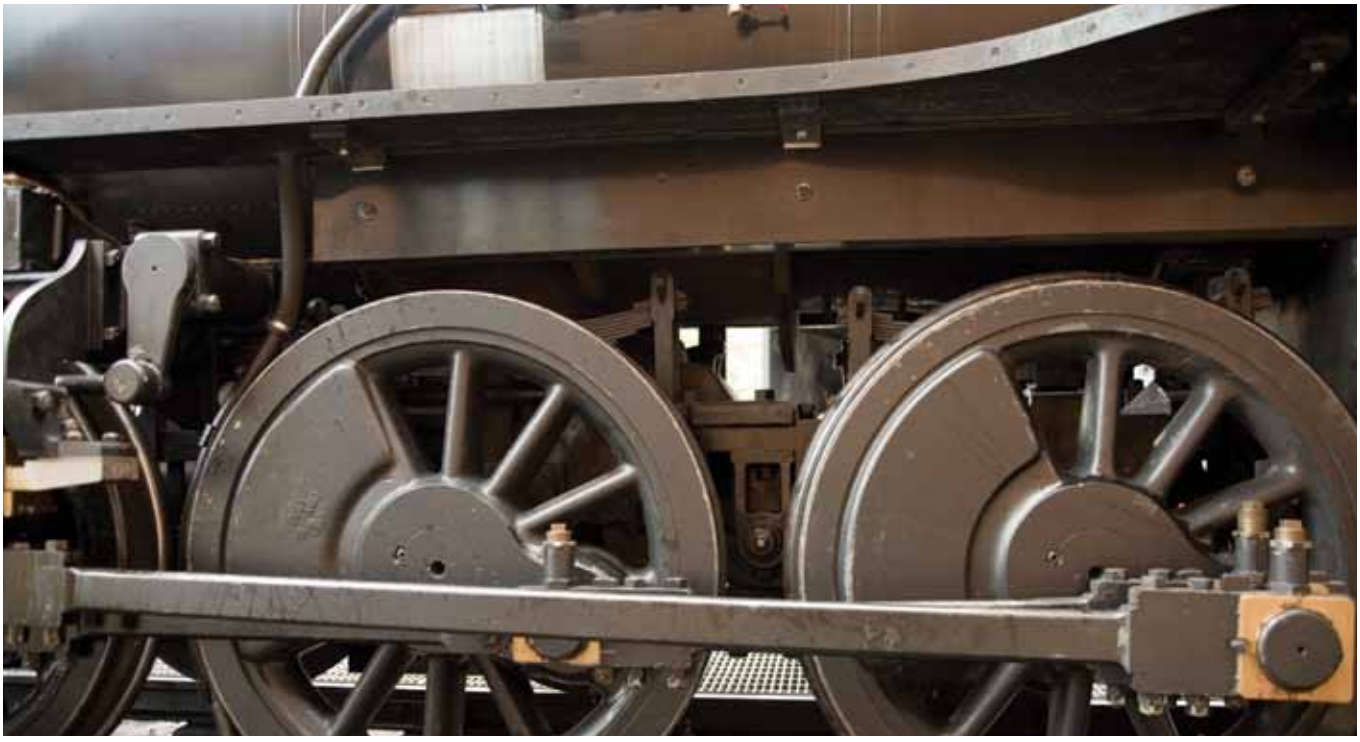
the Henry Ford®

National Endowment for the Humanities

Landmarks of American History and Culture Workshops for School Teachers:

America's Industrial Revolution at **The Henry Ford**



Sample K-12 lesson plans from participant of 2010
America's Industrial Revolution at **The Henry Ford**

NATIONAL ENDOWMENT FOR THE Humanities

the Henry Ford®

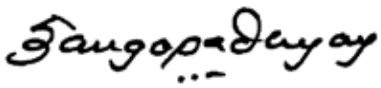
Henry Ford Museum® ■ Greenfield Village® ■ IMAX® Theatre ■ Ford Rouge Factory Tour® ■ Benson Ford Research Center®

The story of **America's Industrial Revolution** is an epic tale, full of heroes and heroines, villains and vagabonds,accomplishments and failures, sweated toil and elegant mechanisms, grand visions and unintended consequences. How did the United States evolve from a group of 18th century agricultural colonies clustered along the eastern seaboard into the world's greatest industrial power? Why did this nation become the seedbed of so many important 19th century inventions and the birthplace of assembly-line mass production in the early 20th century? Who contributed? Who benefited? Who was left behind?

