

Focused Learning Lesson
American History
Grade Level: 11
H-1B-H6

Overview:

This lesson will guide students in understanding the significance and impact of the industrial age in American history. Students will be introduced to various inventions and inventors who have had a profound effect on the modernization of America, as we know it today. Students will also examine how these new inventions led to the growth of big business in America. As culminating activities for this lesson, students will be asked to create a time line chart which highlights industrial age inventions, inventors and their impact on American society and to compare and contrast Industrial era working conditions with those of the current day.

Approximate Duration:

45 minutes

Benchmarks and GLEs:

H-1B-H6 – Analyzing the development of industrialization and examining its impact on American Society

GLEs:

19. Examine the causes of industrialization and analyze its impact on production, business structures, the work force, and society in the United States
20. Describe the emergence of big business and analyze how it changed American society in the late nineteenth century

Objectives:

1. The learner will explain how the explosion of inventions in the industrial age impacted American business and society.

Teacher Preparation:

- To prepare for this lesson the teacher will need to review the content notes provided in Attachment 1 and prepare to lead a class discussion about the impact of industrialization in America.
- Additionally, the teacher will need to make class copies of Attachment 2 and 3, which will be used in the lesson and for assessment purposes.

Materials/Equipment/Resources:

- Student Textbook
- Copies of Attachment 2, “Time Line of Industry”
- Copies of Attachment 3, “Working Conditions: Now and Then”
- Overhead projector and transparency (optional)

Lesson Procedures:

Set or Opener

Begin the lesson by asking students to imagine living without electricity, the light bulb or the telephone. Ask students to think about how their lives would be different without these basic uses of technology. Introduce students to the term “industrialization.” Ask for students to define this term in their own words. Then, explain that an era of advances in industry and technology began in the United States shortly after the Civil War.

Body of the Lesson

Have students create a list of factors that fueled American Industrialization. (See teacher notes in Attachment 1)

Discuss some of the major inventions or advances in technology that helped to fuel America’s growth and industrialization.

Hand out the “Time Line of Industry” worksheet (Attachment 2) and explain to students that the importance of these inventions lies in the impact that they had on American society.

Have students work in pairs to complete the blank time line. Instruct them to list the inventions that were discussed in class, the name of the inventor and the date. Then tell them to work with a partner, using their textbook as a guide, and come up with a list of impacts that each of these inventions have had on American society.

1. While the student pairs are working, circulate around the room and informally assess each group. Make sure that each group is on the right track and offer help and suggestions, when necessary.
2. After sufficient time, bring the class back together and discuss the student responses to each invention.
3. Discuss how these inventions led to the growth of big business in America and changed the face of America’s labor force. Point out to students how America changed from a mostly agricultural work force to an industrial one.
4. Discuss the working conditions in these new factories and the effects of big business on the workers.
5. Hand out the “Working Conditions: Then and Now” worksheet (Attachment 2)
6. Either individually or as a class, have students compare and contrast the conditions of factory laborer/workers during the industrial age and current day laborers.
7. Discuss the answers given by students.

Conclusion

To conclude the lesson, name some of the “Captains of Industry” at the turn of the century and their companies. (See teacher notes in Attachment 1) Make students aware of the growing gap between the very rich “robber barons” and the working class. A good clincher is to leave students with the fact that the average man earned \$498.00 per year in 1899, and Andrew Carnegie made \$23 million that same year.

Assessment Items:

The assessment for this lesson consists of questions and answers during the class discussions and formal assessment of the two worksheets (Timeline and Now and Then activities) as well. Along with the worksheets in Attachment 2 and 3, there is also an answer key with suggested answers to those assessment items.

Reference Links and Technology Connections:

Danzer, G., J. Klor de Alva, L. Wilson, & N. Woloch. (1998). *The Americans*. Evanston, IL: McDougal Littell.

