TEACHER NOTES
WORLD HISTORY

SSWH15 Describe the impact of industrialization and urbanization.

Overview: Students will be expected to explain the process by which the production of goods shifted from small scale cottage industry to large scale factory production. Further, students are expected to explain the impact of this transition on population distribution, living standards, social class structures and economic and political philosophy. Students should understand that this period in history represents a major turning point in the development of society with far reaching consequences.

Resources:
Watch this Crash Course World History video for a quick overview of the industrial age.
https://www.youtube.com/watch?v=zhL5DCizj5c

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a. Analyze the process and impact of industrialization in Great Britain, Germany, and Japan.

While many of the key elements of industrialization, including mass production and mechanization, first appeared in Song China around the 12th century it was in 18th century Britain that sustained innovations in technology that led to dramatic and permanent transformations of society. Several factors converged to make Britain the birthplace of the industrial revolution. First, the British Isles were rich in many of the key ingredients to early industrialization including coal, iron, waterways, and harbors. Next, Britain experienced an agricultural revolution in the 18th Century. This agricultural revolution was made possible by the convergence of two events: exploration and enclosure legislation in the British Parliament. Exploration brought the Columbian Exchange which led to the introduction of new crops like potatoes and corn to the cool climate of Britain which increased agricultural yields. Large landowners pressured the Parliament to pass legislation that privatized common lands and allowed property owners to enclose these lands in fences and hedges. This enclosure and privatization of land increased the availability of land for exploitation and gave landowners the financial security needed to begin experimenting with innovative agricultural practices like the introduction of American crops, crop rotation, selective breeding, and the mechanization of planting. The agricultural revolution produced two other key ingredients in industrialization: capital and labor. Innovation in farming increased efficiency and output, this enriched property owners, increased population and displaced workers. Traditionally, the majority of Britain’s poor worked as tenant farmers on the large estates of the old nobility, but with the agricultural revolution many of these tenant farmers became unnecessary leading to a migration to urban areas where they became a reliable and affordable labor force.

Britain's abundant natural resources, capital, and a large labor force was marshalled to feed the ever increasing demand for manufactured goodsboth at home and abroad. At home, population growth fueled this demand and abroad British colonization of the Americas, the African slave trade and the Asian trade in luxury goods fueled the demand. Traditionally, British manufacturing was done in small batches in workshops and homes but beginning in the mid-1700s production began to shift to factories. In 1759 Josiah Wedgwood transformed the production of pottery by introducing division of labor. Each worker was given on small simple task in the manufacture of pottery. This change increased productivity and quality and decreased costs. Wedgwood became a model for mass production in Britain. Mechanization
of production quickly followed, this time in the textile industry. A rapid succession of inventions and innovations, including the spinning jenny in 1764, the water frame in 1769, the power loom in 1784, and the cotton gin in 1793 fully mechanized the production of cloth by the turn of the century.

Machines became more efficient, dependable and affordable with the regular use of iron, the introduction of steam power and use of interchangeable parts. While iron had been in use for thousands of years, its production up until the late 1700s was extremely labor intensive. Discoveries in the late 1700s allowed the iron workers to efficiently remove impurities greatly increasing output and bring down costs. In 1764, James Watts developed a steam engine that with time ended dependence on waterways for power and transportation. By the 1820s steam engines powered factories, trans-Atlantic ships, and railroads. In 1801, Eli Whitney, an American, introduced the use of interchangeable parts to the manufacture of firearms. Like the other innovations, interchangeable parts increased productivity and quality and decreased costs. The use of interchangeable parts spread to other industries quickly and after its adoption by British firms it became known in Europe and the “American system of manufactures.”

While the industrial revolution started in Britain, with time, the industrial powerhouse of Europe became Germany. In the 18th century, Germany, as a nation-state did not exist. Instead, the German speaking lands were divided into a multitude of kingdoms, principalities, duchies, and a variety of other forms of political union. The most powerful of these was the Kingdom of Prussia. In around 1835, Prussians with the support of their government began to study the British model for industrialization. They imported British machines, hired British engineers and sent their children to study industrial management in England. By the 1850s textile factories, iron works, railroads, and coal mines were, according to German economist Max Wirth “sprout[ing] from the earth like mushrooms.” By the turn of the century, Germany, now unified into a single German Empire, was a major industrial and military power in the world. By 1913, German industrial output surpassed Britain and was second only to the United States.

Industrialization in Europe and the United States created an endless demand for more raw materials to produce goods and more markets in which to sell those goods. This led to European and American imperialism in the mid-1800s. Africa and Asia fell victim to this imperialism with almost all of Africa, South Asia, Southeast Asia and coastal China under the control of either a European nation or the United States by 1900. In the midst of this scramble for colonies, Japan was faced with the very real possibility of becoming the victim of imperialism.