At The Henry Ford in Dearborn, Michigan, school teachers from across the country explored this story with university scholars and museum curators during two week-long teacher workshops supported by the National Endowment for the Humanities.

Workshop participants spent mornings discussing their passion for American history with distinguished university professors, mid-days on field trips to more than a dozen historic farms, mills and laboratories, and afternoons planning activities for their students. They developed methods for incorporating various senses and learning styles into new lesson plans that bring **America's Industrial Revolution** out of the books and into living history. This booklet contains samples of those lesson plans.

In Education,



Paula Gangopadhyay
Director of Education, The Henry Ford
Project Director, NEH Teacher Workshop

2010 NEH Project Staff

Paula Gangopadhyay	Director of Education
Dorothy Ebersole	Curator of Education
Mary Wyatt	Associate Curator of Education
Marc Greuther	Chief Curator
Bob Casey	Curator of Transportation
Jeanine Head Miller	Curator of Domestic Life

Lesson plans created by participants of the 2010 NEH Landmarks of American History Workshop for School Teachers, America's Industrial Revolution, at **The Henry Ford**.

2010 Participants for *America's Industrial Revolution* at The Henry Ford

June Workshop Participants

"The BFRC was a well-spring of fantastic artifacts and documents. The photographs and data collections on the homes in the village are remarkable."

July Workshop Participants

"Everything you offer, seeing, hearing, etc., all this can be brought back to the classroom."

"They are all well-constructed, user-friendly. They make history make sense. History is not always presented in such an intuitive way."

Lesson Plans for High School Grades

1. Age of Steam, Grades 9-12
   Mary Anthrop
2. Industrialization in the 19th Century- For the Men in the Fields and for the Women in the House, Grades 9-12
   Mary Anthrop
3. The Automobile and Everyday Life, Grades 9-12 U.S. History
   Mary Anthrop
4. Inventing and Thomas Edison, Grades 9-12
   Mary Anthrop
5. What does it take to Industrialize? Grades 9-12
   Elizabeth Cahill
6. Three Loaves Strike, Grades 9-12
   Jennifer Hart
7. African Americans and Rice Production in the South, Grade 10
   Karen Hickman
8. The Evolution of Everyday Products, Grades 9-12
   Lisabeth Mikolajczyk
9. The Importance of Legal Protections such as Patents to Encourage Innovation and Economic Growth from the Industrial Revolution to the Modern US Economy, Grades 9-12
   John Mulvaney
10. Wag the Dog: Culture vs. Technology, Grades 8-12
    Sue Nelson
11. The Impact and Effect of the Industrial Revolution in the United States, Grades 9-12
    Erin O'Leary
12. Field Trip to the Henry Ford, Grades 9-12
    Barry Wittig
13. APUSH Document Based Questions (DBQ) Project, Grade 10
    Kenneth Cameron
14. To Cure All Ailments: Patent Medicine and the Industrial Revolution, Grades 9-12
    Joseph Cislo, Thomas Gunnells, Toni Simovski
15. How Mass Production of Early Automobiles Changed America, Grades 9-10
    Adam Cooper

Lesson plans created by participants of the 2010 NEH Landmarks of American History Workshop for School Teachers, America's Industrial Revolution, at **The Henry Ford**.

