Section 1: Beginnings of Industrialization

The Industrial Revolution
- c. 1750/60- 1850/60
- The Industrial Revolution begins in Britain/England, spreads to other countries, and has a strong impact on economics, politics, and society
- Greatly increases output of machine-made goods

Foundation of Industrial Revolution
- The Agricultural Revolution
  - Enclosures—large farm fields enclosed by fences or hedges
  - Wealthy landowners buy, enclose land once owned by village farmers
  - Enclosure increased farming efficiency

Agricultural Revolution
- Agricultural Revolution led to the Industrial Revolution in three ways:
  - Increased food supplies
  - Contributed to population growth
  - Caused farmers to lose land and seek other work
- Crop rotation—switching crops each year to avoid depleting the soil
  - Increased crop yields= increased nutrients in the soil

Industrial Revolution Begins in England
- Industrialization—move to machine production of goods
- Britain's economy positively impacted industrialization through Britain's highly developed banking system, the availability of loans, and climate of progress
- Britain has all the needed factors of production to support industrialization—land, labor, capital

Inventions Spur Industrialization
- Textile industry- first area to undergo major industrialization
  - Water frame uses water power to drive spinning wheels
  - Power loom, spinning mule speed up production, improve quality

Watt’s Steam Engine
- Need for cheap, convenient power spurs development of a steam engine
- James Watt improves the steam engine by making it work faster and more efficiently while burning less fuel, financed by Matthew Boulton
- Boulton an entrepreneur (business investor)—organizes, manages, takes business risks
Improvements in Transportation

• Water Transportation
  ▫ Robert Fulton builds first steamboat, the Clermont, in 1807

• Road Transportation
  ▫ British roads are improved; companies operate them as toll roads

• Railroads
  ▫ In 1804, Richard Trevithick builds first steam-driven locomotive
  ▫ In 1825, George Stephenson builds world’s first railroad line

Railroads
• Four major effects of the invention and perfection of the locomotive:
  ▫ Railroads spur industrial growth by giving manufacturers a cheap way to transport materials and finished products
  ▫ Create jobs (railroad and mine workers)
  ▫ Offered cheap transportation for materials and good
  ▫ People move to cities—travel is made easier

Section 2: Industrialization
Domestic System to Factories
• Cottage/Domestic System
  ▫ Before factories, the manufacture of products like textiles was done at home and on a small scale
  ▫ Workers made products in their own homes with materials supplied by entrepreneurs
  ▫ Problems: people tended to work in spurts, lack of standardization

• Factory Work
  ▫ Factories pay more than farms, spur demand for more expensive goods

Industrial Cities
• Urbanization—city-building and movement of people to cities
• The main cause of urbanization was industrialization
• Growing population provides work force, market for factory goods
Living Conditions in the Industrial Revolution
• Sickness was widespread; epidemics, like cholera, sweep urban slums
• Life expectancy of the average worker dropped as a result of the Industrial Revolution
  ▫ Illness caused by unhealthy living conditions contributed to the shorter life span
  ▫ Average age only 17 in some cities
• Cities also do not have adequate housing, education, police protection

Population Increases
• A larger population made possible by greater agricultural production and improved medicine provided plenty of workers for the new industries, so many in fact that wages fell
• When one group demanded a wage hike, employers could find others willing to work

Working Conditions
• Average work day is 14 hours for 6 days a week, year round
• Dirty, poorly lit factories injure workers
• Many coal miners killed by coal dust

Manchester Industrialization
• Factories employed young children, especially orphans
  ▫ Children as young as 6 work in factories; many are injured
• 1819 Factory Act restricts working age, hours
• Factory pollution fouls air, poisons river
• Nevertheless, Manchester produces consumer goods and creates wealth

Class Tensions Grow
• Middle class—skilled workers, merchants, rich farmers, professionals
  ▫ Emerging middle class looked down on by landowners, aristocrats
  ▫ But they begin to change British society when some members of the middle class achieved top positions in society
• The Working Class
  ▫ Laborers’ lives not immediately improved; some laborers replaced by machines
  ▫ Unemployment a serious problem
The Luddites: 1811-1816
• The Luddites were a social movement of English textile artisans
• Protested — often by destroying textile machines — against the changes produced by the Industrial Revolution that threatened their livelihood

Positive Effects of the Industrial Revolution
• Immediate Benefits
  ▫ Creates jobs, enriches nation, encourages technological progress and the production of goods
  ▫ Education expands, clothing cheaper, diet and housing improve
• Long-Term Effects
  ▫ Improved living and working conditions still evident today
  ▫ Governments use increased tax revenues for urban improvements

Section 3: Industrialization Spreads
Industrial Development in the U.S.
• U.S. has natural and labor resources needed to industrialize
• Samuel Slater, English textile worker, builds first textile mill in the U.S.
• Lowell, Massachusetts a mechanized textile center by 1820

