, or refuse to work.

Skilled workers led the way in forming unions because their special skills gave them extra bargaining power. Management would have trouble replacing such skilled workers as carpenters, printers, and spinners. Thus, the earliest unions helped the lower middle class more than they helped the poorest workers.

The union movement underwent slow, painful growth in both Great Britain and the United States. For years, the British government denied workers the right to form unions. The government saw unions as a threat to social order and stability. Indeed, the Combination Acts of 1799 and 1800 outlawed unions and strikes. Ignoring the threat of jail or job loss, factory workers joined unions anyway. Parliament finally repealed the Combination Acts in 1824. After 1825, the British government unhappily tolerated unions.

British unions had shared goals of raising wages for their members and improving working conditions. By 1875, British trade unions had won the right to strike and picket peacefully. They had also built up a membership of about 1 million people.

In the United States, skilled workers had belonged to unions since the early 1800s. In 1886, several unions joined together to form the organization that would become the American Federation of Labor (AFL). A series of successful strikes won AFL members higher wages and shorter hours.

**Reform Laws** Eventually, reformers and unions forced political leaders to look into the abuses caused by industrialization. In both Great Britain and the United States, new laws reformed some of the worst abuses of industrialization. In the 1820s and 1830s, for example, Parliament began investigating child labor and working conditions in factories and mines. As a result of its findings, Parliament passed the Factory Act of 1833. The new law made it illegal to hire children under 9 years old. Children from the ages of 9 to 12 could not work more than 8 hours a day. Young people from 13 to 17 could not work more than 12 hours. In 1842, the Mines Act prevented women and children from working underground.

## COOPERATIVE ACTIVITY

### Playing an Identity Game

**Class Time** 15 minutes

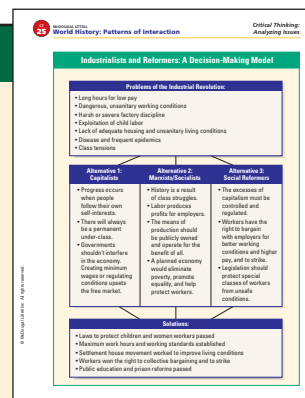
**Task** Playing a guessing game to identify historical figures

**Purpose** To reinforce students' knowledge of key thinkers from the early Industrial Age

**Instructions** Tell students that they are going to play a guessing game in which they try to identify important thinkers from the 1800s. Have pairs of students research the life and ideas of one of the people discussed in this section, such as:

- Adam Smith
- Thomas Malthus
- Karl Marx
- Robert Owen
- David Ricardo
- Jeremy Bentham
- Friedrich Engels
- Charles Fourier Saint-Simon

Then have students write a sentence or two describing the person without giving away his or her identity. To play the game, students should say their sentences to the class. The class can then ask up to five questions to determine the identity of the person being portrayed. Refer students to Critical Thinking Transparency CT25 for information.



Critical Thinking Transparencies



MAIN IDEA

Summarizing

What were some of the important reform bills passed in Britain during this period?

D. Answer Factory Act of 1833; Mines Act of 1842; Ten Hours Act of 1847

In 1847, the Parliament passed a bill that helped working women as well as their children. The Ten Hours Act of 1847 limited the workday to ten hours for women and children who worked in factories.

Reformers in the United States also passed laws to protect child workers. In 1904, a group of progressive reformers organized the National Child Labor Committee to end child labor. Arguing that child labor lowered wages for all workers, union members joined the reformers. Together they pressured national and state politicians to ban child labor and set maximum working hours.

In 1919, the U.S. Supreme Court objected to a federal child labor law, ruling that it interfered with states' rights to regulate labor. However, individual states were allowed to limit the working hours of women and, later, of men.



▲ Hungarian workers meet to plan their strategy before a strike.

The Reform Movement Spreads

Almost from the beginning, reform movements rose in response to the negative impact of industrialization. These reforms included improving the workplace and extending the right to vote to working-class men. The same impulse toward reform, along with the ideals of the French Revolution, also helped to end slavery and promote new rights for women and children.