16. Changing Technology, Grades 9-10
    Norman Hurns

17. Technology: Now and Then, Grades 8-11 (Honors or higher-level readers)
    Karen Washington

18. African American Women and Changing Technology: Analyzing the Role of the Industrial Revolution in the Role and Responsibilities of African American Women, Senior English level
    Kathryn A. Gross

19. Great Innovators in American History, Grade 11 U.S. History and Government
    Michael Hart

20. Farmers and How they were Impacted by the Industrial Revolution After the Civil War, Grade 10
    Laura James

21. How did Technology Change Rural Life in the Early 19th Century? Grades 9-12
    Mitchell Schrager

22. Home Improvement Plan, Grades 11-12
    Debbie McConnon

23. Changing he Economic Equation for Workers or Controlling their Lives, Grade 11
    Mary Catherine Monroe

24. Cotton, Slavery, and the Constitutional Convention, Grade 10
    Alexander Bohl

America's Greatest History Attraction®

High School Lesson Plan 1

Mary Anthrop, Catholic Central Jr/Sr High School, Lafayette, IN

Title of Lesson: Age of Steam

Grade level: 9-12

Overview: In this lesson students explore the development and use of steam power in Europe and the United States in the 18th and 19th centuries. Students will also connect the development of steam power with the birth of the Industrial Revolution and the role it played in their local community during the 19th century.

Central Question(s): How did inventors use the power of steam?

Why did steam power bring about the Industrial Revolution?

Learning Objectives: Students will be able to:

a) identify the major inventors of steam powered machinery;

b) explore the various uses of steam power; and

c) examine primary resources and draw conclusions from them.

Assessment Tools: Students will participate in discussion concerning the essential questions during and after the PowerPoint presentation. Finally students will complete the Age of Steam Document Analysis as a graded assignment.

Key Concepts: The Evolution of the Use of Steam Power in the 18th and 19th Century

Evidence/Sources: Age of Steam (PowerPoint presentation), Age of Steam Documents and Analysis handout Rutland, Jonathan. The Age of Steam. New York: Random House, 1987.

Duration: 1 class period of 50 minutes

Instructional Sequence: Students will view and discuss the Age of Steam (PowerPoint presentation) and complete the Age of Steam Document Analysis.

Student Project Ideas: Students might enrich their understanding of the evolution of steam power by designing their own steam powered inventions. Further research into the local community's use of steam power – steamboat trade, railroad trade and travel – might enhance the understanding of the economic and social impact of steam power.

Anticipated Challenges: Students might have difficulty understanding how steam power "works." Students may want to watch animated films of steam power.

Curriculum Links: United States History Standards for Grades 5-12: Era 6 (1870-1900) Standard 1: How the rise of corporations, heavy industry, and mechanized farming transformed the American people.

The Age of Steam Documents

A Stirring Appeal

To Those Who are Interested in the Welfare of the City

The Daily Chronicle, Marshall (Michigan), December 13, 1883

… I appeal to the people of our city to make a determined effort to have the amount of their notes placed in the bank without delay. We cannot, we must not lose this opportunity. The building of the shops here means a rapid increase in the population of our city. It means a rapid rise in the value of every piece of property in our city. It means a rapid increase in our manufacturing interests. It means that every store and dwelling house in our city will be quickly and permanently occupied. It means that necessity be erected without delay. It means that new houses all over the city must of necessity be erected without delay. It means that every vacant lot in our magnificent business street will soon be occupied by brick buildings….

About the Shops

Some Figures and Facts Concerning the Big Industry

Lafayette *Journal*, July 4, 1892

… The organization known as the Lafayette and Monon Railway company, will build its principal machine and car shops, which will cost when fully equipped with machinery, about $450,000, together with side tracks, turn tables, transfer table, and all necessary facilities for a large plant of this character. The buildings will extend for a distance of one-half mile, the side tracks necessary for these buildings will be about five miles in length, which , with one an done-half mile of main track, will make about six and one-half miles of new track.

The total cost of main track, side track, and shops will be about $450,000. Of this amount the Monon railway company will furnish all the money excepting $100,000, the right of way, and the cost of 45 acres of land, which are estimated to amount to $130,000, this being the amount, of aid asked for from Fairfield township….

