Urbanization and industrialization brought sweeping changes to Western nations. People looking for solutions to the problems created by these developments began to demand reforms. They wanted to improve conditions for workers and the poor. Many people also began to call for political reforms. They demanded that more people be given a greater voice in government. Many different groups, including the middle class, workers, and women, argued that the right to vote be extended to groups that were excluded.

Britain Enacts Reforms

As Chapter 21 explained, Britain became a constitutional monarchy in the late 1600s. Under this system of government, the monarch serves as the head of state, but Parliament holds the real power. The British Parliament consists of a House of Lords and a House of Commons. Traditionally, members of the House of Lords either inherited their seats or were appointed. However, this changed in 1999, when legislation was passed that abolished the right of hereditary peers to inherit a seat in the House of Lords. Members of the House of Commons are elected by the British people.

In the early 1800s, the method of selecting the British government was not a true democracy. Only about five percent of the population had the right to elect the members of the House of Commons. Voting was limited to men who owned a substantial amount of land. Women could not vote at all. As a result, the upper classes ran the government.

The Reform Bill of 1832 The first group to demand a greater voice in politics was the wealthy middle class—factory owners, bankers, and merchants. Beginning in 1830, protests took place around England in favor of a bill in Parliament that would extend suffrage, or the right to vote. The Revolution of 1830 in France frightened parliamentary leaders. They feared that revolutionary violence would spread to Britain. Thus, Parliament passed the Reform Bill of 1832. This law eased the property requirements so that well-to-do men in the middle class could vote. The Reform Bill also modernized the districts for electing members of Parliament and gave the thriving new industrial cities more representation.

Chartist Movement Although the Reform Bill increased the number of British voters, only a small percentage of men were eligible to vote. A popular movement
arose among the workers and other groups who still could not vote to press for more rights. It was called the **Chartist movement** because the group first presented its demands to Parliament in a petition called The People’s Charter of 1838.

The People’s Charter called for suffrage for all men and annual Parliamentary elections. It also proposed to reform Parliament in other ways. In Britain at the time, eligible men voted openly. Since their vote was not secret, they could feel pressure to vote in a certain way. Members of Parliament had to own land and received no salary, so they needed to be wealthy. The Chartists wanted to make Parliament responsive to the lower classes. To do this, they demanded a secret ballot, an end to property requirements for serving in Parliament, and pay for members of Parliament.

Parliament rejected the Chartists’ demands. However, their protests convinced many people that the workers had valid complaints. Over the years, workers continued to press for political reform, and Parliament responded. It gave the vote to working-class men in 1867 and to male rural workers in 1884. After 1884, most adult males in Britain had the right to vote. By the early 1900s, all the demands of the Chartists, except for annual elections, became law.

**The Victorian Age**  The figure who presided over all this historic change was **Queen Victoria**. Victoria came to the throne in 1837 at the age of 18. She was queen for nearly 64 years. During the Victorian Age, the British Empire reached the height of its wealth and power. Victoria was popular with her subjects, and she performed her duties capably. However, she was forced to accept a less powerful role for the monarchy.

The kings who preceded Victoria in the 1700s and 1800s had exercised great influence over Parliament. The spread of democracy in the 1800s shifted political power almost completely to Parliament, and especially to the elected House of Commons. Now the government was completely run by the prime minister and the cabinet.
Women Get the Vote

By 1890, several industrial countries had universal male suffrage (the right of all men to vote). No country, however, allowed women to vote. As more men gained suffrage, more men demanded the same.

Organization and Resistance During the 1800s, women in both Great Britain and the United States worked to gain the right to vote. British women organized reform societies and protested unfair laws and customs. As women became more vocal, however, resistance to their demands grew. Many people, both men and women, thought that woman suffrage was too radical a break with tradition. Some claimed that women lacked the ability to take part in politics.

Militant Protests After decades of peaceful efforts to win the right to vote, some women took more drastic steps. In Britain, Emmeline Pankhurst formed the Women’s Social and Political Union (WSPU) in 1903. The WSPU became the most militant organization for women’s rights. Its goal was to draw attention to the cause of woman suffrage. When asked about why her group chose militant means to gain women’s rights, Pankhurst replied:

_PRIMARY SOURCE_

I want to say here and now that the only justification for violence, the only justification for damage to property, the only justification for risk to the comfort of other human beings is the fact that you have tried all other available means and have failed to secure justice.

EMMELINE PANKHURST, Why We Are Militant

Emmeline Pankhurst, her daughters Christabel and Sylvia, and other WSPU members were arrested and imprisoned many times. When they were jailed, the Pankhurs led hunger strikes to keep their cause in the public eye. British officials force-fed Sylvia and other activists to keep them alive.

Though the woman suffrage movement gained attention between 1880 and 1914, its successes were gradual. Women did not gain the right to vote in national elections in Great Britain and the United States until after World War I. 

France and Democracy

While Great Britain moved toward greater democracy in the late 1800s, democracy finally took hold in France.

