The Rise of the Cities

Objectives
- Summarize the impact of medical advances in the late 1800s.
- Describe how cities had changed by 1900.
- Explain how working-class struggles led to improved conditions for workers.

Terms, People, and Places
- germ theory
- Joseph Lister
- Robert Koch
- Louis Pasteur
-相互援助社会
- urban renewal
- Josephine Nightingale
- mutual-aid society
- standard of living

Note Taking
Reading Skill: Identify Supporting Details. As you read, look for the main ideas and supporting details and how they relate to each other. Use the format below to create an outline of the section.

I. Medicine and the population explosion
   A. The fight against disease
   B. The standard of living

Vocabulary Builder
Use the information below and the following resources to teach the high-use words from this section.

High-Use Word: illuminate, p. 307
Definition and Sample Sentence:
- to light up; to give light to
- The glow of the full moon illuminated the night sky.

Build Background Knowledge
Ask students to consider the nature of city life today. Have them list the advantages and disadvantages of living in a big city.

Prepare to Read
Have students preview the Section Objectives and the list of Terms, People, and Places.

Set a Purpose
Read the selection aloud or play the audio.

Focus
Point out the Section Focus Question and write it on the board. Tell students to refer to this question as they read. (Answer appears with Section 2 Assessment answers.)

Preview
Have students preview the Section Focus Question and read the selection.

Medical Advances Contributed to the Population Explosion
- Between 1800 and 1900, the population of Europe more than doubled. This rapid growth was not due to larger families. Instead, populations soared because the death rate fell. Nutrition improved, thanks in part to improved methods of farming, food storage, and distribution. Medical advances and improvements in public sanitation also slowed death rates.

The Fight Against Disease
- Since the 1600s, scientists had known of microscopic organisms, or microbes. Some scientists speculated that certain microbes might cause specific infectious diseases. Yet most doctors scoffed at this germ theory. Not until 1870 did French chemist Louis Pasteur (pas-TUR) clearly show the link between microbes and disease. Pasteur went on to make other major contributions to medicine, including the development of vaccines against rabies and anthrax. He also discovered a process called pasteurization that killed disease-carrying microbes in milk. Pasteur's work led to the development of vaccines that reduce the risk of diseases such as tetanus and whooping cough.

Use the information below and the following resources to teach the high-use words from this section.

High-Use Word: illuminate, p. 307
Definition and Sample Sentence:
- to light up; to give light to
- The glow of the full moon illuminated the night sky.
**Teach**

**Medicine Contributes to the Population Explosion**

**Instruct**

- **Introduce** Ask students to find the term germ theory (in blue). Ask Why was it important to know that certain microbes cause disease? (Once the link was known, scientists and doctors could work on finding prevention and cures.)
- **Teach** Ask What happened to the population of Europe between 1800 and 1900? Why? (The population more than doubled due to a declining death rate.) Why was improved hospital care especially important to the poor? (While wealthier patients could be treated at home, the poor were admitted to hospitals that were often unsanitary. Improved care would increase their rate of recovery and survival.)
- **Quick Activity** Read aloud Nightingale’s statement under the heading Hospital Care Improves. (“The very first requirement in a hospital,” said British nurse Florence Nightingale, “is that it should do the sick no harm.”) Ask students to work in small groups and decide whether they agree or disagree with her statement.

**Independent Practice**

Ask students to write a paragraph describing how the population growth in Europe was due, in part, to medical advances. Have students think about the impact of these advances both in the 1800s and today.

**Monitor Progress**

As students fill in their outlines, circulate to make sure they understand how main ideas and supporting details relate to each other. For a completed version of the outline, see Note Taking Transparencies, 148.

