

## Industrial Revolution Graphic Organizer Reference Guide

Topic of Research	Discoveries, Improvements, or Changes	Impact on American Industrialization
Geography and Natural Resources	<p>Iron ore (Steel)</p> <p>Coal</p> <p>Oil</p> <p>Lumber</p>	<p><b>Iron Ore:</b> Used to <b>create steel</b> and pig iron. Also used for rails and spikes for the railroads, bridges, buildings, etc.</p> <p><b>Coal:</b> Replaced wood in fueling the steam engine and machinery; Used in various industries including the steel industry.</p> <p><b>Oil:</b> The ability to use a steam engine for oil drilling started an oil boom in the US. It also helped with the creation of the petroleum-refining industry. Transformed oil into kerosene for lighting and later gasoline for automobiles.</p> <p><b>Lumber:</b> Used to fuel the steam engines that were used on trains, steamboats, and in industry for the new machines being invented that ran on steam.</p> <p><b>Impact:</b> Created pollution in the atmosphere and the water system.</p>
Post-Reconstruction Technological Innovations or Inventions	<p>Incandescent light bulb</p> <p>Electrical Power Distribution System</p> <p>Telephone</p> <p>Typewriter</p>	<p><b>Incandescent light bulb</b> Perfected by Thomas Edison in 1878. Created better lighting for homes and businesses and eventually led to night shifts.</p> <p><b>Electrical power distribution system in 1882</b> This led to electric power to run machines in industry, community, and homes such as electric street cars, fans, and printing press</p> <p><b>Telephone</b> - Invented by Alexander Graham Bell. It opened a new and more efficient form of communication that affected businesses and office work. Also created new jobs for women</p> <p><b>Typewriter</b> - Developed by Christopher Sholes. Standardization of office documents. Created new jobs for women as secretaries.</p>
Changes in Transportation	Transcontinental Railroad	<p><b>Creation of the Transcontinental Railroad</b> provided quick transportation from the east to the west coast. This allowed for expansion of farm land available due to the railroad being able to get goods to market in a reasonable time. It also led to the creation of time zones so travel time would be uniform (adopted by Congress in 1918). It influenced business and industry because of the need for natural resources including iron, coal, steel, lumber, and glass. Government assisted in development of railroad system through a system of land grants to the railroads.</p>

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## Reference Guide (continued)

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Changes in Transportation (continued)	Airplanes  Early Automobiles	<p><b>Airplanes</b> - Wright brothers, pioneers in flight</p> <p><b>Early automobiles</b> by Duryea brothers.</p> <p><b>Impact</b> - Changes in transportation stimulated growth of new businesses, created new markets, and resulted in the growth of towns. Food and manufactured goods could be distributed nationally. Railroads created new social, political, and economic ties among people spread across thousands of miles. To many Americans, a railroad connection promised new prosperity and new opportunities. Planes and automobiles would not have a significant impact on transportation until well into the 20<sup>th</sup> century.</p>
Immigration and Labor	<p>Increased Immigration</p> <p>Growth of Labor Force</p> <p>Labor Unions Begin to Form</p>	<p><b>Increased Immigration</b> - Many immigrants came to the US in search of economic opportunities, facing crop failure, land and job shortages, rising taxes, and famine in their country of origin. Others sought personal freedom or relief from political and religious persecution. Nearly 12 million immigrants arrived in the United States between 1870 and 1900. During the 1870s and 1880s, the vast majority of these people were from Germany, Ireland, and England. The last two decades of the 19<sup>th</sup> century, however, saw increasing numbers of people coming from Italy and eastern Europe. Some 70% of immigrants arriving from Europe entered America through the port of New York City alone. Asian immigrants, primarily from Japan and China, arrived through west coast ports. Many immigrants settled near the ports of entry but others moved farther inland. They frequently had difficulty finding jobs and usually worked for less money than most other Americans. Perceived as “different” they were often viewed with distrust if not outright resentment by their native born neighbors.</p> <p><b>Labor Force</b> – Increased immigration greatly expanded the number of skilled and unskilled laborers available. Immigration also resulted in increased urbanization as these workers tended to cluster in cities where work was available.</p>