THE INDUSTRIAL AGE

The U.S. had become the leading industrial power in the world in the 1920s due to three major factors:

1. A wealth of natural resources.
 - Edwin Drake successfully used a steam engine to drill for oil near Pennsylvania
 - U.S. had abundant deposits of coal and iron which could be turned into steel (Bessemer Process)
2. An explosion of inventions
 - Thomas Edison - incandescent light bulb
 - Christopher Sholes - typewriter
 - Alexander Graham Bell - telephone
 - Edwin Drake - used steam engine to drill for oil
 - Otis - Elevator
 - Transcontinental Railroad
 - Railroads played an important role in the nation's development by promoting trade & interdependence among cities
3. A growing city population that provided markets for new products

Robber Barons (Captains of Industry)

- Term applied to industrialists of the late 1800s who were noted for their selfishness, ruthless business methods, exploitation of their workers, flaunting of their wealth
- Famous Robber Barons
 1. Andrew Carnegie - Owned Carnegie Steel and produced 80% of the nation's steel in 1901
 2. John D. Rockefeller - Established the Standard Oil Company and by 1880 controlled 90% of the oil refining business
 3. Cornelius Vanderbilt - Owned a large portion of the railroads and steam ships so he was nicknamed, "The Commodore"

Pre-Union Working Conditions

- Factory workers worked 12 hours or more per day and 6 to 7 days per week
- Employees were not entitled to vacation, sick leave, unemployment compensation, or compensation for injuries suffered on the job
- Injuries were common

- Factories were often dirty, poorly ventilated, and poorly lit
- Wages were so low that everyone in the family – men, women, and children – had to work
- Child labor – children as young as 6 years old were forced to work
- 1899 Statistics:
 - Child 14 hours = 27 cents
 - Average for women per year = \$269.00
 - Average for men = \$498.00
 - Andrew Carnegie = \$23 million

Timeline of Industry

Date						
Invention						
Inventor						
Impact						

Timeline of Industry

Date	1850	1859	1867	1869	1876	1879
Invention	Bessemer Process	Drilled for oil with steam engine	Typewriter	Transcontinental Railroad	Telephone	Light bulb
Inventor	Henry Bessemer and William Kelley	Edwin Drake	Christopher Sholes	Union and Pacific Railroad Lines	Alexander Graham Bell	Thomas Edison
Impact	<p>By 1880 more than 90% of the nations steel was produced by this process</p> <p>Allowed for fast paced manufacturing</p> <p>Better alternative to iron</p> <p>Used for railroads and skyscrapers</p>	<p>Removal of oil from beneath the earth's surface became practical</p> <p>Touched off an oil boom that led to many new jobs and the opening of oil refineries</p> <p>Entrepreneurs turned oil into kerosene and gasoline</p>	<p>Led to an upheaval in America's offices and workplaces</p> <p>Made office work faster and more efficient</p>	<p>Allowed for coast-to-coast travel and trade</p> <p>Opened up more markets for the growing number of goods and services</p> <p>Provided many jobs in business as well as labor, especially the Chinese immigrants who were instrumental in building the railroads</p>	<p>Laid the groundwork for world-wide communications</p> <p>Revolutionized communications in America and internationally</p>	<p>Allowed manufacturers to locate plants wherever they wanted</p> <p>Allowed for longer work hours</p> <p>Revolutionized American homes and businesses</p> <p>Spurred increasing numbers of appliances and inventions</p>

Working Conditions Now and Then

	Now	Then
Days per week		
Hours per day		
Wages		
Benefits		
Work age		
Working conditions		

Working Conditions Now and Then

	Now	Then
Days per week	5 to 5 ½	7
Hours per day	8	12 - 14
Wages	At least minimum wage \$5.50 per hour	\$0.27 per day for most children \$269 per year for women \$498 per year for Men
Benefits	Vacation Insurance Sick – Leave Workmen’s Compensation	None
Work age	16	Some as young as five years old
Working conditions	Laws protect work environment Subject to safety and health inspections	Hazardous Poorly Lit Poorly Ventilated Repetitive Taks