Industrial Revolution
Mechanical Change in the World
STANDARD WHII.9a
The student will demonstrate knowledge of the effects of the Industrial Revolution during the nineteenth century by
The student will demonstrate knowledge of the effects of the Industrial Revolution during the nineteenth century by:

a) citing scientific, technological, and industrial developments and explaining how they brought about urbanization and social and environmental changes.
Industrial Revolution

Time in which people began using machines instead of tools
With the Industrial Revolution came an increased demand for raw materials from the Americas, Asia, and Africa.

Advancements in technology produced the Industrial Revolution, while advancements in science and medicine altered the lives of people living in the new industrial cities. Cultural changes soon followed.
Industrial Revolution

- It began in England in the 1700s

- Why?
  - England had a wide variety of natural resources (e.g., coal, iron ore) and many inventors

- It soon spread to Europe and the United States
British Enclosure System

- The British used to keep open land public
  - Any ordinary person could use it to graze their animals and farm
The British used to keep open land public. Any ordinary person could use it to graze their animals and farm. The rich realized they could simply fence in huge amounts of land and claim it as private property for themselves.
British Enclosure System

- This forced the people farming the land into the cities
- Cities became overcrowded
- These people became a huge workforce for the new industries
Industrial Revolution

- The growing system of factories (which could make larger numbers of products much faster) forced the end to smaller “cottage industries”
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Industrial Revolution

- Large countries wanted to control raw materials and markets throughout the world.
Industrial Revolution

- The industrial revolution spread across all areas of industry...
  - Cotton textile
  - Iron
  - Steel
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- Cotton textile
- Iron
- Steel

Textile

Cloth or woven fabric
Technological advances that produced the Industrial Revolution

- Because of the importance of the weaving industry, many inventions were first created for it
Technological advances that produced the Industrial Revolution

- Weaving and cloth making was very important
- James Hargreaves developed the Spinning Jenny
- This new invention could spin up to 120 spools of cotton into yarn
Technological advances that produced the Industrial Revolution

- John Kay
- Flying Shuttle
- Allowed much faster weaving and much wider cloth
Technological advances that produced the Industrial Revolution

- Eli Whitney
- Cotton Gin

Why? Because seeds in cotton needed to be removed by hand.
Technological advances that produced the Industrial Revolution

- Thomas Newcomen
- Created the first steam engine in 1712
- It was used to pumped water out of mines
Technological advances that produced the Industrial Revolution

- James Watt
- Builds a better steam engine
- It soon becomes the world’s leading power source
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Technological advances that produced the Industrial Revolution

- Henry Bessemer
- Created a cheap mass-production process to create steel
- The Bessemer Process
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Fig. 43. The First Form of Bessemer Moveable Converter and Ladle
Technological advances that produced the Industrial Revolution

- Robert Fulton

- Used the newly redesigned steam engines to create the first steamboat!

- Now ships could move under their own power
Technological advances that produced the Industrial Revolution

- George Stephenson
- Uses the steam engine to create the first railroad train!
- Named it Rocket!
Technological advances that produced the Industrial Revolution

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Advancements in *science and medicine*

- Edward Jenner
Advancements in science and medicine

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- Edward Jenner
- Developed a vaccine for smallpox!
Advancements in science and medicine

- Louis Pasteur

- Discovered that microbes were in everything and could cause disease

- Invented a way slow the growth of microbes in liquid

- This method is called “Pasteurization”
Advancements in science and medicine

- Telegraph
  - Uses electrical signals and wires to communicate across the earth
Advancements in science and medicine

- Users would transmit instant messages using Morse Code
- The code was invented by Samuel Morse
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The code was invented by Samuel Morse.
Advancements in science and medicine

- Alexander Graham Bell
- Invented the first telephone
Advancements in science and medicine

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Advancements in science and medicine

- Thomas Edison
- Has 1093 patents for inventions of his
- Inventions include the phonograph and the motion picture camera
Advancements in science and medicine