**Answers**

**BIOGRAPHY** She improved sanitation by insisting that military and medical staff clean barracks, dig latrines, do laundry, and get the wounded off the bare ground where they lay. Better diet, better hygiene, advances in medicine, and improved sanitation

306 Life in the Industrial Age

In the 1880s, the German doctor Robert Koch identified the bacterium that caused tuberculosis, a respiratory disease that claimed about 30 million human lives in the 1880s. The search for a tuberculosis cure, however, took half a century. By 1914, yellow fever and malaria had been traced to microbes carried by mosquitoes.

As people understood how germs caused disease, they bathed and changed their clothes more often. In European cities, better hygiene helped decrease the rate of disease.

**Hospital Care Improves** In the early 1800s, anesthesia was first used to relieve pain during surgery. The use of anesthetics allowed doctors to experiment with operations that had never before been possible. Yet, throughout the century, hospitals could be dangerous places. Surgery was performed with dirty instruments in dank rooms. Often, a patient would survive an operation, only to die days later of infection. For the poor, being admitted to a hospital was often a death sentence. Wealthy or middle-class patients insisted on treatment in their own homes.

“The very first requirement in a hospital,” said British nurse Florence Nightingale, “is that it should do the sick no harm.” As an army nurse during the Crimean War, Nightingale insisted on better hygiene in field hospitals. After the war, she worked to introduce sanitary measures in British hospitals. She also founded the world’s first school of nursing.

**City Life Changes**

As industrialization progressed, cities came to dominate the West. City life, as old as civilization itself, underwent dramatic changes in Europe and the United States.

**City Landscapes Change** Growing wealth and industrialization allowed the basic layout of European cities. City planners created spacious new squares and boulevards. They lined these avenues with government buildings, offices, department stores, and theaters.

The most extensive urban renewal, or rebuilding of the poor areas of a city, took place in Paris in the 1850s. Georges Haussmann, chief planner for Napoleon III, destroyed many tangled medieval streets full of tenement housing. In their place, he built wide boulevards and splendid public buildings. The project put many people to work, decreasing the threat of social
illuminated areas much more livable. First gas lamps, and then electric street lights slums and tenements. Conditions among the urban "New York City published How the Other Half Lives in 1890 in Jacob Riis, a police reporter, photographer, and social activist in Despite efforts to improve cities, urban life remained crowded into slums near the city center, within reach of factories. Trolley lines made it possible to live in one part of the city and work in another. Sidewalks, Sewers, and Skyscrapers Paved streets made urban areas much more livable. First gas lamps, and then electric street lights illuminated the night, increasing safety. Cities organized police forces and expanded fire protection.

Beneath the streets, sewage systems made cities much healthier places to live. City planners knew that clean water supplies and better sanitation methods were needed to combat epidemics of cholera and tuberculosis. In Paris, sewer lines expanded from 87 miles (139 kilometers) in 1852 to more than 750 miles (1200 kilometers) by 1911. The massive new sewer systems of London and Paris were costly, but they cut death rates dramatically.

By 1900, architects were using steel to construct soaring buildings. American architects like Louis Sullivan pioneered a new structure, the skyscraper. In large cities, single-family middle-class homes gave way to multi-story apartment buildings.

Slum Conditions Despite efforts to improve cities, urban life remained harsh for the poor. Some working-class families could afford better clothing, newspapers, or tickets to a music hall. But they went home to small, cramped row houses or tenements in overcrowded neighborhoods.

In the worst tenements, whole families were often crammed into a single room. Unemployment or illness meant lost wages that could ruin a family. High rates of crime and alcoholism were a constant curse. Conditions had improved somewhat from the early Industrial Revolution, but slums remained a fact of city life.

City Life Changes Instruct

- Introduce: Vocabulary Builder Have students read the Vocabulary Builder term and definition. Ask them to predict how the word illuminated would be important to understanding life in the cities. Then display Color Transparency 128: Night Festival at the Universal Exposition of 1889, by Antoine Roux II. Use the lesson suggested in the transparency book to guide a discussion on how street lights changed city life.