**The Abolition of Slavery** William Wilberforce, a highly religious man, was a member of Parliament who led the fight for abolition—the end of the slave trade and slavery in the British Empire. Parliament passed a bill to end the slave trade in the British West Indies in 1807. After he retired from Parliament in 1825, Wilberforce continued his fight to free the slaves. Britain finally abolished slavery in its empire in 1833.

British antislavery activists had mixed motives. Some, such as the abolitionist Wilberforce, were morally against slavery. Others viewed slave labor as an economic threat. Furthermore, a new class of industrialists developed who supported cheap labor rather than slave labor. They soon gained power in Parliament.

In the United States the movement to fulfill the promise of the Declaration of Independence by ending slavery grew in the early 1800s. The enslavement of African people finally ended in the United States when the Union won the Civil War in 1865. Then, enslavement persisted in the Americas only in Puerto Rico, Cuba, and Brazil. In Puerto Rico, slavery was ended in 1873. Spain finally abolished slavery in its Cuban colony in 1886. Not until 1888 did Brazil's huge enslaved population win freedom.

**The Fight for Women's Rights** The Industrial Revolution proved a mixed blessing for women. On the one hand, factory work offered higher wages than work done at home. Women spinners in Manchester, for example, earned much more money than women who stayed home to spin cotton thread. On the other hand, women factory workers usually made only one-third as much money as men did.

Women led reform movements to address this and other pressing social issues. During the mid-1800s, for example, women formed unions in the trades where they dominated. In Britain, some women served as safety inspectors in factories where other women worked. In the United States, college-educated women like Jane Addams ran settlement houses. These community centers served the poor residents of slum neighborhoods.

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The Reform Movement Spreads

10.3.4

Critical Thinking

- How can slavery be an economic threat? (Possible Answer: by providing unpaid labor that takes jobs from paid workers)
- What do lower wages for women suggest about their place in industrial society? (Possible Answer: less valued as workers)

Tip for Struggling Readers

Help students identify connections between industrialization and reform movements. Post or provide the following chart and help students complete it.

Reform	Link to Industrialization
Abolition	
Women's rights	
Education	

CONNECTIONS ACROSS TIME AND CULTURES

Reform Through Art and Politics

**Class Time** 30 minutes

**Task** Researching ways people have sought reform through politics and the arts

**Purpose** To understand ongoing reactions to economic ideologies

**Instructions** Tell students that people have responded to the effects of industrialization in different ways since the 1800s. Many have protested industrialization; many have tried to reform its features in order to improve the lives of everyday people. Writers have conveyed their views through

literature, actors and filmmakers through the visual medium, and politicians through their rhetoric. Ask students to research one of the following:

- the 1979 film *Norma Rae*
  - the 1906 book *The Jungle* by Upton Sinclair
  - Ross Perot, founder of the Reform Party
  - John McCain, Arizona senator and former presidential candidate
- Have students briefly summarize the person or work they researched and explain what particular reforms were sought.

## History Makers

### Jane Addams

Ask students what they think Jane Addams meant when she wrote that “women who had been given over too exclusively to study might...learn of life from life itself.” (*Possible Answer: It would help women students to see how the rest of the world lived.*)



**Jane Addams**  
1860–1935

After graduating from college, Jane Addams wondered what to do with her life.

*I gradually became convinced that it would be a good thing to rent a house in a part of the city where many primitive and actual needs are found, in which young women who had been given over too exclusively to study, might...learn of life from life itself.*

Addams and her friend Ellen Starr set up Hull House in a working-class district in Chicago. Eventually the facilities included a nursery, a gym, a kitchen, and a boarding house for working women. Hull House not only served the immigrant population of the neighborhood, it also trained social workers.

In both the United States and Britain, women who had rallied for the abolition of slavery began to wonder why their own rights should be denied on the basis of gender. The movement for women’s rights began in the United States as early as 1848. Women activists around the world joined to found the International Council for Women in 1888. Delegates and observers from 27 countries attended the council’s 1899 meeting.

**Reforms Spread to Many Areas of Life** In the United States and Western Europe, reformers tried to correct the problems troubling the newly industrialized nations. Public education and prison reform ranked high on the reformers’ lists.

One of the most prominent U.S. reformers, Horace Mann of Massachusetts, favored free public education for all children. Mann, who spent his own childhood working at hard labor, warned, “If we do not prepare children to become good citizens . . . if we do not enrich their minds with knowledge, then our republic must go down to destruction.” By the 1850s, many states were starting public school systems. In Western Europe, free public schooling became available in the late 1800s.

