

**1. How did America's geography and physical location aid its rise to a great industrial power? What resources did America possess that allowed for such rapid economic growth? Give specific examples of regions/industries that benefited from the development of these resources.**

I. Geography

A. Exporting Cargo

1. Places like New York, Rhode Island, and New Hampshire were on the coast of the Atlantic Ocean, which allowed them to ship out cargo easily.
2. This aided America's rise to industrial power because it was not expensive to transport cargo out of America.

B. Natural Resources

1. Natural resources like coal, iron, steel, and titanium were located in the mountains of the American West.
2. America did not have to buy iron and steel from other competing companies because they already had it.
3. American companies could obtain natural resources cheaply because they did not have to import them. Not having to pay for natural resources created a great industrial power because the money stayed within America.
4. These natural resources were used by large companies to create factories that created a thriving economy for America.
5. The more factories America had, the more product it was able to make, leading to its great industrial power.

C. Water Sources

1. America had an abundance of water sources like Lake Erie, Michigan, and Ontario.
2. Water sources were used to power factories, steamboats, and transport cargo.
3. Many factory owners would build their factory next to large water supply for power.
4. Water sources aided industrial power because factory owners were able to easily supply power to the factory without going to a 3rd party.

2. Sources for Economic Growth

A. Coal

1. America had an extreme abundance of natural resources like coal, iron, titanium and metals. By using products like coal they were able to power factories and power plants.
2. Coal was needed to fuel steam engines and furnaces. The development of factories and the improvement of the steam engine increased demand for coal.

3. Coal mines were a profitable business that created economic growth.

#### B. Iron

1. In the iron industry, furnaces and rolling mills were quickly supplanting small local forges.
2. The midwest became the center of American heavy industry because of its abundant iron ore deposits around Lake Superior and the easy access to cheap water transportation routes on the Great Lakes.
3. Between 1880, steel production increased from 1.25 million tons to more than 10 million tons.
4. The natural resource of iron created rapid economic growth.

#### 3. Resources that helped America industrialize

1. The coal and other natural resources helped America industrialize because it created factories dependent on coal as a power source which caused mass production of product.
2. Iron helped make furnaces and rolling mills that became a major American export.
3. By 1910, America was producing more than 24 million tons, by far the greatest of any country.
4. Because of these resources they were able to produce thousands of factor across the country furthering the rapid spread of industrialization.

<http://www.history.com/topics/industrial-revolution>

<http://www.ushistory.org/us/25.asp><http://www.gilderlehrman.org/history-by-era/essays/rise-industrial-america-1877-1900>

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### **2. How did the policies of the federal government affect the process of industrialization? Did such practices as high tariffs help or hurt the American economy during this era?**

#### I. Policies and Acts

##### A. Free Enterprise

1. Laissez-faire - the idea that the government should not regulate businesses
2. Government embodied the ideas of laissez-faire by having low taxes, low spending, and not regulating prices or wages.
3. This improved industrialization because it encouraged high competition.

##### B. Homestead Act - 1862

1. Allowed citizens to possess lands in the West if they paid a registration fee of \$10 and lived on the plot for five years.
2. This hurt industrialization because it allowed potential factory workers to move West to farm instead.

##### C. Pacific Railway Act - 1862

1. The government allotted land to two railroad companies to build a transcontinental railroad.

2. This helped industrialization because it allowed corporations to ship products to the West to sell to consumers.

D. Dawes Act - 1877

1. Broke up Native American reservations by systematically dividing up the land for individual ownership among the Native Americans to use for farming.
2. Hurt industrialization because it caused potential factory workers to farm instead.

II. Tariffs

A. Taxes on imports to protect American businesses from competition

B. Hurt - Farmers

1. Manufactured goods needed for farming became more expensive
2. Had to lower prices of goods to compete in an unregulated market plagued by foreign competition and overproduction of goods.

C. Helped - American businesses

1. Allowed them to raise prices, as long as they were cheaper than foreign prices that were higher due to tariffs.
2. Struggling farmers moved North to become factory workers

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(<http://www.austincc.edu/lpatrick/his1302/agrarian.html>)

**3. What new inventions were brought to the market because of industrialization? How did these inventions change the lives of ordinary Americans?**

I. What inventions were brought to the market during the Industrial Revolution?

A. Transportation

1. The steam engine, which was invented by James Watt, was a vital source of energy which helped with the production of the steamboat, The steamboat was powered by water essentially for transportation of goods to town to town across bodies of water.

2. The first airplane was also produced during this time by Orville and Wilbur Wright, which was by far one of the most impressive inventions, and lead to a later on spark of production to airplanes as a great way of transportation to other places of huge distance.

3. Henry Ford was one of to manufacture automobiles, named Model T. Ford. His name was put down into history and now is known as a huge car company. The use of cars was more efficient than walking and became more common as time went on and as the "assembly line" was used more (also created by Henry Ford).

4. The railroad was a highly efficient way of transportation, though very expensive due to the use of material to make it. It was seen as a way to transport from place to place very fast.