The Third Republic In the aftermath of the Franco-Prussian War, France went through a series of crises. Between 1871 and 1914, France averaged a change of government almost yearly. A dozen political parties competed for power. Not until 1875 could the National Assembly agree on a new government. Eventually, the members voted to set up a republic. The Third Republic lasted over 60 years. However, France remained divided.

The Dreyfus Affair During the 1880s and 1890s, the Third Republic was threatened by monarchists, aristocrats, clergy, and army leaders. These groups wanted a monarchy or military rule. A controversy known as the Dreyfus affair became a battleground for these opposing forces. Widespread feelings of anti-Semitism, or prejudice against Jews, also played a role in this scandal.
In 1894, Captain Alfred Dreyfus, one of the few Jewish officers in the French army, was accused of selling military secrets to Germany. A court found him guilty, based on false evidence, and sentenced him to life in prison. In a few years, new evidence showed that Dreyfus had been framed by other army officers. Public opinion was sharply divided over the scandal. Many army leaders, nationalists, leaders in the clergy, and anti-Jewish groups refused to let the case be reopened. They feared sudden action would cast doubt on the honor of the army. Dreyfus’s defenders insisted that justice was more important. In 1898, the writer Émile Zola published an open letter titled *J’accuse!* (I accuse) in a popular French newspaper. In the letter, Zola denounced the army for covering up a scandal. Zola was sentenced to a year in prison for his views, but his letter gave strength to Dreyfus’s cause. Eventually, the French government declared his innocence.

**The Rise of Zionism** The Dreyfus case showed the strength of anti-Semitism in France and other parts of Western Europe. However, persecution of Jews was even more severe in Eastern Europe. Russian officials permitted pogroms (puh•GRAHMS), organized campaigns of violence against Jews. From the late 1880s on, thousands of Jews fled Eastern Europe. Many headed for the United States. For many Jews, the long history of exile and persecution convinced them to work for a homeland in Palestine. In the 1890s, a movement known as Zionism developed to pursue this goal. Its leader was Theodor Herzl (HEHRT•suhl), a writer in Vienna. It took many years, however, before the state of Israel was established.
Self-Rule for British Colonies

**MAIN IDEA**

**EMPIRE BUILDING** Britain allowed self-rule in Canada, Australia, and New Zealand but delayed it for Ireland.

**WHY IT MATTERS NOW**

Canada, Australia, and New Zealand are strong democracies today, while Ireland is divided.

**TERMS & NAMES**

- dominion
- Maori
- Aborigine
- penal colony
- home rule
- Irish Republican Army

**SETTING THE STAGE** By 1800, Great Britain had colonies around the world. These included outposts in Africa and Asia. In these areas, the British managed trade with the local peoples, but they had little influence over the population at large. In the colonies of Canada, Australia, and New Zealand, on the other hand, European colonists dominated the native populations. As Britain industrialized and prospered in the 1800s, so did these colonies. Some were becoming strong enough to stand on their own.

**Canada Struggles for Self-Rule**

Canada was originally home to many Native American peoples. The first European country to colonize Canada was France. The earliest French colonists, in the 1600s and 1700s, had included many fur trappers and missionaries. They tended to live among the Native Americans. Some French intermarried with Native Americans.

Great Britain took possession of the country in 1763 after it defeated France in the French and Indian War. The French who remained lived mostly in the lower St. Lawrence Valley. Many English-speaking colonists arrived in Canada after it came under British rule. Some came from Great Britain, and others were Americans who had stayed loyal to Britain after the American Revolution. They settled separately from the French along the Atlantic seaboard and the Great Lakes.

**French and English Canada** Religious and cultural differences between the mostly Roman Catholic French and the mainly Protestant English-speaking colonists caused conflict in Canada. Both groups pressed Britain for a greater voice in governing their own affairs. In 1791 the British Parliament tried to resolve both issues by creating two new Canadian provinces. Upper Canada (now Ontario) had an English-speaking majority. Lower Canada (now Quebec) had a French-speaking majority. Each province had its own elected assembly.

**The Durham Report** The division of Upper and Lower Canada temporarily eased tensions. In both colonies, the royal governor and a small group of wealthy British held most of the power. But during the early 1800s, middle-class professionals in both colonies began to demand political and economic reforms. In Lower Canada, these demands were also fueled by French resentment toward British rule. In the late 1830s, rebellions broke out in both Upper and Lower Canada.

In 1839, Durham sent a report to Parliament that urged two major reforms. First, Upper and Lower Canada should be reunited as the Province of Canada, and British immigration should be encouraged. In this way, the French would slowly become part of the dominant English culture. Second, colonists in the provinces of Canada should be allowed to govern themselves in domestic matters.

The Dominion of Canada By the mid-1800s, many Canadians believed that Canada needed a central government. A central government would be better able to protect the interests of Canadians against the United States, whose territory now extended from the Atlantic to the Pacific oceans. In 1867, Nova Scotia and New Brunswick joined the Province of Canada to form the Dominion of Canada. As a dominion, Canada was self-governing in domestic affairs but remained part of the British Empire.