Paint and car shop, 110x410 -	$62,000	Elevated coal track	2,500
Machine and boiler shop, 110x350	54,000	Cinder pit	1,000
Engine house, 30 stalls	42,000	Transfer table, power and pit, 60x390	6,500
Planning mill and cabinet shop, 110x170	28,000	Iron turn table, 60 feet	3,500
Office and store room, 2 stories, 50x130	22,000	Retaining walls on street lines	3,500
Blacksmith shop, 70x160	17,000	Drainage	5,000
Tin and copper shop, 70x80	9,000	Heating apparatus	6,000
Boiler room, 40x60	6,000	Water service	6,000
Paint and oil room, 30x40	5,200	25,000 feet side tracks	27,500
Boiler room, 40x40	4,500	Reorganizing freight yards	6,800
Dry kiln, 40x70	5,000	1 ½ miles of main track	8,350
Oil house, 30x30	4,000	Machinery and fixtures	94,750
Out buildings, iron racks, etc.	3,000		
Sand house. Frame, 38x40	1,000	Total cost	$450,000
Grading, 50,000 cubic yards	8,500		
Coal platform, 12 dumps	7,500		

All buildings will be one story brick, with slate roof, except where noted. These shops will have the capacity for working 1,000 men.

The Monon Company will start with about 600 men, whose average pay will be $2 per day, making a monthly pay roll is over $30,000 at the start, with a gradual increase.

Monon's New Train

A Beautiful Passenger Train Built in This City

Lafayette Daily Courier, September 23, 1896

Some months ago the Monon road officials decided to take four or five old and worn passenger coaches of an ordinary character off the road, send them to the shops here, where that could be put through a course of repairs, remodeling and so on, eventually coming forth better than new. Four of these old coaches, not one of which looked as if it could wobble over another mile of track, were put into the hands of the boss mechanics, rushed through the transformation process and today go out into the world again as the prettiest train in the west. Master Mechanic Watkeys, Assistant Master Mechanic W.P. Coburn and Superintendent Charles Coller have had charge of this work, and they are as proud as new fathers. Superintendent L.H. Parker chaperoned a party of newspaper men to the shops yesterday, where they were kindly treated by the heads of the departments. The shops from one end to the other were opened to them, and they saw all of the wonderful machinery which has been so fully described by the press in days gone by. The electric light plant, the air plant, the steam plant, the boiler rooms, the iron workers quarters, the marvelous boring machines, the cutting machines, the wonderful mechanisms of all sorts which save hundreds of dollars a day to the company. In the big paint shop where the four new coaches which went out today, spick and span, burnished like a silver screen, glorious results of man's determination. The workmen were still engaged in painting several of the interiors, but the work is as good as completed. This model train went north this afternoon, and will be placed on the air line. It is the train which makes the flying run from Chicago to Cincinnati in seven hours and forty-five minutes. There is a combination mail, express and baggage car, a smoker, a ladies car and a beautiful combination chair car and diner. The latter is as handsome a piece of car building as has ever been seen here and reflects great credit upon the shops. The painting, upholstering, glass work and everything about this coach is elegant. From one end to the other the train is a model of beauty, strength and convenience. All of the work was done in the shops here, and the master mechanic is certainly conservative when he says that anything from an engine to a hand car can be built by the 300 men at work under him. The shops are the pride of Lafayette.

The Age of Steam and the Local Community

Carefully read the newspaper articles about the railroad shops at Marshall, Michigan and Lafayette, Indiana. Then respond to the following questions. Use complete sentences.

1) What was a railroad shop?

2) Why would citizens compete for a railroad shop in their community?

3) What do you think are the authors' attitudes about industrialization?

Quote from the document.

4) What does the document tell you about life in the U.S. at this time?

5) Write 2 questions about industrialization that are left unanswered by the documents.

a)

b)

Age of Steam

Greenfield Village - Michigan

Essential Question

- How did inventors use the power of steam?
- Why did steam power bring about the Industrial Revolution?

An Overview

- Before 1800 wind, water and the muscles of people and animals worked machines.