- Thomas Edison
- He was also the inventor of the light bulb
- It could stay lit for two days!
Advancements in science and medicine

- Internal Combustion Engine

- The gasoline engine

- Used a fuel in a controlled explosion to move other parts
Advancements in science and medicine

- Internal Combustion Engine
- This began to replace the steam engine
- It created more power than steam
Impacts of the Industrial Revolution on industrialized countries
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- Population increase
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- Increased standards of living for many but not all
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- Dissatisfaction of working class with working conditions
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- Increased standards of living for many but not all
- Improved transportation
- Urbanization – more people moving to the cities
- Environmental pollution
- Increased education
- Dissatisfaction of working class with working conditions
- Growth of the middle class
Essential Questions

- Why did the Industrial Revolution originate in England?
- Why did the spread of industrialism to Europe and the United States accelerate colonialism and imperialism?
- How did the Industrial Revolution produce changes in culture and society?
STANDARD WHII.9b

The student will demonstrate knowledge of the effects of the Industrial Revolution during the nineteenth century by

b) explaining the emergence of capitalism as a dominant economic pattern, and the subsequent development of socialism and communism.
Capitalism

Economic system: the means of production are privately owned and operated for private profit.
Capitalism and market competition fueled the Industrial Revolution.

Example:
- By making more shirts, more could be sold,
- more money is made
- many makers would look for new ways to produce even more
The new inventions increased the standard of living for some.

- New farm machines made it easier to produce food
- New medicines helped people live longer
- People lived more comfortable lives
- They traveled farther and faster
- They also had more time for leisure
Capitalism

- More people were needed to work the machines
- More people earned money
- A new “middle class” started
- It was not only just poor or wealthy
Capitalism

- Adam Smith’s book *The Wealth of Nations*

- Stated the modern theory on economics

- It discussed the basic ideas of the free market economy and his theory of the “invisible hand”
Capitalism

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**Invisible Hand**

Unseen force that guides individuals to unknowingly benefit society through the pursuit of their private interests.
Capitalism

- Capitalism deals with market competition and entrepreneurial abilities.
- Competition is anybody who creates a similar product in an attempt to gain the most customers.
Capitalism

- Competition example:
Capitalism

- Competition example:
SOCIALISM AND COMMUNISM
Socialism and communism

- Some people were dissatisfied with the poor working conditions
Socialism and communism

- Some people were dissatisfied with the poor working conditions.
- Some people were upset with the uneven distribution of wealth.
Socialism and communism

- Some people were dissatisfied with the poor working conditions
- Some people were upset with the uneven distribution of wealth
- Many new economic and political ideas popped up, including socialism and communism.
Socialism and communism

- Karl Marx
Socialism and communism

- Karl Marx wrote *The Communist Manifesto* (written with Friedrich Engels) and *Das Kapital*
Socialism and communism

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- It was a response to the injustices of capitalism
Socialism and communism

- The importance to communists is the redistribution of wealth.
- That means everyone works and everyone earns the same thing.
Socialism and communism

- Marx believed capitalism would produce internal tensions which would lead to its destruction.
Socialism and communism

- There were two classes:
Socialism and communism

Bourgeoisie
The elite (rich)

Proletariat
The workers
Socialism and communism

- Marx believed the workers would overthrow the elite and rule the society.
Socialism

Economic theory, the means of producing and distributing goods is owned by “everybody” and labor is controlled by a centralized government that plans and controls the economy.

Communism

Economic theory, the means of producing and distributing goods is owned by a centralized government that plans and controls the economy.
STANDARD WHII.9c

The student will demonstrate knowledge of the effects of the Industrial Revolution during the nineteenth century by

c) describing the evolution of the nature of work and the labor force, including its effects on families, the status of women and children, the slave trade, and the labor union movement.
Changing Families

- Agricultural economies were based on the family unit.