- Color Transparencies, 128

- Teach Discuss the effects of industrialization. Ask: Why did the poor live closer to city centers than the middle class did? (To be closer to the factories where they worked.) How might the middle and upper classes have experienced city life differently than the working class did? (Working class families mainly flocked to the cities for jobs and housing and saw the harshness of the cities, while wealthier families were drawn to the cities for their cultural opportunities.)

- Quick Activity Show students The Jungle: A View of Industrial America from the Witness History Discovery School™ video program. Ask them to explain the short-term and long-term reforms inspired by Upton Sinclair’s The Jungle. In short term, Congress passed laws mandating the inspection of meat and banning the use of filler in meat products; long term: better conditions for workers? Have them also consider why Sinclair’s book remains relevant today. (Sample: It shows how a book can eventually lead to reform.)

Independent Practice Viewpoints To help students better understand that some people found cities exciting while others found them frightening, have them read the selection Looking at London in the 1820s and complete the worksheet.

Teaching Resources, Unit 3, p. 9

Monitor Progress Point out the photos of the working class and the moviegoers in this section. To help students review the section, ask them to explain how the images illustrate the positive and negative aspects of city life.
The Working Class Advances

Instruct

■ Introduce Ask students to read the introductory sentences and two black headings under The Working Class Advances. Have students predict what they will learn under each heading. Then have them read to find out whether their predictions were accurate.

■ Teach Ask Why did workers form unions? (To improve working conditions; reduce long hours; and increase) low pay? Have students rank the reform laws that are discussed in their text in order of their importance. Using the Idea Wave strategy (TE, p. T22) ask students to explain why they ranked the reforms in this particular order.

■ Analyzing the Visuals Refer students to the Cause-and-Effect chart on this page. Use the Think-Write-Pair-Share strategy (TE, p. T23) and ask students to list concrete ways that the Industrial Revolution continues to impact their daily lives.

Independent Practice

Primary Source

Teaching Resources, Unit 3, p. 8

Monitor Progress

Check Reading and Note Taking Study Guide entries for student understanding.

Answers

With industrialization came more jobs, urban renewal, better sanitation, and entertainment, but it also created slum conditions and higher crime rates.

Analyze Cause and Effect Sample: Social effects include the expansion of the middle class and public education. Economic effects include the growth of labor unions and the rise of big business.

The Working Class Advances

Instruct

Industrial Revolution

Immediately Effects

• Rise of factories
• Changes in transportation and communication
• Urbanization
• New methods of production
• Rise of urban working class
• Growth of reform movements

Long-Term Effects

• Growth of labor unions
• Inexpensive new products
• Increased pollution
• Rise of big business
• Expansion of public education
• Expansion of middle class

Connections to Today

• Improvements in world health
• Growth in population
• Industrialization in developing nations
• New energy sources, such as oil and nuclear power
• Environmental pollution
• Efforts to regulate world trade

Analyze Cause and Effect The long-term effects of the Industrial Revolution touched nearly every aspect of life. Identify two social and two economic effects of the Industrial Revolution.

The Lure of the City

Despite its drawbacks, cities attracted millions. New residents were drawn as much by the excitement as by the promise of work. For instance, too, cities were centers of action. Music halls, opera houses, and theaters provided entertainment for every taste. Museums and libraries offered educational opportunities. Sports, from tennis to bare-knuckle boxing, drew citizens of all classes. Few of those enjoyment were available in country villages.

Checkpoint How did industrialization change the face of cities?

The Working Class Advances

Workers tried to improve the harsh conditions of industrial life. They protested low wages, long hours, unsafe conditions, and the constant threat of unemployment. At first, business owners and governments tried to silence protesters. By mid-century, however; workers began to make progress.

Labor Unions Begin to Grow Workers formed mutual-aid societies, self-help groups to aid sick or injured workers. Men and women joined socialist parties or organized unions. The revolutions of 1830 and 1848 left virulent images of worker discontent, which governments could not ignore.