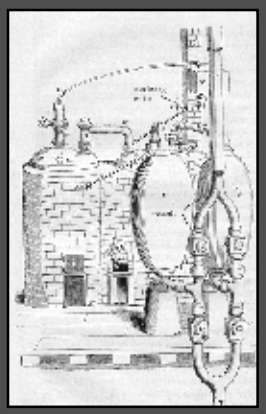
Greenfield Village - Michigan

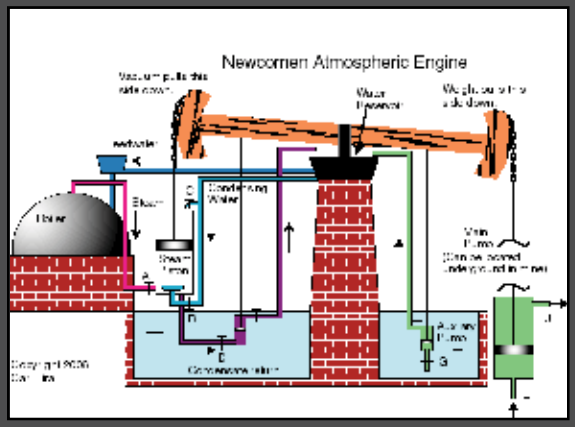
- Steam engines brought about the Industrial Revolution.
- Steamships replaced sailing ships.
- Railways revolutionized land travel.

Steam Firsts

- 1698 – Thomas Savery builds the first steam-driven pump.
- 1712 – Thomas Newcomen invents the beam engine.
- 1769 –Nicholas Cugnot builds the first steam-driven vehicle – a gun carriage.

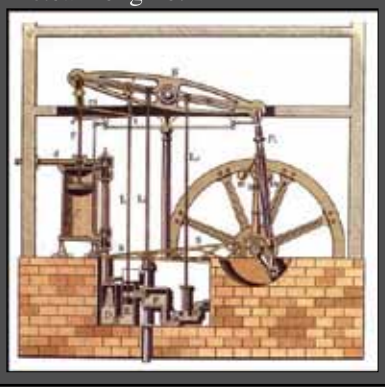
Savery Pump





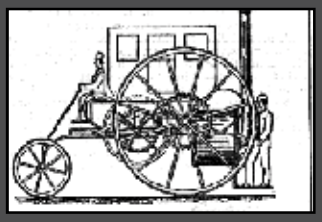
Newcomen Steam Engine

- 1780s – James Watt builds the first "double-action" steam engine.



- 1787 – John Fitch builds the first practical steamboat.

- 1804 – Richard Trevithick builds the first steam locomotive.



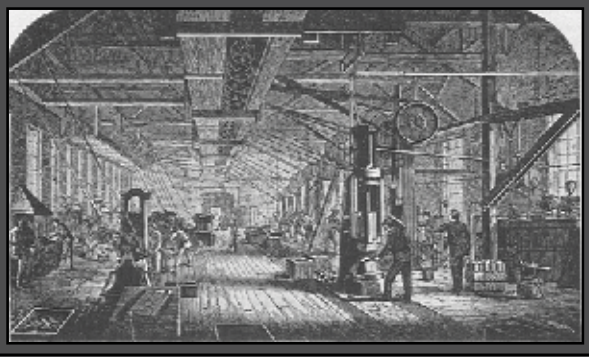
- 1839 – James Nasmyth invents steam hammer for iron foundries.

Steam Engines at Work

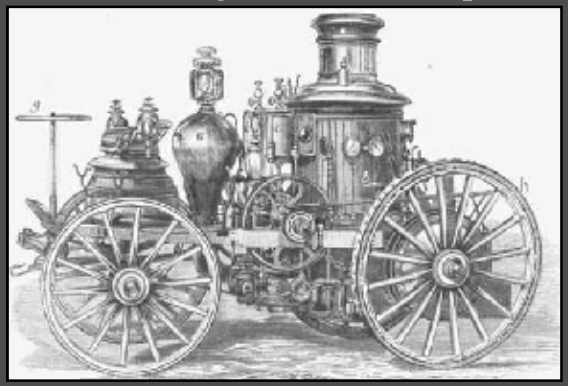
- Drive pumps to remove water from mines.
- Drive machines in factories and workshops.
- Work the pumps of fire engines.
- Drive saws and threshing machines for farmers.

Drive pumps to remove water from mines.