Canada’s Westward Expansion Canada’s first prime minister, John MacDonald, expanded Canada westward by purchasing lands and persuading frontier territories to join the union. Canada stretched to the Pacific Ocean by 1871. MacDonald began the construction of a transcontinental railroad, completed in 1885.

Australia and New Zealand

The British sea captain James Cook claimed New Zealand in 1769 and part of Australia in 1770 for Great Britain. Both lands were already inhabited. In New Zealand, Cook was greeted by the Maori, a Polynesian people who had settled in New Zealand around A.D. 800. Maori culture was based on farming, hunting, and fishing.

When Cook reached Australia, he considered the land uninhabited. In fact, Australia was sparsely populated by Aborigines, as Europeans later called the native peoples. Aborigines are the longest ongoing culture in the world. These nomadic peoples fished, hunted, and gathered food.

Britain’s Penal Colony Britain began colonizing Australia in 1788 with convicted criminals. The prisons in England were severely overcrowded. To solve this problem, the British government established a penal colony in Australia. A penal colony was a place where convicts were sent to serve their sentences. Many European nations used penal colonies as a way to prevent overcrowding of prisons. After their release, the newly freed prisoners could buy land and settle.

Free Settlers Arrive Free British settlers eventually joined the former convicts in both Australia and New Zealand. In the early 1800s, an Australian settler experimented with breeds of sheep until he found one that produced high quality wool and thrived in the country’s warm, dry weather. Although sheep are not native to Australia, the raising and exporting of wool became its biggest business.

To encourage immigration, the government offered settlers cheap land. The population grew steadily in the early 1800s and then skyrocketed after a gold rush in 1851. The scattered settlements on Australia’s east coast grew into separate colonies. Meanwhile, a few pioneers pushed westward across the vast dry interior and established outposts in western Australia.
Settling New Zealand European settlement of New Zealand grew more slowly. This was because Britain did not claim ownership of New Zealand, as it did Australia. Rather, it recognized the land rights of the Maori. In 1814, missionary groups began arriving from Australia seeking to convert the Maori to Christianity.

The arrival of more foreigners stirred conflicts between the Maori and the European settlers over land. Responding to the settlers’ pleas, the British decided to annex New Zealand in 1839 and appointed a governor to negotiate with the Maori. In a treaty signed in 1840, the Maori accepted British rule in exchange for recognition of their land rights.

Self-Government Like Canadians, the colonists of Australia and New Zealand wanted to rule themselves yet remain in the British Empire. During the 1850s, the colonies in both Australia and New Zealand became self-governing and created parliamentary forms of government. In 1901, the Australian colonies were united under a federal constitution as the Commonwealth of Australia. During the early 1900s, both Australia and New Zealand became dominions.

The people of Australia and New Zealand pioneered a number of political reforms. For example, the secret ballot, sometimes called the Australian ballot, was first used in Australia in the 1850s. In 1893, New Zealand became the first nation in the world to give full voting rights to women. However, only white women gained these rights.

Status of Native Peoples Native peoples and other non-Europeans were excluded from democracy and prosperity. Diseases brought by the Europeans killed Aborigines and Maori. As Australian settlement grew, the colonists displaced or killed many Aborigines.

In New Zealand, tensions between settlers and Maori continued to grow after it became a British colony. Between 1845 and 1872, the colonial government fought the Maori in a series of wars. Reduced by disease and outgunned by British weapons, the Maori were finally driven into a remote part of the country.
The Irish Win Home Rule

English expansion into Ireland had begun in the 1100s, when the pope granted control of Ireland to the English king. English knights invaded Ireland, and many settled there to form a new aristocracy. The Irish, who had their own ancestry, culture, and language, bitterly resented the English presence. Laws imposed by the English in the 1500s and 1600s limited the rights of Catholics and favored the Protestant religion and the English language.

Over the years, the British government was determined to maintain its control over Ireland. It formally joined Ireland to Britain in 1801. Though a setback for Irish nationalism, this move gave Ireland representation in the British Parliament. Irish leader Daniel O’Connell persuaded Parliament to pass the Catholic Emancipation Act in 1829. This law restored many rights to Catholics.

The Great Famine In the 1840s, Ireland experienced one of the worst famines of modern history. For many years, Irish peasants had depended on potatoes as virtually their sole source of food. From 1845 to 1848, a plant fungus ruined nearly all of Ireland’s potato crop. Out of a population of 8 million, about a million people died from starvation and disease over the next few years.

During the famine years, about a million and a half people fled from Ireland. Most went to the United States; others went to Britain, Canada, and Australia. At home, in Ireland, the British government enforced the demands of the English landowners that the Irish peasants pay their rent. Many Irish lost their land and fell hopelessly in debt, while large landowners profited from higher food prices.

Demands for Home Rule During the second half of the 1800s, opposition to British rule over Ireland took two forms. Some Irish wanted independence for Ireland. A greater number of Irish preferred home rule, local control over internal
matters only. The British, fearful of Irish moves toward independence, refused to consider either option.

