

SECTION 1: CH. 11

THE INDUSTRIAL REVOLUTION

A Revolution in Technology

- *The Industrial Revolution began in Britain in the textile industry. For centuries, workers had spun thread and woven cloth in their own homes.
- *In the 1760s, the spinning jenny speeded up the thread-making process.
- *Then Richard Arkwright invented the water frame, a spinning machine powered by running water rather than by human energy. This created a new way of working called the factory system, where workers and machines come together in one place outside the home.
- *Mill owners turned to capitalists for money to build factories and machines. Capitalists invest capital, or money, in a business to earn a profit.
- *The use of steam power in the 1790s allowed factories to be built away from rivers.

The American Industrial Revolution

- *Britain tried to guard its secrets of industrial success. Skilled workers were forbidden to leave the country.
- *In 1789, a young apprentice in one of Arkwright's factories named Samuel Slater immigrated to America. Working from his memory of Arkwright's factories, Slater built new spinning machines for American merchant Moses Brown.
- *Slater's mill became a great success.

American Industry Grows

- *The success of Slater's mill marked the beginning of American industrialization.
- *Industrialization began in the Northeast.
- *U.S. industry did not grow significantly until the War of 1812.
- *Without British imports, Americans had to depend on their own industries.
- *Francis Cabot Lowell built a mill that combined spinning and weaving in a single factory. This idea led to the growth of a mill town called Lowell. The workforce was made up of young women known as "Lowell girls," who lived in boarding houses.

The Revolution Takes Hold

- *Another key innovation in American industry was the invention of interchangeable parts identical pieces that could be quickly put together by unskilled workers. Traditional craftsmen had built machines by hand. No two parts were the same, making machinery slow

to build and hard to repair.

- *Eli Whitney came up with the idea for interchangeable parts in the 1790s.
- *The idea led to mass production—the rapid manufacture of large numbers of identical objects.
- *As a result, many goods became cheaper, and American industry continued to grow.
- *Many factories, mines, and mills employed children as young as 7 or 8. These children had little chance for an education and worked in difficult conditions.
- *Working conditions for adults were no better. Many spent the 12- or 14-hour workday in poorly lit factories with little fresh air. The machines were often dangerous and injuries were common. There were no payments for disabled workers.
- *By 1844, workers were demanding shorter days. Conditions gradually improved, but the eight-hour workday was far in the future.

Key Checkpoint Questions from Notes

- *Name the power source that made it possible to build factories away from running water.
- *Name the person who brought new spinning technologies from Britain to the United States.
- *What were workers in the Lowell mills called?
- *Name a reason that factory work was unhealthy and dangerous.

SECTION 2: CH. 11

THE NORTH TRANSFORMED

Northern Cities

- *In the 1800s, the Industrial Revolution led to urbanization, or the growth of cities due to movement of people from rural areas to cities.
- *As capitalists built more factories, agricultural workers were attracted to the new types of work available in the cities.
- *As cities in the East became crowded, newly arrived immigrants headed westward. Growing cities faced many problems. Poor sewers, a lack of clean drinking water, and filthy city streets encouraged the spread of disease.
- *Citywide fires were another major concern. Most city buildings were made of wood. Cities relied on volunteer firefighters who had little training or equipment.

The Growth of Northern Industry

- *American inventors helped industry grow.
- *In 1844, Samuel F.B. Morse tested the telegraph, an invention that used electrical signals to send messages very quickly over long distances. The telegraph revolutionized communication.
- *In the Midwest, Cyrus McCormick built a mechanical reaper that cut wheat much faster than could be done by hand. Such machines allowed more wheat to be grown and harvested using fewer workers. This made it easier for farmers to settle the prairies of the Midwest.
- *Other inventions revolutionized the way goods were made.
- *The invention of the sewing machine made the production of clothing more efficient. Introduced in 1846 by Elias Howe and improved by Isaac Singer, sewing machines could make clothes faster and cheaper than ever before.
- *By 1860, New England and the Middle Atlantic states were producing most of the nation's manufactured goods. Ninety percent of business investment was concentrated in the North.