19th Century Factory



Fire Engine Water Pump



Steam Engine and Thresher

Steamships

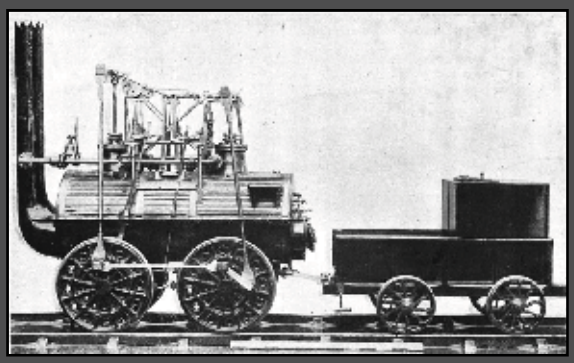
- 1807 – American Robert Fulton invents the first practical steamboat to carry passengers – the Clermont – a boat fitted with paddle wheels and turned by single –cylinder engines.

Robert Fulton

Locomotives

- 1804 – First steam locomotive moved coal in wagons in mines.
- 1825 – George Stephenson and son Robert built first public railway.

First Public Railway



American Tom Thumb in 1830 Race

Steamships

- Iron ships replaced wooden ships. Steam engines drove screw or propellers. Steamships would soon cross the Atlantic Ocean.
- 1912 – The most famous steamship the Titanic struck an iceberg and sank with the loss of 1,513 lives.

Titanic -1912

The New York Times.

TITANIC SINKS FOUR HOURS AFTER HITTING ICEBERG; 866 RESCUED BY CARPATHIA, PROBABLY 1250 PERISH; ISMAY SAFE, MRS. ASTOR MAYBE, NOTED NAMES MISSING

Steam Cars

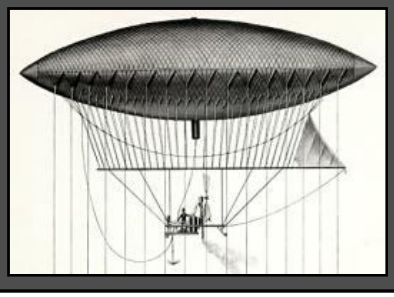
- 1801- Richard Trevithick built a steam carriage.
- 1836 – Walter Hancock ran a public steam coach in London – the Automaton.

1830s – England

- 1899 – Stanley brothers built a successful car.
- 1906 – A Stanley steam car set a world record of 128mph.

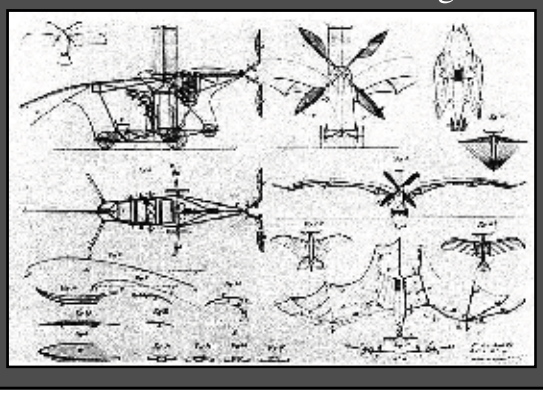
Steam Curiosities

- 1852 – Henri Giffard built a cigar shaped balloon and fitted a steam engine with a basket.



- 1884 – Morton invented a steam washing machine that worked by turning a handle .
- 1890 – Clement Ader built the Eole – a steam-powered airplane. It took a hop, but could not fly!