- Families were large and all hands helped on the farms
Changing Families

- Family-based cottage industries were displaced by the factory system.

- The Industrial Revolution had a significant impact on the structure and function of the family.
Changing Families

- Families didn’t need to be as large
- Many workers were needed for new jobs in the factories
- Families moved to the cities and became urban
- Many family members found work in factories in cities
Changing Families

- Families didn’t need to be as large.
- Many workers were needed for new jobs in the factories.
- Many family members found work in factories in cities.
- Families became urban.
The nature of work in *the factory system*

- The Industrial Revolution placed new demands on the labor of men, women, and children.
The nature of work in the factory system

The Industrial Revolution placed new demands on the labor of men, women, and children.

Working conditions were harsh with men competing with women and children for wages.

Factories were dirty and unsafe.
The nature of work in the factory system

- Child labor was common where small hands were needed to reach into machinery
- Children received less pay
- Many women, girls, and boys worked in coal mines
- Child labor kept costs of production low and profits high
The nature of work in the factory system

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- Many women, girls, and boys worked in coal mines.
- Child labor kept costs of production low and profits high.
The nature of work in the factory system

- Pay was very low
- Many workers worked 12 or more hours a day for 6 or sometimes 7 days a week
- There were no laws to protect the workers
The nature of work in the factory system

- Owners of mines and factories who exercised considerable control over the lives of their laborers.
- Many owners paid their workers in “Company” money.
- This money could only be spent at more expensive “Company” stores.
Unions

- Workers organized into labor unions to fight for improved working conditions and workers’ rights.
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Labor Union

Organized association of workers, in a trade or profession, formed to protect and further their rights and interests.
Unions

- Workers organized into labor unions to fight for improved working conditions and workers’ rights.

- They called for laws to improve the lives of workers, including women and children.
Unions encouraged worker-organized strikes to demand increased wages and improved working conditions. Workers would refuse to work until their demands were met.

- Sometimes it worked
- Other times, the strikes were broken by owners hiring new workers or by force
Unions

- Wanted workers’ rights and collective bargaining between labor and management
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Collective Bargaining

Negotiation of wages and other conditions of employment by an organized body of employees.
Impact on slavery

- The cotton gin increased demand for slave labor on American plantations.
- The United States and Britain outlawed the slave trade and then slavery.
- Eventually, machines began to eliminate the need for slaves.
Social effects of the Industrial Revolution

- Reforms were introduced to end child labor
- Education expanded and soon free, public education was provided for ALL children
- Women increased their demands for suffrage
Social effects of the Industrial Revolution

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Suffrage

Right to vote
STANDARD WHII.9d, e

The student will demonstrate knowledge of the effects of the Industrial Revolution during the nineteenth century by

d) explaining the rise of industrial economies and their link to imperialism and nationalism;

e) assessing the impact of European economic and military power on Asia and Africa, with emphasis on the competition for resources and the responses of colonized peoples.
Essential Understandings

- Industrial nations in Europe needed natural resources and markets to expand their economies.
- These nations competed to control Africa and Asia in order to secure their own economic and political success.
- Imperialism spread the economic, political, and social philosophies of Europe throughout the world.
- Resistance to imperialism took many forms, including armed conflict and intellectual movements.
Industry and Imperialism
Industry and Imperialism

Imperialism

A policy of extending a country's power and influence through diplomacy or military force.
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Industry and Imperialism

- European nations competed for colonies
- Reasons for colonization:
  - Nationalism
  - The need for more resources
  - The need for more markets
Industry and Imperialism

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- Reasons for colonization:
  - Nationalism
  - The need for more resources
  - The need for more markets
- Countries rushed to take over mostly defenseless territories
Industry and Imperialism

- European nations used economic, military, and political superiority to force colonized countries to trade on European terms.
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Industry and Imperialism

- European countries mass produced goods and sold them in their colonies.
- These displaced (pushed out) the traditional industries in those countries.
Industry and Imperialism

