

13.3

The Second Industrial Revolution

As a Young Historian, I will be able to...

- Describe the impact of new technology on industry, transportation, and communication.
- Understand how big business emerged.
- Summarize the impact of medical advances in the later 1800s.
- Describe how cities changed and grew.
- Explain how conditions for workers gradually improved.

Science & Technology Change Industry

Companies began to hire chemists & engineers
to create new products & machinery

Henry Bessemer- Invented a process of
smelting iron down into steel

Soon all products were using steel as it was cheaper,
lighter, harder, & more durable than steel

Alfred Nobel- Invented dynamite & eventually
founded the Nobel Prizes

Electricity

Michael Faraday invents the **dynamo**, a machine that generates electricity

Thomas Edison creates the first electric light bulb, allowing the world to light up

Interchangeable Parts- Identical components that could be used in place of one another

Assembly line- Parts of production moved down a belt to different work stations to make factories more efficient

Advancements in Transportation & Communication

Steam-powered ships & railroads better connected the world

German inventors would create patents to invent the “horseless carriage”...

...Eventually leading to automobiles that the French & Henry Ford perfected the construction of

Orville & Wilbur Wright- Designed & flew the “Kitty Hawk”, inventing the airplane

Guglielmo Marconi- invented a new form of wireless communications using radio signals, creating the radio!

Rise of Big Business

Big Business is the establishment run by entrepreneurs on a large scale or industry

Stock- Shares of a company that owners sell for people to invest in the company

Corporations- Businesses that are owned by many investors who buy shares of stock

Monopolies would be developed & own all the materials & corporations developed cartels

Cartels- Associations to fix prices, set production quotas, & control markets

Medicine, Health, Nutrition

Germ Theory- Belief that certain microbes cause specific infectious diseases

Louis Pasteur- Chemist who developed vaccines & the process of pasteurization for milk

Robert Koch- Identified the bacteria that caused tuberculosis & gained a new understanding of microbes

People bathed & changed clothes more often to give themselves better hygiene

Hospital Care

Florence Nightingale- Nurse who introduced sanitary measures in hospitals & first school of nursing

Joseph Lister- Discovered how antiseptics prevented infections & taught surgeons to sterilize tools

City Life Changes

Urban Renewal- Rebuilding of the poor areas of a city.

Georges Haussman redeveloped Paris streets for new jobs & open streets

Soon the rich would live on the outskirts of cities while the poor crammed into city centers

Sewage lines, paved streets, street lamps, & police made the streets safer to live

City Life

**Tenements were crammed & overcrowded &
sometimes families had to live in 1 room**

**Disease spread easily in these neighborhoods as did
high crime rates & alcoholism**

**However, people sought new opportunities in the
city & attracted millions**

**Entertainment would lure in people from all
classes of life**

Working Class New Rights

Workers tried to improve living conditions of industrial life

Mutual-aid societies- Self-help groups to aid sick or injured workers

Workers would often go on strike to intimidate businesses to offer better wages & benefits

Public Education gave people the skills needed for the workforce & improvements benefitted all