B. Electricity

1. Thomas Edison invented the first electric light bulb which was seen to improve the safety of towns by emitting light to brighten the streets.

2. Also Edison produced the first moving picture camera, phonograph cylinder,

quadruplex telegraph, and electric generators.

3. All of these inventions improved the safety and living conditions of towns by providing the light to town streets and opening up more opportunities of knowledge and technology.

#### C. Communication

1. Alexander Bell invented the telephone which led to better connection with people and towns.

2. Bell improved his invention which caused more than 150,000 people to own telephones in the U.S. in 1886.

#### D. Misc. Inventions

1. The sewing machine, which was made by Elias Howe in 1844, was an improvement of the production of clothing and other essential goods.

a. It was soon improved by Isaac Singer in 1851.

2. Cyrus Field created the transatlantic cable in 1866, which ran under the Atlantic Ocean for the use of telegraph communications.

3. Eli Whitney invented the cotton gin which separated cotton fibers from their seeds which increased productivity of cotton.

a. Whitney also invented interchangeable parts for muskets which helped with the fixing and production of muskets.

<http://americanhistory.about.com/library/charts/blchartindrev.htm>

<http://www.sciencekids.co.nz/sciencefacts/scientists/alexandergrahambell.html>

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### **4. How did the new forms of business combination affect industrialization? Were these types of businesses good or bad for America? Were they both?**

#### I. New Business Practices

##### A. Corporations

1. A company that is a separate legal identity with its own rights, separate from those of the founders
2. Viewed as “legal persons” in the eyes of the law
3. Originally created for the protection of the business owner, and in the public’s interest
4. Corporations reduce liability of the shareholder, employees, officers and founders: limited liability

<http://www.digitalhistory.uh.edu/era.cfm?eraid=9>

[http://www.astonisher.com/archives/corporation/corporation\\_intro.html](http://www.astonisher.com/archives/corporation/corporation_intro.html)

##### B. Trusts

1. A group of corporations that collaborate in ways that enhance their control of their

markets

2. Stockholders from several companies transferred their stock to one trustee, in return the stockholders received a guarantee to a specified share of the joint amount
3. Trusts aided business owner's expansion of their companies, which often led to the monopolization of their particular markets
4. Sherman Anti-Trust Act of 1890: the first legislation to prohibit trusts passed by congress, allows the government to dissolve trusts

[http://www.americanbar.org/content/dam/aba/migrated/publiced/practical/books/wills/chapter\\_5\\_authcheckdam.pdf](http://www.americanbar.org/content/dam/aba/migrated/publiced/practical/books/wills/chapter_5_authcheckdam.pdf)

<http://www.ourdocuments.gov/doc.php?flash=true&doc=51>

### C. Vertical and Horizontal Integration

1. Vertical Integration- owning of all the different companies that one company depended on for operation
2. Horizontal Integration- the combining of firms engaged in the same type of business into one corporation
3. Both promoted by Andrew Carnegie
4. Horizontal Integration a huge facet of monopolization

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<http://www.ushistory.org/us/36c.asp>

## II. Effects on Industrialization and America

### A. Positive Effects

1. more opportunities for investment growth
2. uncertainty reduced, limited liability offers protection
3. advantages to foreign competition

### B. Negative Effects

1. Markets monopolized
2. Small/Local businesses suffer, can't compete
3. Growth of the margin between the wealthy and the working class

<http://www.slu.edu/x28249.xml>

<http://www.ribbonfarm.com/2011/06/08/a-brief-history-of-the-corporation-1600-to-2100/>

**5. Provide biographies of leading industrialists of this era. These men are often called "robber barons." Were they?**

I. Leading Industrialists

A. Andrew Carnegie 1835- 1919

1. Emigrated to the U.S at thirteen with his family from Scotland; began working in a Pennsylvania textile mill as a teenager
2. Hired by Thomas A. Scott (president of The Pennsylvania Railroad) in the 1850s and quickly rose among the ranks to a major management position, gaining industry experience
3. Began investing in oil, brought in considerable returns
4. Left the railroad company in 1865 to focus on the steel industry
5. Created the Carnegie Steel Company based around the business model of vertical integration
6. Dominated the steel industry by the 1890s, Carnegie Steel Corporation the largest steel company in the world
7. Sold his corporation for over \$200 million to the United States Steel Corporation, started by J.P. Morgan in 1901
8. Dedicated the rest of his life to philanthropic pursuits- \$5 million donation to the New York Public Library, est Carnegie Institute of Technology (Carnegie-Mellon University), Carnegie Endowment for International Peace est. in 1910

<http://www.biography.com/people/andrew-carnegie-9238756?page=2>

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<https://www.inkling.com/read/give-me-liberty-eric-foner-3rd/chapter-16/the-second-industrial-revolution>