At the start of the 19th century, Japan was basically a feudal society loosely ruled by the
Tokugawa Shogunate. For the last 165 years Japanese law forbid most foreign interactions. While some legal trade and a fair amount of smuggling had kept Japan loosely connected with the outside world, this official isolation meant that Japan had missed most of the political, social and technological advances of the last 150 years. This meant that when the United States Navy showed up in 1853 to demand trading and docking privileges in Japan, the Shogun was in no position to refuse. The shogun accepted the Treaty of Kanagawa which opened Japan to US business interests. In 1864, British and French ships shelled the southwestern coast of Japan in retribution for Japan’s treatment of their nationals. This shelling, the provisions of the Treaty of Kanagawa and knowledge of the failures of China to repel European and American military force inspired a rebellion against the shogun who was seen by many as weak and incompetent. A brief civil war followed and in 1868 the shogun was removed from power and a new government was formed called the Meiji Restoration. While the leaders of this government claimed to be restoring power to the emperor, in reality he remained a figurehead and the country was ruled by a small group of oligarchs.

The Meiji government was determined to prevent Japan from falling victim to imperialism. To this end, they instituted a wide range of reforms designed to make Japan into a modern country in all respects. Hundreds of Japanese students were sent to study in the United States, Britain and Germany. American, British and German experts of all stripes were hired to come to Japan to train Japanese bureaucrats, military officers, educators, and students. A network of public education was established that included vocational, technical, and agricultural schools as well as research universities. Japan created a modern conscript army fashioned after Prussia, a modern navy fashioned after Britain, and a modern imperial government bureaucracy fashioned after Germany. The Japanese government established state owned factories that produced textiles and consumer goods for sale abroad. Once the profitability of these factories was secured, the state sold the factories to groups of private investors called zaibatsus. Profits from the sale of these factories funded the reforms allowing Japan to avoid dangerous foreign debt.

The efforts of the Meiji government were incredibly successful. Rather than become the victim of imperialism, Japan became an imperial power in its own right by 1900. In 1905, Japan shocked the world by defeating Russia in the Russo-Japanese War.

Many of the consequences of industrialization were common to all three of these countries. As already discussed, industrialization made each of these countries major military powers who used this power to establish overseas empires. For the British this empire include large parts of Africa, all of South Asia, and ports in China. The Germans held a colony in New Guinea and several colonies in Africa and Japan controlled Korea, Taiwan and Manchuria. At home industrialization undermined the old social order left over from each countries’ feudal past. The old hereditary nobilities’ influence declined as wealth shifted to a new urban middle class who managed and owned businesses. A new urban working class emerged that was ruthlessly exploited for their labor until they were able to organize and demand reforms. For some, industrialization brought a dramatic increase in their standard of living. Consumer products of all kinds became affordable and the quality and durability of these products increased dramatically. For others, factory work proved more dangerous and exhausting than farm labor leading to a decline in the standard of living. Globally, communication increased as steam power shortened trips across oceans and continents and the telegraph made instant global communication possible.
Resources:
Visit this site from Yale-New Haven Teachers Institute for a detailed article on the industrial Revolution.  
http://teachersinstitute.yale.edu/curriculum/units/1981/2/81.02.06.x.html

Visit this site from the BBC to play a game that will help explain industrialization in Britain.  
http://www.bbc.co.uk/history/british/victorians/launch_gms_cotton_millionaire.shtml
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b. Examine the political and economic ideas of Adam Smith and Karl Marx.

The Industrial Revolution brought sweeping and rapid changes to people at all levels of society. Dramatic increases in the standard of living for some and decreases for others paired with the shift of economic and political power to the middle class left many reeling for an understanding of the new social and economic order. Contemporary discussions of this topic are often overly simplified focusing only on the most radical aspects of 18th and 19th century economic philosophy. While some early industrial societies did adhere to Adam Smith’s ideas on Laissez-faire in its pure form and some late industrial societies attempted to follow Karl Marx’s ideas on Communism with fidelity; the majority of the industrialized world found an equilibrium somewhere in the middle that included economic and political ideas beyond just those of Smith and Marx.

Smith’s ideas developed as a response to mercantilism. Mercantilist ideas on economic policy dominated Europe from 16th to the 18th century. These policies used state power to tightly regulate trade and business with the goal of accumulating gold and silver in the home economy. With the onset of industrialization in the late 18th century and the mass production of high value manufactured goods calculating wealth based solely on gold and silver reserves began to seem grossly inaccurate. In 1776, Adam Smith published *The Wealth of Nations*, in this work Smith argued that a nation’s wealth is best calculated by totaling the amount of goods and services produced by a nation’s people (essentially GDP). Considering this, he believed that government policies should be designed to increase wealth based on this new understanding. Smith believed that everyone, rich and poor, would benefit from this approach. In the *The Wealth of Nations*, Smith outlined the basic principles of Laissez-faire capitalism. He argued that individuals always work for their own self-interest and that in a society in which everyone is allowed to pursue their own self-interest, a collective benefit is realized. Essentially the argument was that when people work to improve their own lives they make life better for everyone else. For this societal benefit to be realized, Smith argued that the government should completely deregulate the economy. He believed that if business could be conducted free from government interference, a nation’s wealth (calculated based on the total about of goods and services produced) would be maximized. These ideas became government policy in Britain and United States in the 19th century, but over time they were modified with the principles of other economic philosophies like utilitarianism which accepted Smith’s ideas on personal freedom but argued that government needed to step in from time to time to protect the people.