One reason for Britain’s opposition to home rule was concern for Ireland’s Protestants. They feared being a minority in a country dominated by Catholics. Most Protestants lived in the northern part of Ireland, known as Ulster. Finally, in 1914, Parliament enacted a home rule bill for southern Ireland. Just one month before the plan was to take effect, World War I broke out in Europe. Irish home rule was put on hold.

Rebellion and Division Frustrated over the delay in gaining independence, a small group of Irish nationalists rebelled in Dublin during Easter week, 1916. British troops put down the Easter Rising and executed its leaders. Their fate, however, aroused wider popular support for the nationalist movement.

After World War I, the Irish nationalists won a victory in the elections for the British Parliament. To protest delays in home rule, the nationalist members decided not to attend Parliament. Instead, they formed an underground Irish government and declared themselves independent. The Irish Republican Army (IRA), an unofficial military force seeking independence for Ireland, staged a series of attacks against British officials in Ireland. The attacks sparked war between the nationalists and the British government.

In 1921, Britain divided Ireland and granted home rule to southern Ireland. Ulster, or Northern Ireland, remained a part of Great Britain. The south became a dominion called the Irish Free State. However, many Irish nationalists, led by Eamon De Valera, continued to seek total independence from Britain. In 1949, the Irish Free State declared itself the independent Republic of Ireland.

Northern Ireland Today

When Northern Ireland decided to stay united with Great Britain, many Catholics there refused to accept the partition, or division. In the late 1960s, Catholic groups began to demonstrate for more civil rights. Their protests touched off fighting between Catholics and Protestants. Militant groups on both sides engaged in terrorism. This violent period, called the “troubles,” continued into the 1990s.

Life in Early Australia

European explorers located Australia long after they had begun colonizing other lands. Dutch explorers were probably the first Europeans to reach Australia around 1605. Australia was not claimed by a European power, however, until the British did so in 1770.

Early Australia had many groups of people with diverse interests, including a native population that had lived on the island for at least 40,000 years. On these pages you will discover the occupations, motivations, and interests of some Australians in the 17th and 18th centuries.

**Original Australians**

Aboriginal society developed in close harmony with nature. There were between 200 and 300 Aboriginal languages, and most people were bilingual or multilingual. By 1900, half of Australia’s original inhabitants had died fighting the British or from disease. The engraving below depicts an Aboriginal man with ceremonial face paint and scars. The other image below is an ancient Aboriginal rock painting.

**Gold Miners**

In 1851, lured by the potential of striking it rich, thousands of people began prospecting for gold in Australia. Sometimes whole families moved to the gold fields, but life in the gold camps was hard and very few people struck it rich. Searching for gold was hard and dirty work, as this painting illustrates.
Australia Today

• Australia still mines gold, but it also produces 95 percent of the world’s precious opals and 99 percent of black opals.
• Australia has 24 million head of cattle and is the world’s largest exporter of beef.
• Australians had 8.6 million cell phones in 2000.

Australia’s Population

• In 2001, there was an average of 6.5 people per square mile in Australia. That same year in the United States there were 77.8 people per square mile.
• In Australia’s 2001 census, 410,003 people identified themselves as being of indigenous origin.

Farmers and Ranchers

Free settlers made the journey to Australia willingly. Many went into farming and ranching. Farms provided much-needed food, and sheep ranching provided wool as a valuable export. Convicts were hired out to farmers and ranchers as cheap labor. Sheep ranching, shown in the picture above, remains an important part of Australia’s economy.

Convicts

Beginning in 1788, England sent both male and female prisoners to Australia—sometimes with their children. Convicts built public buildings, roads, and bridges. England stopped sending convicts to Australia in 1868. The prison ship shown here housed prisoners before they went to Australia.

Connect to Today

1. Forming and Supporting Opinions
   Of the groups represented on this page, which do you believe had highest quality of living? Why?

2. Comparing and Contrasting
   Use the Internet to research the issues that Australian Aborigines and Native Americans in the United States face today and compare them. How are they similar? How are they different?
The United States expanded across North America and fought a civil war. The 20th-century movements to ensure civil rights for African Americans and others are a legacy of this period.

**SETTING THE STAGE** The United States won its independence from Britain in 1783. At the end of the Revolutionary War, the Mississippi River marked the western boundary of the new republic. As the original United States filled with settlers, land-hungry newcomers pushed beyond the Mississippi. The government helped them by acquiring new territory for settlement. Meanwhile, tensions between northern and southern states over the issues of states’ rights and slavery continued to grow and threatened to reach a boiling point.

**Americans Move West**

In 1803, President Thomas Jefferson bought the Louisiana Territory from France. The Louisiana Purchase doubled the size of the new republic and extended its boundary to the Rocky Mountains. In 1819, Spain gave up Florida to the United States. In 1846, a treaty with Great Britain gave the United States part of the Oregon Territory. The nation now stretched from the Atlantic to the Pacific oceans.

**Manifest Destiny** Many Americans believed in manifest destiny, the idea that the United States had the right and duty to rule North America from the Atlantic Ocean to the Pacific Ocean. Government leaders used manifest destiny to justify evicting Native Americans from their tribal lands.