Industrial Development in the U.S. (cont.)
• Industrialization picks up during the post-Civil War technology boom
• Small companies merge to form larger, powerful companies
• Corporations
  ▫ Stock—limited ownership rights for company, sold to raise money
  ▫ Corporation—company owned by stockholders, share profits not debts

Continental Europe Struggles to Industrialize
• The rest of Europe wished to industrialize as Britain had
• However, the French Revolution and Napoleonic Wars between 1789 and 1815 had:
  ▫ halted trade
  ▫ interrupted communication
  ▫ caused inflation which disrupted European economies
• Additionally, Britain forbade engineers, mechanics, and toolmakers from leaving the country in order to protect their industrial secrets
  ▫ However, William Cockerill illegally emigrated to Belgium in 1799-built mills
Continental Europe Industrializes- Germany
• Germany was politically divided in the early 1800s
  ▫ Scattered resources hampered countrywide industrialization
  ▫ Instead, pockets of industrialization appeared
• Germany built railroads that linked its growing manufacturing cities
• Germany’s economic strength spurred its ability to develop as a military power

Industrial Expansion In Europe
• In Europe, industrialization during the early 1800s proceeded by region rather than by country
• Even in countries dominated by agriculture pockets of industrialization arose
• Why All Europeans Did Not Industrialize:
  ▫ In some nations the social structure delayed the adoption of new methods of production
  ▫ Geography held others back
    • Austria-Hungary- mountains prevented transportation
    • Spain- lacked adequate roads and waterways for canals

Foreign Trade
• The industrial revolution stimulated foreign trade
• As more goods were produced than could be consumed on home markets, countries became more aggressive in finding markets overseas
• Led to the search for formal and informal colonial holdings- a new imperialism

Rise of Global Inequality
• Wealth gap widens; non-industrialized countries fall further behind
• Worldwide industrialization became the driving force behind imperialism due to need for raw materials and markets
Section 4: Reforming the Industrial World

**Laissez-faire Economics**
- *Laissez faire*—economic policy of the government not interfering with businesses
  - Owners of industry set working conditions—no gov’t interference
- Adam Smith—defender of free markets, author of *The Wealth of Nations*
- *Laissez-faire* economics influenced early industrialists by arguing that a free-market economy is governed by natural laws, not government regulations
  - Economic natural laws—self-interest, competition, supply and demand
- In a free-market system the government will not interfere in either domestic or international economic matters

**The Economists of Capitalism**
- Thomas Malthus and David Ricardo support the concept of *laissez-faire* capitalism
  - Like Smith they believed that natural laws governed economic life; Their ideas were the foundation of *laissez-faire* capitalism
- Capitalism—system of privately owned businesses seeking profits

**Utilitarianism**
- In contrast to *laissez-faire* philosophy
- Jeremy Bentham’s utilitarianism judges actions by their usefulness
  - Argued that gov’t policy should promote the greatest good for the greatest number of people—a gov’t was only good if it promoted this goal

**Socialism**
- Socialism—factors of production owned by, and operated for the people
- Sought to offset the ill effects of industrialization
- 19th century socialists argued that gov’t should actively plan the economy rather than depend on the free-market

**Marxist Socialism**
- German journalist named Karl Marx introduced the world to his brand of socialism= Marxism
  - Associated with Communism
- Karl Marx and Frederick Engels outlined their views in a 23-page pamphlet called *The Communist Manifesto* (published in 1848)
  - Argued that human societies have always been divided into warring classes
  - Long term impact: in the 1900s, Marxism inspired revolutionaries such as Russia's Lenin
Marxist Socialism (cont.)

• According to Marx and Engels the Industrial Revolution had enriched the wealthy and impoverished the poor
• Communism—society where people own, share the means of production (pure socialism)

Capitalism vs. Socialism

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<tr>
<th>Capitalism</th>
<th>Socialism</th>
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<tr>
<td>Individuals and businesses own property and the means of production</td>
<td>The community or the state should own property and the means of production</td>
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<tr>
<td>Progress results when individuals follow their own self-interest and compete for the consumer’s money</td>
<td>Progress results when a community of producers cooperate for the good of all</td>
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<tr>
<td>Consumers compete to buy the best goods at the lowest prices</td>
<td>Socialists believe that capitalist employers take advantage of workers, and capitalism creates unequal distribution of wealth and material goods</td>
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Unionization

• Unions—associations formed by laborers to work for change
• When the trade movement began in Britain, the strike was an illegal action taken against owners by union workers
• Collective bargaining= carried out between employers and employees
• Union goals were higher wages, shorter hours, improved conditions

Reform Laws

• British, U.S. laws passed to stop worst abuses of industrialization
• 1842 Mines Act in Britain stops women, children working underground
• In 1847, work day for women, children limited to 10 hours in Britain
• Other reform movements included: abolition of slavery, women's rights, public education