A Transportation Revolution

- *Improvements in transportation also spurred the growth of industry. Better transport allowed factories to make use of raw materials from farther away, and manufactured goods could be delivered to distant markets.
- *American Robert Fulton built the first practical steamboat, the Clermont, in 1807.
- *But in 1850, a new type of American-built ship appeared, the clipper ship. Long and slender,

with tall masts, clipper ships were the fastest vessels on the ocean. But the Yankee clippers, as they were called, were eventually replaced by faster oceangoing steamships.

*Of all the forms of transportation, railroads did the most to tie together raw materials, manufacturers, and markets.

*In 1830, Peter Cooper built the first American-made steam locomotive.

*By 1840, there were 3,000 miles of railroad track in the United States.

A New Wave of Immigrants

*In the 1840s, millions of immigrants came to the United States, mainly from Western Europe.

*In 1845, disease wiped out the potato crop in Ireland. Because the potato was the staple food for most of the population, Ireland suffered from a famine, or widespread starvation. Huge numbers of Irish came to America, most of them former farm laborers. Many took jobs laying railroad track, or as household workers.

*Many Germans also came to the United States, fleeing failed revolutions in Germany. Unlike the Irish, German immigrants came from many levels of society. Most moved to the Midwest.

*Some Americans worried about the growing foreign population. These were nativists, or people who wanted to preserve the country for white, American-born Protestants.

African Americans in the North

*African Americans in the North also faced discrimination, or the denial of equal rights or equal treatment to certain groups of people.

*Though free, African Americans were often not allowed to vote or to work in factories and skilled trades.

*Public schools and churches were often segregated. So African Americans formed their own churches. They also started their own newspapers and magazines.

Key Checkpoint Questions from Notes

*List three factors that led to the spread of disease in cities.

*Name two key American inventors and their inventions.

Inventor:

Invention:

Inventor:

Invention:

*List three major breakthroughs in transportation.

*Name the countries from which most immigrants to the United States came in the 1840s.

*Define discrimination.

SECTION 3: CH. 11

THE PLANTATION SOUTH

The Cotton Kingdom

- *As the textile industry in the North grew, the demand for cotton rose.
- *Eli Whitney's invention of the cotton gin in 1793 allowed the South to meet this demand. The cotton gin used a spiked wooden cylinder to remove seeds from cotton fibers.

Boom in textiles creates demand for cotton.



Eli Whitney's cotton gin removes seeds from cotton fibers 50 times faster than by hand



There is a boom in cotton production, especially in states like Alabama, Louisiana, Mississippi, and Tennessee.



Enslaved African Americans grow much of the South's cotton on plantations. As cotton becomes more important, so does slavery. There are nearly 4 million enslaved African Americans in the South.

- *Cotton became the greatest source of wealth for the United States.
- *The southern "Cotton Kingdom" society was dominated by slaveholding owners of large plantations.
- *Most southern whites accepted the system of slavery. Supporters of slavery said that the system was more humane than the free labor system of the North.
- *But critics pointed out that factory workers could quit a job if conditions became too harsh. Also, critics said, people held in slavery often suffered physical or other abuse from white owners.
- *By the 1830s, some northerners were urging that slavery be banned.

African Americans in the South

- *About six percent of African Americans in the South were free. Many had purchased their freedom.
- *But laws denied them even basic rights. By law they were excluded from most jobs. They could not vote, serve on juries, testify against whites in court, or attend public schools.

- *Free African Americans were even discouraged from traveling. They also risked being kidnapped and sold into slavery.
- *Many free African Americans still made valuable contributions to southern life.
- *However, enslaved African Americans faced greater trials. They had no rights at all. Laws called slave codes controlled every aspect of their lives.
- *A Kentucky court ruled in 1828 that "...a slave by our code is not treated as a person but as a...thing...."
- *Most enslaved African Americans did heavy farm labor, but many became skilled workers. Some worked in households. Wherever they worked, they faced the possibility of violent punishment for many offenses.
- *Enslaved African Americans had only one protection against mistreatment: Owners looked on them as valuable property that they needed to keep healthy and productive.
- *Families of enslaved African Americans were often broken apart when slave owners sold one or more of their family members.
- *After 1808, it was illegal to import enslaved Africans to the United States.
- *Yet African Americans kept many African customs alive, including styles of music and dance. Many looked to the Bible for hope. African Americans composed spirituals religious folk songs that blended biblical themes with the realities of slavery.
- *African Americans found ways to resist slavery. Some worked slowly, broke equipment, and even fled to seek freedom in the North.
- *Some led rebellions. Nat Turner led the most famous slave uprising in 1831. He and his companions killed some 60 whites. In reprisal, many innocent African Americans were executed.