The Indian Removal Act of 1830 made such actions official policy. This law enabled the federal government to force Native Americans living in the East to move to the West. Georgia’s Cherokee tribe challenged the law before the Supreme Court. The Court, however, ruled that the suit was not valid. The Cherokees had to move. Most of them traveled 800 miles to Oklahoma, mainly on foot, on a journey later called the Trail of Tears. About a quarter of the Cherokees died on the trip. A survivor recalled how the journey began:

**PRIMARY SOURCE**

The day was bright and beautiful, but a gloomy thoughtfulness was depicted in the lineaments of every face. . . . At this very moment a low sound of distant thunder fell on my ear . . . and sent forth a murmur, I almost thought a voice of divine indignation for the wrong of my poor and unhappy countrymen, driven by brutal power from all they loved and cherished in the land of their fathers.

*WILLIAM SHOREY COODEY*, quoted in *The Trail of Tears*
When the Cherokees reached their destination, they ended up on land inferior to that which they had left. As white settlers moved west during the 19th century, the government continued to push Native Americans off their land.

**Texas Joins the United States** When Mexico had gained its independence from Spain in 1821, its territory included the lands west of the Louisiana Purchase. With Mexico’s permission, American settlers moved into the Mexican territory of Texas. However, settlers were unhappy with Mexico’s rule.

In 1836, Texans revolted against Mexican rule and won their independence. Then, in 1845, the United States annexed Texas. Since Mexico still claimed Texas, it viewed this annexation as an act of war.

**War with Mexico** Between May 1846 and February 1848, war raged between the two countries. Finally, Mexico surrendered. As part of the settlement of the Mexican-American War, Mexico ceded territory to the United States. The Mexican Cession included California and a huge area in the Southwest. In 1853, the Gadsden Purchase from Mexico brought the lower continental United States to its present boundaries.

**Civil War Tests Democracy**

America’s westward expansion raised questions about what laws and customs should be followed in the West. Since the nation’s early days, the northern and southern parts of the United States had followed different ways of life. Each section wanted to extend its own way of life to the new territories and states in the West.

**North and South** The North had a diversified economy, with both farms and industry. For both its factories and farms, the North depended on free workers. The South’s economy, on the other hand, was based on just a few cash crops, mainly cotton. Southern planters relied on slave labor.

The economic differences between the two regions led to a conflict over slavery. Many Northerners considered slavery morally wrong. They wanted to outlaw slavery in the new western states. Most white Southerners believed slavery was necessary for their economy. They wanted laws to protect slavery in the West so that they could continue to raise cotton on the fertile soil there.

The disagreement over slavery fueled a debate about the rights of the individual states against those of the federal government. Southern politicians argued that the states had freely joined the Union, and so they could freely leave. Most Northerners felt that the Constitution had established the Union once and for all.

**Civil War Breaks Out** Conflict between the North and South reached a climax in 1860, when **Abraham Lincoln** was elected president. Southerners fiercely
opposed Lincoln, who had promised to stop the spread of slavery. One by one, Southern states began to secede, or withdraw, from the Union. These states came together as the Confederate States of America.

On April 12, 1861, Confederate forces fired on Fort Sumter, a federal fort in Charleston, South Carolina. Lincoln ordered the army to bring the rebel states back into the Union. The U.S. Civil War had begun. Four years of fighting followed, most of it in the South. Although the South had superior military leadership, the North had a larger population, better transportation, greater resources, and more factories. These advantages proved too much, and in April 1865, the South surrendered.

Abolition of Slavery  
Lincoln declared that the war was being fought to save the Union and not to end slavery. He eventually decided that ending slavery would help to save the Union. Early in 1863, he issued the Emancipation Proclamation, declaring that all slaves in the Confederate states were free.

At first, the proclamation freed no slaves, because the Confederate states did not accept it as law. As Union armies advanced into the South, however, they freed slaves in the areas they conquered. The Emancipation Proclamation also showed European nations that the war was being fought against slavery. As a result, these nations did not send the money and supplies that the South had hoped they would.

In the aftermath of the war, the U.S. Congress passed the Thirteenth Amendment to the Constitution, which abolished slavery in the United States. The Fourteenth and Fifteenth Amendments extended the rights of citizenship to all Americans and guaranteed former slaves the right to vote.

Reconstruction  
From 1865 to 1877, Union troops occupied the South and enforced the constitutional protections. This period is called Reconstruction. After federal troops left the South, white Southerners passed laws that limited African
Americans’ rights and made it difficult for them to vote. Such laws also encouraged segregation, or separation, of blacks and whites in the South. African Americans continued to face discrimination in the North as well.

**The Postwar Economy**

The need for mass production and distribution of goods during the Civil War speeded industrialization. After the war, the United States experienced industrial expansion unmatched in history. By 1914, it was a leading industrial power.