By the late 1860s, most Western countries had granted all men the vote. Workers also won the right to organize unions to bargain on their behalf. Germany legalized labor unions in 1899. Britain, Austria, and France followed. By 1900, Britain had about three million union members, and Germany had about two million. In France, membership grew from 140,000 in 1890 to over a million in 1912.

The main tactic of unions was the strike, or work stoppage. Workers used strikes to demand better working conditions, wage increases, or other benefits from their employers. Violence was often a result of strikes, particularly if employers tried to continue operating their businesses without the striking workers. Pressured by unions, reformers, and working-class voters, governments passed laws to regulate working conditions. Early laws forbade employers to hire children under the age of ten. Later, laws were passed outlawing child labor entirely and banning the employment of women in mines. Other laws limited work hours and improved safety. By 1890, British coal miners had won an eight-hour day, setting a standard for workers in other countries. In Germany, and then elsewhere, Western governments established old-age pensions, as well as disability insurance for workers who were hurt or became ill. These programs protected workers from poverty once they were no longer able to work.

Careers

Urban Planner The people who determine the look and feel of our communities are often urban planners. Using data and computer modeling, they design an overall plan for a thriving community, be it a new town or an existing urban area. They must balance residential, commercial, industrial, and recreational needs. For example, they might not allow a school next to a factory, as it would not suit the purpose of either. They also consider such issues as traffic flow, environmental impact, and economic development. To create a sustainable plan, they work with civic and business leaders, local residents, and land developers, offering alternative approaches to land use. Most urban planners hold a master’s degree in urban planning and work for the federal, state, or local government.

308 Life in the Industrial Age
In the industrialized world, wages varied throughout the late 1800s. Farm laborers earned less than half the pay of men doing the same work. Women received less than half the pay of men doing the same work. Overall, though, standards of living for workers did rise. The standard of living measures the quality and availability of necessities and comforts in a society. Families ate more varied diets, lived in better homes, and dressed in inexpensive, mass-produced clothing. Advances in medicine improved health. Some workers moved to the suburbs, traveling to work on subways and trolleys. Still, the gap between workers and the middle class widened.

Family Life and Leisure
With standards of living rising, families could pursue activities such as going to the movies. This 1906 French poster (left) advertises the Cinématographe Lumière (from ride), the most successful motion-picture camera and projector of its day. What does the clothing of the people on the poster suggest about their social rank?

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Terms, People, and Places
1. For each term, person, or place listed at the beginning of the section, write a sentence explaining its significance.

Note Taking
2. Reading Skill: Identify Supporting Details Use your completed outlines to answer the Focus Questions: How did the Industrial Revolution change life in the cities?

Comprehension and Critical Thinking
3. Recognize Cause and Effect Why did the rate of population growth increase in the late 1800s?
4. Summarize What are three ways that city life changed in the 1800s?
5. Analyze Information What laws helped workers in the late 1800s?
6. Synthesize Information How did the rise of the cities challenge the economic and social order of the time?

Assess and Reteach
Assess Progress
- Have students complete the Section Assessment.
- Administer the Section Quiz.

Teaching Resources, Unit 3, p. 3
- To further assess student understanding, use Progress Monitoring Transparencies, 87

Reteach
If students need more instruction, have them read the section summary.

Extend
Have students scan newspaper headlines for present-day examples of the pros and cons of city life, the effect of technologies on daily life, or the role of labor unions.

Answers
Caption They were middle-class people who could afford nice clothes and leisure activities.

Through protest and pressure on the government

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Writing About History
Quick Write: Brainstorm Possible Solutions Choose one topic from this section, such as the hardships of city life, and write about which you could write a problem-solution essay. Use the text and your own knowledge to create a list of possible solutions to the problem that you've chosen to write about. Next, organize your list to rank the solutions from most effective to least effective.

Writing About History
Responses should show clearly organized solutions, ranked from the most effective to the least effective.

For additional assessment, have students access Progress Monitoring Online at Web Code nba-2121.