Key Checkpoint Questions from Notes

- *Why did the invention of the cotton gin lead to a boom in cotton production?
- *List three ways African Americans resisted slavery.

SECTION 4: CH. 11

THE CHALLENGES OF GROWTH

Moving West

- *By the 1750s, the Scotch-Irish and Germans of Pennsylvania began settling the backcountry between the Atlantic Coast and the Appalachian Mountains.
- *In 1775, pioneer Daniel Boone helped create the Wilderness Road, a new route to the West.
- *By the early 1800s, the flow of immigrants to the West had become a flood.
- *As western populations grew, many areas applied to become states.
- *Between 1792 and 1819, eight states joined the Union: Kentucky (1792), Tennessee (1796), Ohio (1803), Louisiana (1812), Indiana (1816), Mississippi (1817), Illinois (1818), and Alabama (1819).

Roads and Turnpikes

- *Traveling west was not easy. Roads were unpaved, rough, and easily washed out by rain. The nation needed better roads. Farmers and merchants had to have a way to move their goods to market quickly and cheaply.
- *Private companies began building turnpikes, or toll roads. One example was the Lancaster Turnpike in Pennsylvania, the nation's first long-distance stone road.
- *In marshy areas, builders constructed corduroy roads out of sawed off logs laid side by side. These roads were bumpy and dangerous to horses.
- *The first road built with federal money was the National Road. Begun in 1811 in Cumberland, Maryland, the road eventually stretched hundreds of miles, reaching Vandalia, Illinois, by 1850.

Canals

- *Roads were still a slow and costly way to ship goods between East and West.
- *The fastest, cheapest way to ship goods was by water.
- *The solution was to build canals—channels that are dug across land and filled with water. Canals allow boats to reach more places.
- *In 1808, Governor DeWitt Clinton of New York suggested that a canal be built to connect the Hudson River and Lake Erie.
- *Building the canal was challenging for engineers and workers. Locks had to be built to raise or lower boats in the canal.
- *Within two years of its opening in 1825, the canal had paid for itself.
- *Produce from the Midwest came across Lake Erie, passed through the Erie Canal, and was carried down the Hudson River to New York City.

*New York City soon became the richest city in the nation. The success of the Erie Canal sparked a surge of canal building.

The Extension of Slavery

*In 1819, the nation consisted of 11 “slave states” and 11 “free states.”

*Since 1817, Missouri had been seeking admission as a slave state. Adding another slave state would upset the balance in the Senate, where each state had two votes. Adding two more senators from a slave state would make the South more powerful than the North.

*Representative James Tallmadge of New York proposed that Missouri be admitted as a slave state. Once admitted, however, no more slaves could be brought into the state. The bill failed in the Senate.

*Then Maine applied to join the Union as a free state. The admission of both a free state and a slave state would maintain the balance in the Senate.

*In 1820, Senator Henry Clay persuaded Congress to adopt the Missouri Compromise. This permitted Maine to be admitted to the Union as a free state and Missouri to be admitted as a slave state. In addition, the Compromise provided that the Louisiana Territory north of the southern border of Missouri would be free of slavery. It also gave southern slave owners a clear right to pursue escaped fugitives into “free” regions and return them to slavery.

*The Missouri Compromise revealed how much sectional rivalries divided the states of the Union. The Compromise seemed to balance the interests of the North and the South. However, the South was not happy that Congress was becoming involved in the issue of slavery. The North was not happy that Congress had admitted another slave state into the Union. The bitterness of feelings about slavery posed a serious threat to national unity.

Key Checkpoint Questions from Notes

*Name two states admitted to the Union in the 1790s.

*Name the first road built with federal money.

*Name the two places connected by the Erie Canal.

*Name the two states admitted to the Union under the Missouri Compromise.