**Immigration** Industrialization could not have occurred so rapidly without immigrants. During the 1870s, immigrants arrived at a rate of nearly 2,000 a day. By 1914, more than 20 million people had moved to the United States from Europe and Asia. Many settled in the cities of the Northeast and Midwest. Others settled in the open spaces of the West.

**The Railroads** As settlers moved west, so did the nation’s rail system. In 1862, Congress had authorized money to build a transcontinental railroad. For seven years, immigrants and other workers dug tunnels, built bridges, and laid track. When the railroad was completed in 1869, railroads linked California with the eastern United States.

By 1900, nearly 200,000 miles of track crossed the nation. This system linked farm to city and boosted trade and industry. The railroads bought huge quantities of steel. Also, trains brought materials such as coal and iron ore to factories and moved the finished goods to market. They carried corn, wheat, and cattle from the Great Plains to processing plants in St. Louis, Chicago, and Minneapolis. These developments helped to make the United States a world leader.

**TERMS & NAMES**

1. For each term or name, write a sentence explaining its significance.
   - manifest destiny
   - Abraham Lincoln
   - secede
   - U.S. Civil War
   - Emancipation Proclamation
   - segregation

**SECTION ASSESSMENT**

**MAIN IDEAS**

3. What territory did the Mexican-American War open up to American settlers?
4. What were some of the economic differences between the North and the South before the Civil War?
5. How did the Civil War speed up America’s industrialization?

**CRITICAL THINKING & WRITING**

6. DISTINGUISHING FACT FROM OPINION Reread the quotation from William Shorey Coodey on page 758. What facts are conveyed in his statement? What opinions does he express about the Trail of Tears?
7. COMPARING What were the relative resources of the North and South in the U.S. Civil War?
8. MAKING INFERENCES How might the Mexican Cession (see map, page 759) have consequences today?
9. WRITING ACTIVITY Imagine that you are making the westward journey by wagon train. Write a number of journal entries describing your experience.

**CONNECT TO TODAY**

Find information on countries today that are experiencing civil wars or conflicts. Make a table that includes the name of each country, the continent it is located on, and the dates of the conflict.
The Industrial Revolution happened because of inventions such as the spinning jenny and the steam engine. By the late 1800s, advances in both industry and technology were occurring faster than ever before. In turn, the demands of growing industries spurred even greater advances in technology. A surge of scientific discovery pushed the frontiers of knowledge forward. At the same time, in industrialized countries, economic growth produced many social changes.

**Inventions Make Life Easier**

In the early 1800s, coal and steam drove the machines of industry. By the late 1800s, new kinds of energy were coming into use. One was gasoline (made from oil), which powered the internal combustion engine. This engine would make the automobile possible. Another kind of energy was electricity. In the 1870s, the electric generator was developed, which produced a current that could power machines.

**Edison the Inventor**

During his career, Thomas Edison patented more than 1,000 inventions, including the light bulb and the phonograph. Early in his career, Edison started a research laboratory in Menlo Park, New Jersey. Most of his important inventions were developed there, with help from the researchers he employed, such as Lewis H. Latimer, an African-American inventor. Indeed, the idea of a research laboratory may have been Edison’s most important invention.

**Bell and Marconi Revolutionize Communication**

Other inventors helped harness electricity to transmit sounds over great distances. Alexander Graham Bell was a teacher of deaf students who invented the telephone in his spare time. He displayed his device at the Philadelphia Centennial Exposition of 1876.

The Italian inventor Guglielmo Marconi used theoretical discoveries about electromagnetic waves to create the first radio in 1895. This device was important because it sent messages (using Morse Code) through the air, without the use of wires. Primitive radios soon became standard equipment for ships at sea.

**Ford Sparks the Automobile Industry**

In the 1880s, German inventors used a gasoline engine to power a vehicle—the automobile. Automobile technology developed quickly, but since early cars were built by hand, they were expensive.

An American mechanic named Henry Ford decided to make cars that were affordable for most people. Ford used standardized, interchangeable parts. He
Edison’s Inventions

Thomas Alva Edison was one of the greatest inventors in history. He held thousands of patents for his inventions in over 30 countries. The United States Patent Office alone issued Edison 1,093 patents. Among his inventions was an electric light bulb, the phonograph, and motion pictures, all shown on this page.

Some scientists and historians, however, believe that Edison’s greatest achievement was his development of the research laboratory. Edison worked with a team of different specialists to produce his creations. His precise manner is illustrated by his famous quote: “Genius is 1 percent inspiration and 99 percent perspiration.”

**RESEARCH LINKS** For more on Thomas Alva Edison, go to classzone.com

**Light bulb** Edison and his team are working on an electric light bulb in this painting. Edison’s inventions often developed from existing technologies. Many people were working on an electric light bulb, but Edison made it practical.

**Phonograph** Commonplace today, a device for recording sound did not exist until Thomas Edison invented it. He first demonstrated his phonograph in 1877.

**Motion pictures** The idea of “moving pictures” was not Edison’s, but his “Kinetoscope,” shown below, made movies practical.

1. **Clarifying** What did Edison mean when he said, “Genius is 1 percent inspiration and 99 percent perspiration”?