- Colonized peoples resisted European domination and responded in diverse ways to Western influences.
Forms of imperialism
Forms of imperialism

- Colonies
Forms of imperialism

- Colonies

A country or area under the full or partial political control of another country and settled by people from that country.
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Forms of imperialism

- Protectorates
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- Protectorates

Protectorate

A country that is protected by another, and usually gives some benefits for it.
Forms of imperialism

- Protectorates

A country that is protected by another, and usually gives some benefits for it.
Forms of imperialism

- Spheres of influence
Forms of imperialism

- Spheres of influence

**Sphere of Influence**

A country in which another country has power to influence, but no formal authority.
Forms of imperialism

- **Sphere of Influence**: A country in which another country has power to influence, but no formal authority.
Imperialism in Africa and Asia
Imperialism in Africa and Asia

- European countries dominated the imperialism
Imperialism in Africa and Asia

- European countries dominated the imperialism
- European wars carried over to the colonies
  - (Example: The American “French and Indian War” was part of the European “Seven Years War”)
Imperialism in Africa and Asia

- Christian missionaries attempted to convert the natives in their colonies.
Imperialism in Africa and Asia

- Many European countries exerted “spheres of influence” in China
Imperialism in Africa and Asia

Many European countries exerted “spheres of influence” in China.

These countries included:

- Britain
- France
- Japan
- Russia
- Germany
Imperialism in Africa and Asia

- The Suez Canal
- Located between the Mediterranean Sea and the Red Sea
- Creates a direct sea route between Europe and Asia
Imperialism in Africa and Asia

- **The Suez Canal**

- The Canal was designed and built by Britain to make shipping faster
Imperialism in Africa and Asia

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Imperialism in Africa and Asia

- Britain’s East India Company was formed to trade with parts of India.
- Soon, the company began taking over India!
Imperialism in Africa and Asia

- The company raised its own private army and began to take over parts of India.
- Britain controlled India for many years after.
Imperialism in Africa and Asia

- The United States sent Matthew Perry to Japan
Imperialism in Africa and Asia

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Imperialism in Africa and Asia

- The United States sent Matthew Perry to Japan

Not THAT Matthew Perry...
Imperialism in Africa and Asia

- The United States sent Matthew Perry to Japan
- (Matthew Perry was a “Commodore” who led a squadron of Navy ships)
Imperialism in Africa and Asia

- The United States sent Matthew Perry to Japan
- Japan practiced isolationism, they traded only with the Dutch once a year
- The Japanese told him to leave…
- He refused!
Imperialism in Africa and Asia

- Perry demanded they write a new treaty opening their ports to trade

- He threatened to use his ships against them

- He returned the following year, with twice as many ships, and the Japanese had the treaty ready!
Responses of colonized peoples
Responses of colonized peoples

- Many native people tried to fight back

China:
- Foreign influence was disrupting Chinese society
- A group called the Society of Righteous and Harmonious Fists formed
- It was made of young men who practiced traditional martial arts so foreign missionaries nicknamed them “Boxers”
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China:

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Responses of colonized

- China:
  - The Boxers joined with the Chinese army and began to fight against the foreign influence. This became known as the “Boxer Rebellion”
  - They captured many foreigners and missionaries and held them in Beijing (the capital)
Responses of colonized peoples

- China:
  - European nations sent in troops, defeated the Boxers and the Chinese army
  - This led to Beijing being looted by the foreigners and stronger control over China
Responses of colonized peoples

- Foreign influences also caused a rise in nationalism of the people they controlled

- India:
  - Many Indian people viewed the foreign control of India negatively
  - They began to feel more loyalty to their country
Responses of colonized peoples

- India:
  - These people joined together and formed the *Indian National Congress*
  - This was an organization used to protect India, its people, and its culture from British oppression
Responses of colonized peoples:

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Essential Questions

- Why did European countries participate in imperialism and a race for colonies?
- What were some responses of colonized peoples to European imperialism?