In 1831, French writer Alexis de Tocqueville had contrasted the brutal conditions in American prisons to the “extended liberty” of American society. Those who sought to reform prisons emphasized the goal of providing prisoners with the means to lead to useful lives upon release.

During the 1800s, democracy grew in industrialized countries even as foreign expansion increased. The industrialized democracies faced new challenges both at home and abroad. You will learn about these challenges in Chapter 10.

#### MAIN IDEA

#### Making Inferences

Why might women abolitionists have headed the movement for women’s rights?

**E. Possible Answer** Their work to gain rights for African Americans may have led them to try to gain equal rights for themselves.

## 3 ASSESS

### SECTION 4 ASSESSMENT

Have students answer the questions in pairs, then exchange papers with another pair to critique each other’s answers.

#### Formal Assessment

- Section Quiz, p. 158

## 4 RETEACH

Present the Visual Summary as an overall review. Then have students work in groups to turn each head and subhead into a question. For example, the head “The Reform Movement Spreads” can become the question “How did the reform movement spread?” Invite groups to pose their questions to each other.

#### Critical Thinking Transparencies

- CT61 Chapter 25 Visual Summary

#### In-Depth Resources: Unit 3

- Reteaching Activity, p. 22

## SECTION 4 ASSESSMENT

**TERMS & NAMES** 1. For each term or name, write a sentence explaining its significance.

- laissez faire • Adam Smith • capitalism • utilitarianism • socialism • Karl Marx • communism • union • strike

#### USING YOUR NOTES

2. What characteristics do capitalism and socialism share? (10.3.6)

Capitalism	Socialism
1.	1.
2.	2.
3.	3.

#### MAIN IDEAS

3. What were Adam Smith’s three natural laws of economics? (10.3.6)  
4. What kind of society did early socialists want? (10.3.6)  
5. Why did workers join together in unions? (10.3.4)

#### CRITICAL THINKING & WRITING

6. **IDENTIFYING PROBLEMS** What were the main problems faced by the unions during the 1800s and how did they overcome them? (10.3.4)  
7. **DRAWING CONCLUSIONS** Why do you think that Marx’s “dictatorship of the proletariat” did not happen? (10.3.6)  
8. **MAKING INFERENCES** Why did the labor reform movement spread to other areas of life? (10.3.4)  
9. **WRITING ACTIVITY** **ECONOMICS** Write a two-paragraph persuasive essay on how important economic forces are in society. Support your opinion using evidence from this and previous chapters. (Writing 2.4.c)

#### CONNECT TO TODAY PREPARING AN ECONOMIC REPORT

Research a present-day corporation. Prepare an **economic report** that includes the corporation’s structure, products or services, number of employees, and any other relevant economic information you are able to find. (10.3.5)

## ANSWERS

1. laissez faire, p. 300 • Adam Smith, p. 300 • capitalism, p. 300 • utilitarianism, p. 301 • socialism, p. 302 • Karl Marx, p. 302 • communism, p. 303 • union, p. 304 • strike, p. 304

2. **Sample Answer:** Capitalism: 1. laws of competition, self-interest, supply and demand; 2. middle and worker classes; 3. private property and production ownership; 4. government doesn’t interfere. Socialism: 1. community property and production ownership; 2. community protects workers; 3. classless society. Society is organized around economic ideas.  
3. self-interest, competition, supply/demand

4. one with cooperation and economic planning where workers shared profits  
5. to bargain together for better working conditions and higher wages  
6. **Possible Answer:** denied right to organize or strike, unskilled workers lacked power; with strikes, by pushing Parliament to repeal Combination Acts  
7. **Possible Answers:** Workers were not united or skilled enough to take over governments; democratic reforms helped protect workers.

8. **Possible Answer:** People saw that group effort could achieve reform.

9. **Rubric** Essays should  
• clearly state an opinion.  
• include supporting evidence.

#### CONNECT TO TODAY

- Rubric** Reports should  
• clearly state the facts.  
• explain the economics of the corporation.