2. **Forming and Supporting Opinions** Which of Edison’s inventions shown on this page do you think has had the most influence?
also built them on an **assembly line**, a line of workers who each put a single piece on unfinished cars as they passed on a moving belt.

Assembly line workers could put together an entire Model T Ford in less than two hours. When Ford introduced this plain, black, reliable car in 1908, it sold for $850. As his production costs fell, Ford lowered the price. Eventually it dropped to less than $300. Other factories adopted Ford’s ideas. By 1916, more than 3.5 million cars were traveling around on America’s roads.

**The Wright Brothers Fly** Two bicycle mechanics from Dayton, Ohio, named Wilbur and Orville Wright, solved the age-old riddle of flight. On December 17, 1903, they flew a gasoline-powered flying machine at Kitty Hawk, North Carolina. The longest flight lasted only 59 seconds, but it started the aircraft industry.

**New Ideas in Medicine**

As you learned in Chapter 22, earlier centuries had established the scientific method. Now this method brought new insights into nature as well as practical results.

**The Germ Theory of Disease** An important breakthrough in the history of medicine was the germ theory of disease. It was developed by French chemist Louis Pasteur in the mid-1800s. While examining the fermentation process of alcohol, Pasteur discovered that it was caused by microscopic organisms he called bacteria. He also learned that heat killed bacteria. This led him to develop the process of pasteurization to kill germs in liquids such as milk. Soon, it became clear to Pasteur and others that bacteria also caused diseases.

Joseph Lister, a British surgeon, read about Pasteur’s work. He thought germs might explain why half of surgical patients died of infections. In 1865, he ordered that his surgical wards be kept spotlessly clean. He insisted that wounds be washed in antiseptics, or germ-killing liquids. As a result, 85 percent of Lister’s patients survived. Other hospitals adopted Lister’s methods.

Public officials, too, began to understand that cleanliness helped prevent the spread of disease. Cities built plumbing and sewer systems and took other steps to improve public health. Meanwhile, medical researchers developed vaccines or cures for such deadly diseases as typhus, typhoid fever, diphtheria, and yellow fever. These advances helped people live longer, healthier lives.
New Ideas in Science

No scientific idea of modern times aroused more controversy than the work of English naturalist Charles Darwin. The cause of the controversy was Darwin’s answer to the question that faced biologists: How can we explain the tremendous variety of plants and animals on earth? A widely accepted answer in the 1800s was the idea of special creation—every kind of plant and animal had been created by God at the beginning of the world and had remained the same since then.

Darwin’s Theory of Evolution Darwin challenged the idea of special creation. Based on his research as a naturalist on the voyage of the H.M.S. Beagle, he developed a theory that all forms of life, including human beings, evolved from earlier living forms that had existed millions of years ago.

In 1859, Darwin published his thinking in a book titled On the Origin of Species by Means of Natural Selection. According to the idea of natural selection, populations tend to grow faster than the food supply and so must compete for food. The members of a species that survive are those that are fittest, or best adapted to their environment. These surviving members of a species produce offspring that share their advantages. Gradually, over many generations, the species may change. In this way, new species evolve. Darwin’s idea of change through natural selection came to be called the theory of evolution.

Mendel and Genetics Although Darwin said that living things passed on their variations from one generation to the next, he did not know how they did so. In the 1850s and 1860s, an Austrian monk named Gregor Mendel discovered that there is a pattern to the way that certain traits are inherited. Although his work was not widely known until 1900, Mendel’s work began the science of genetics.

Advances in Chemistry and Physics In 1803, the British chemist John Dalton theorized that all matter is made of tiny particles called atoms. Dalton showed that elements contain only one kind of atom, which has a specific weight. Compounds, on the other hand, contain more than one kind of atom.

In 1869, Dmitri Mendeleev (MEHN•duh•LAY•uhf), a Russian chemist, organized a chart on which all the known elements were arranged in order of weight, from lightest to heaviest. He left gaps where he predicted that new elements would be discovered. Later, his predictions proved correct. Mendeleev’s chart, the Periodic Table, is still used today.

A husband and wife team working in Paris, Marie and Pierre Curie, discovered two of the missing elements, which they named radium and polonium. The elements were found in a mineral called pitchblende that released a powerful form of energy. In 1898, Marie Curie gave this energy the name radioactivity. In 1903, the Curies shared the Nobel Prize for physics for their work on radioactivity. In 1911, Marie Curie won the Nobel Prize for chemistry for the discovery of radium and polonium.

Physicists around 1900 continued to unravel the secrets of the atom. Earlier scientists believed that the atom was the smallest particle that existed. A British physicist named Clarifying

According to Darwin, how does natural selection affect evolution?

RESEARCH LINKS For more on Marie Curie, go to classzone.com.
Ernest Rutherford suggested that atoms were made up of yet smaller particles. Each atom, he said, had a nucleus surrounded by one or more particles called electrons. Soon other physicists such as Max Planck, Neils Bohr, and Albert Einstein were studying the structure and energy of atoms.