B. J.P Morgan 1837-1913

1. Born in Connecticut, son of a banker
2. Began his private banking company in 1837- J.P. Morgan & Co.
3. Grew to become one of the most powerful financial firms in the country
4. Aided the U.S. government during the depression of 1895 (loaning millions) and the financial crisis of 1907
5. Involved in reorganizing and consolidating troubled railroad companies, going on the own an estimated 1/6 of U.S rail lines
6. Merged together steel corporations, including Carnegie Steel Company, to create the United States Steel Corporation
7. Faced scrutiny and criticism, many thought he had too much power within the government
8. in 1911 the U.S. government filed suit against his company believing he had monopolized

the steel and railroad industries

9. investigated by the congressional Pujo Committee in 1912

<http://www.biography.com/people/jp-morgan-9414735>

<http://www.history.com/topics/john-pierpont-morgan>

#### C. John D. Rockefeller 1839-1937

1. Began work at 16 in 1855 as an office clerk in Cleveland at a commission firm (bought and sold grain, coal etc.)
2. Started his own commission firm in 1859, the same year the first U.S. oil well was drilled
3. Invested in a Cleveland refinery in 1863, officially entering the oil industry
4. Founder of Standard Oil Company
5. Standard Oil bought out rival refineries and eventually controlled 90% of the oil industry in the U.S.
6. After the passage of the Sherman Antitrust Act in 1890 the Standard Oil Trust was dissolved by the Ohio Supreme Court
7. Inspired by Andrew Carnegie, Rockefeller donated much of his fortune to various causes and helped fund the University of Chicago

<http://www.history.com/topics/john-d-rockefeller>

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#### D. Cornelius Vanderbilt 1794-1877

1. Worked with his father who operated a ferry between Staten Island and New York as a boy
2. Went into the steamship business in the late 1820s
3. Went on to become one of the country's most successful steamship operators
4. Known for his competitive nature, nicknamed "Commodore"
5. Later went on the focus on the railroad industry
6. Controlled lines that operated from Chicago to New York
7. Credited as a force behind the creation of Manhattan's Grand Central Depot
8. Donated \$1 million to help fund the creation of Vanderbilt University

[http://topics.nytimes.com/top/reference/timestopics/people/v/cornelius\\_vanderbilt/](http://topics.nytimes.com/top/reference/timestopics/people/v/cornelius_vanderbilt/)

<http://www.history.com/topics/cornelius-vanderbilt>

1. Robber Barons

A.What is a "Robber Baron"?

1. “an American capitalist of the latter part of the 19th century who became wealthy through exploitation (as of natural resources, governmental influence, or low wage scales)”
2. the derogatory term appeared in the late 1800s just as American Industrialists were really beginning to rise in wealth and esteem
3. Many people believed that these industrialists used exploitative measures to increase their wealth

#### B. Were the Industrialists Robber Barons?

1. Carnegie lowered wages for his steel workers in 1892, leading to the Homestead Strike. Vertical Integration however, favored higher wages
2. Vanderbilt publicly named a robber baron by the New York Times because of his competitiveness and the corruption that appeared throughout his career. His formation of trusts was also disagreeable to the public and his stigma
3. Carnegie and Rockefeller both made significant philanthropic contributions near the end of their lives

<http://mises.org/daily/2317>

<http://www.historyisaweapon.com/defcon1/zinnbaron11.html>

### **6. Workers attempted to organize themselves against these new, large corporations by forming unions. What problems of industrialization were they trying to solve?**

#### A. Unions

1. Main goal was to solve problems of Industrialization

#### B. Problems of Industrialization

1. Unsafe Working conditions
  - a. Toxic fumes, Dust, and lint
  - b. dangerous machines
2. long work hours and low wages
3. Child labor

### **7. Maybe people, including some workers, disliked unions. Why did people oppose unionization? Were these people successful despite this opposition?**

#### C. Opposition and dislike of unions

1. Many workers were immigrants
2. Marxism the political belief that workers would unite and overthrow the government
  - a. Unions were seen as the implementation of marxism
3. Unions in the United States remain weaker in comparison to unions in Europe where Marxism is more widely accepted

4. Large companies oppose unions
  - a. workers are required to sign a contract forbidden them from joining unions
  - b. Blacklist
    1. If a worker is suspected of being in union they are put on a list so the worker can not get a job in that area the worker is blacklisted in
  - c. Lockouts employers lock workers out and refuse to pay the workers
  - d. Union strikes
    1. Companies hire new workers, Known as scabs, to replace the ones at strike
5. Violence
  - a. Knight of Labor the first national union was discredited due to bloodshed from strikes
    1. Haymarket Riot
    2. Leadville Massacre
    3. 1877 Pullman Strike
    4. Great Railroad Strike of 1877
    5. Strikes were often put down by military

#### Success of Unions

- a. American Federation of Labor (AFL) Leader Samuel Gompers
- b. Three goals
  1. Wanted corporations to recognize unions and allow collective bargaining
  2. Closed Shops: Businesses could only hire union members
  3. 8 hour work day
- c. Women's Trade Union League (WTUL)
  1. Wanted the creation of minimum wage and abolition of child labor

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(<http://law2.umkc.edu/faculty/project/ftrials/haymarket/haymarket.html>)