The forerunner to Karl Marx’s communist philosophy was socialism. The economic principles of socialism were developed in the first half of the 19th century. Socialist thinkers like Charles Fourier and Henri de Saint-Simon argued that the major means of production like factories, mines, and railroads should be government controlled. Government control would ensure that the benefits of these means of production would be realized by all members of society. In 1848 Karl Marx and Friedrich Engels published *The Communist Manifesto*. This short work contained economic philosophy, social history, political ideologies and a revolutionary call to arms. In this work Marx and Engels argued that economic inequality was the most important force driving human history. Human history was a series of class struggles, Roman plebs versus patricians, feudal lords versus serfs, and in the 19th century the urban
working class (proletariat) versus the middle class (bourgeois). Marx and Engels predicted that the proletariat would rise in revolution and overthrow the capitalist order and over time create a utopian communist society. They believed that this revolutionary change would come in stages. First the workers would seize the means of production and overthrow the government. Once in control, workers would create a “dictatorship of the proletariat” which would seize all private property and re-distribute it equitably. Once equality was established the need for government would wither and humanity would live in a purely communist society where the means of production would be collectively owned and operated by the people for the public good.

While, few of the ideas of the early socialists or the communist ideas of Marx and Engels were implemented in the 19th century, in the 20th century many countries around the world experimented with these philosophies. Several countries, including to some extent the United States, implemented socialist policies related to state control of the means of production. For example, many railroad networks were brought under state control after the world wars. Marxist philosophies drove revolutions in other parts of the world, most notably in Russia and China. None of these revolutions were able to realize the full vision of the communist ideas laid out in the Communist Manifesto. Each revolution stalled at the stage of the “dictatorship of the proletariat” which in all cases devolved into a dictatorship of communist party bosses.

Reforms in the 20th and 21st century have balanced Smith’s argument for freedom with Marx and the socialist’s argument for equality in most states around the world. This has led to the prevalence of a hybrid system augmented by more recent scholarship in the fields of economics and political science for most countries.

Resources:
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c. Examine the social impact of urbanization, include: women and children.

The cities of industrialized nations grew at unprecedented rates in the 18th, 19th and 20th centuries. The impact of this rapid urbanization varied greatly by class. Families that owned and managed businesses enjoyed large homes, new churches, museums, trolley systems, and theaters all paid for with the profits from industrialization. Women in wealthy or middle class families might work for a few years before marriage but once married most conformed to the social norms of the day, called Victorian morality by historians. These social norms were based on the principle of separate spheres. According to this idea, men were uniquely suited for the demands of business while women best fulfilled the role of homemaker, mother, and moral arbiter of the family. The role of moral arbiter did give some women the opportunity to pursue leadership roles outside of the home in the many reform movements that emerged in this period. Some wealthy and middle class women became important leaders in reform movements. Among other things, these movements worked to end slavery, limit the use of alcohol, end child labor, improve the life of the urban poor, and win the vote for women. The children of wealth and middle class families, particularly boys, received quality educations that prepared them to work in the same roles as their parents.

For the working class, cities were crowded, pollution was common, housing was small and poorly built, and municipal infrastructure supported business interests more than quality of life. Rapid growth meant that urban planning was unusual and most cities were made up of narrow winding streets, shoddy construction, and lacked or had inadequate city services like water, sewers and policing. This made urban life dangerous for the working class. Disease and fire were common and working class neighborhoods were often so dangerous that they received nicknames like Hell’s Kitchen. Wages among the working class kept families in poverty and forced women and children into the workforce. A typical urban factory worker spent fourteen to sixteen hours on the job. This transformed family life like never before in human history. In agricultural societies, peasant families typically worked together and work hours that varied by season. Now men, women and their children worked in different facilities for most of the day year round. Women with young children might find work in the home, taking in laundry, sewing, or embroidery. However, wages were often so low that families had to send children to work as young as five years old. Most working class children grew up with no education and few options for escaping a future that mirrored that of their parents.

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Resources:
Visit the Fordham University World History Sourcebook for primary source documents on life in the industrial revolution.
http://sourcebooks.fordham.edu/mod/modsbook14.asp

Visit this site from the BBC for details on working conditions in the Industrial Revolution.
http://www.bbc.co.uk/schools/gsebitesize/history/shp/britishsociety/livingworkingconditionsrev1.shtml

Visit this site from Columbia University for an article on the Meiji Restoration.
http://afe.easia.columbia.edu/special/japan_1750_meiji.htm