INTERACTIVE

# Industrialization

Industrialization eventually raised the standard of living for many people in Europe and North America in the 1800s. Yet the process also brought suffering to countless workers who crowded into filthy cities to toil for starvation wages. The following excerpts reveal a variety of perspectives on this major historical event.

CALIFORNIA STANDARDS

**10.3.2** Examine how scientific and technological changes and new forms of energy brought about massive social, economic, and cultural change (e.g., the inventions and discoveries of James Watt, Eli Whitney, Henry Bessemer, Louis Pasteur, Thomas Edison).

**HI 3** Students interpret past events and issues within the context in which an event unfolded rather than solely in terms of present-day norms and values.

**A PRIMARY SOURCE**

## Mary Paul

Mary Paul worked in a textile factory in Lowell, Massachusetts. In an 1846 letter to her father in New Hampshire, the 16-year-old expressed her satisfaction with her situation at Lowell.

I am at work in a spinning room tending four sides of warp which is one girl's work. The overseer tells me that he never had a girl get along better than I do. . . . I have a very good boarding place, have enough to eat. . . . The girls are all kind and obliging. . . . I think that the factory is the best place for me and if any girl wants employment, I advise them to come to Lowell.

**B PRIMARY SOURCE**

## Andrew Carnegie

In his autobiography, published in 1920, the multimillionaire industrialist views with optimism the growth of American industry.

One great advantage which America will have in competing in the markets of the world is that her manufacturers will have the best home market. Upon this they can depend for a return upon capital, and the surplus product can be exported with advantage, even when the prices received for it do no more than cover actual cost, provided the exports be charged with their proportion of all expenses. The nation that has the best home market, especially if products are standardized, as ours are, can soon outsell the foreign producer.

**C PRIMARY SOURCE**

## Friedrich Engels

Friedrich Engels, who coauthored *The Communist Manifesto* and also managed a textile factory in Manchester, England, spent his nights wandering the city's slums.

Nobody troubles about the poor as they struggle helplessly in the whirlpool of modern industrial life. The working man may be lucky enough to find employment, if by his labor he can enrich some member of the middle classes. But his wages are so low that they hardly keep body and soul together. If he cannot find work, he can steal, unless he is afraid of the police; or he can go hungry and then the police will see to it that he will die of hunger in such a way as not to disturb the equanimity of the middle classes.

**D PRIMARY SOURCE**

## Walter Crane

This political cartoon was published in *Cartoons for the Cause* in Britain in 1886. It shows the vampire bat of Capitalism attacking a laborer. Socialism is pictured as an angel who is coming to the rescue.



### Document-Based QUESTIONS

1. Why would Andrew Carnegie (Source B) and Friedrich Engels (Source C) disagree about the effects of industrialization?
2. What might be reasons for 16-year-old Mary Paul's (Source A) satisfaction with her job and life in Lowell?
3. Why might the political cartoon by Walter Crane (Source D) be useful in getting workers to rally to the cause of socialism?

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## Different Perspectives

### OBJECTIVE

- Understand that industrialization can be examined from several perspectives.

### INSTRUCT

Help students understand the many points of view about the Industrial Revolution presented here. Mary Paul describes life as a Lowell mill worker. Andrew Carnegie offers the experience of a tycoon. Friedrich Engels outlines a communist view of industrialization, and Walter Crane offers a pro-socialism picture.

### INTEGRATED TECHNOLOGY

**Interactive** This feature is available in an interactive format on the eEdition.

### More About . . .

#### Effects of Industrialization

Have students consider ways that life today differs from life in the Industrial Revolution era.

- greater global interdependence
- mass production has raised standards of living, but crafts have declined
- nutrition has improved in many places, but many people still live with hunger
- cities have expanded
- many enjoy good jobs with good pay, but others still work at menial labor or in poor or dangerous conditions

#### Electronic Library of Primary Sources

- from "How I Served My Apprenticeship"

## DOCUMENT-BASED QUESTIONS: ANSWERS

1. *Possible Answer:* Carnegie was an industrialist who made millions from his factories while Engels worked inside a factory, and saw conditions there.
2. *Possible Answer:* She was earning wages on her own and had some independence from her family.
3. *Possible Answer:* Workers who felt oppressed might see socialism as a way to improve their working and living conditions.