**Social Sciences Explore Behavior**

The scientific theories of the 1800s prompted scholars to study human society and behavior in a scientific way. Interest in these fields grew enormously during that century, as global expeditions produced a flood of new discoveries about ancient civilizations and world cultures. This led to the development of modern social sciences such as archaeology, anthropology, and sociology.

An important new social science was **psychology**, the study of the human mind and behavior. The Russian physiologist Ivan Pavlov believed that human actions were often unconscious reactions to experiences and could be changed by training.

Another pioneer in psychology, the Austrian doctor Sigmund Freud, also believed that the unconscious mind drives how people think and act. In Freud’s view, unconscious forces such as suppressed memories, desires, and impulses shape behavior. He founded a type of therapy called psychoanalysis to deal with psychological conflicts created by these forces.

Freud’s theories became very influential. However, his idea that the mind was beyond conscious control also shocked many people. The theories of Freud and Pavlov challenged the fundamental idea of the Enlightenment—that reason was supreme. The new ideas about psychology began to shake the 19th-century faith that humans could perfect themselves and society through reason.

**The Rise of Mass Culture**

In earlier periods, art, music, and theater were enjoyed by the wealthy. This group had the money, leisure time, and education to appreciate high culture. It was not until about 1900 that people could speak of **mass culture**—the appeal of art, writing, music, and other forms of entertainment to a larger audience.

**Changes Produce Mass Culture** There were several causes for the rise of mass culture. Their effects changed life in Europe and North America. Notice in the chart on the next page how working class people’s lives were changed by mass culture. The demand for leisure activities resulted in a variety of new pursuits for people to enjoy. People went to music performances, movies, and sporting events.

**Music Halls, Vaudeville, and Movies** A popular leisure activity was a trip to the local music hall. On a typical evening, a music hall might offer a dozen or more different acts. It might feature singers, dancers, comedians, jugglers, magicians, and acrobats. In the United States, musical variety shows were called vaudeville. Vaudeville acts traveled from town to town, appearing at theaters.

During the 1880s, several inventors worked at trying to project moving images. One successful design came from France. Another came from Thomas Edison’s laboratory. The earliest motion pictures were black and white and lasted less than a minute.
**Rise of Mass Culture**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Effect/Cause</th>
<th>Effect</th>
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<tbody>
<tr>
<td>Public education</td>
<td>Increase in literacy</td>
<td>Mass market for books and newspapers</td>
</tr>
<tr>
<td>Improvement in communications</td>
<td>Publications cheaper and more accessible</td>
<td>Mass market for books and newspapers</td>
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<tr>
<td>Invention of phonograph and records</td>
<td>More music directly in people's homes</td>
<td>Greater demand for musical entertainment</td>
</tr>
<tr>
<td>Shorter workday—10 hours shorter workweek—5-1/2 days</td>
<td>More leisure time</td>
<td>Greater demand for mass entertainment activities</td>
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**SKILLBUILDER: Interpreting Charts**

1. **Analyzing Causes** What was the immediate cause for the increased demand for mass entertainment activities?
2. **Recognizing Effects** What was the ultimate effect of public education and improved communications?

By the early 1900s, filmmakers were producing the first feature films. Movies quickly became big business. By 1910, five million Americans attended some 10,000 theaters each day. The European movie industry experienced similar growth.

**Sports Entertain Millions** With time at their disposal, more people began to enjoy sports and outdoor activities. Spectator sports now became entertainment. In the United States, football and baseball soared in popularity. In Europe, the first professional soccer clubs formed and drew big crowds. Favorite English sports such as cricket spread to the British colonies of Australia, India, and South Africa.

As a result of the growing interest in sports, the International Olympic Games began in 1896. They revived the ancient Greek tradition of holding an athletic competition every four years. Fittingly, the first modern Olympics took place in Athens, Greece, the country where the games had originated.

**TERMS & NAMES**

1. For each term or name, write a sentence explaining its significance.

- **assembly line**
- **Charles Darwin**
- **theory of evolution**
- **radioactivity**
- **psychology**
- **mass culture**

**USING YOUR NOTES**

2. Which breakthrough helped people the most? Why?

**MAIN IDEAS**

3. What effect did the assembly line have on production costs?
4. How did Joseph Lister improve the survival rate of his patients?
5. What effect did the spread of public education have on culture?

**CRITICAL THINKING & WRITING**

6. **COMPARING AND CONTRASTING** How is the mass culture that rose at the end of the 19th century similar to mass culture today? How is it different? Explain your response.
7. **RECOGNIZING EFFECTS** How did the germ theory change living conditions in Europe and the United States?
8. **ANALYZING CAUSES** What changes led to the rise of mass culture around 1900?
9. **WRITING ACTIVITY** Write a two-paragraph _expository essay_ in which you discuss whether advances in science and technology have had a largely positive or negative impact on society.

**CONNECT TO TODAY**

**MAKING A POSTER**

Find information on the current state of medicines such as antibiotics and problems with their use and overuse. Create a _poster_ that shows examples of current antibiotics, their benefits, and their potential negative long-term impact.