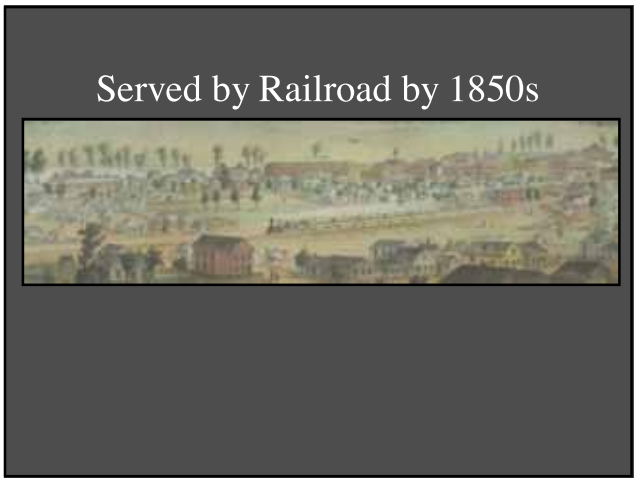
Eole -1890 Patent Drawings

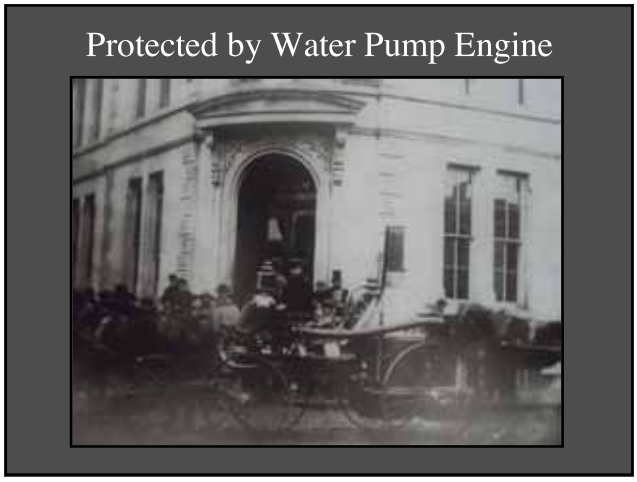


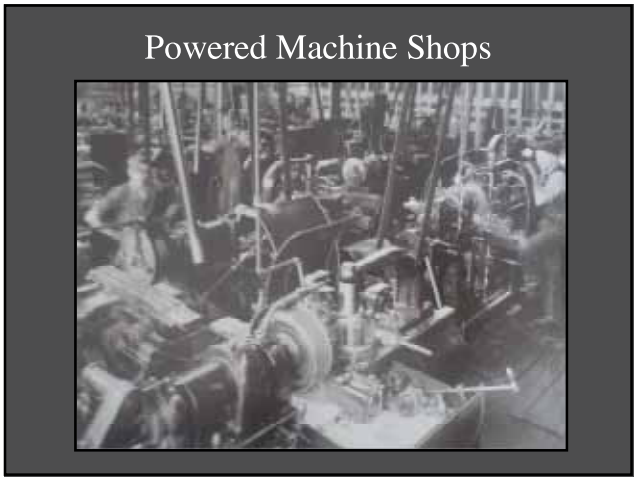
Steam Power in Tippecanoe County, Indiana

Lafayette in 1850s

Served by Steamboats by 1830s


Served by Railroad by 1850s


Protected by Water Pump Engine


Powered Machine Shops

Used by Farmers in 1880s-1930s
Steam Engine and Threshing

Steam Powered Railroad System
Contributed to
Employment, Transportation and Trade

- "The locomotive is the most human of machines; it breathes, eats, works and sleeps; it is emotional; has the sulks, groans and pants under heavy tasks, yet rejoices in its strength; it is patient and resolute, and finally rushes proudly home on time; it is a thing to love, and men have died for it."

Railroad Gazette, 1884

Monon Shops – Opened in 1895

Served Louisville, New Albany and
Chicago Railroad Line

1958 - Roundhouse

Work of the Roundhouse

1884 - Marshall, Michigan

Greenfield Village - Michigan


Turntable


Turning
the
Table

America's Greatest History Attraction®

High School Lesson Plan 2

Mary Anthrop, Catholic Central Jr/Sr High School, Lafayette, IN

Title of Lesson: Industrialization in the 19th Century –For the Men in the Fields and For the Women in the House

Grade level: 9-12

Overview: In this lesson students explore the mechanization of farm work and house work in the 19th century. They examine the evolution of tool technology and the impact of industrialization on the daily and seasonal activities of farm men and women.

Central Question(s): How did agricultural tools evolve over the 19th century?

What was the impact of agricultural mechanization on labor and crop production?

What new technologies impacted women's work in the home?

How did women use the new technologies "to make a home" rather than money?

What were the controversies over home labor saving devices?

Learning Objectives: Students will be able to:

a) identify the development of mechanized farming tools;

b) explain the transition of power on the farm from man to mechanical;

c) analyze the impact of technology on farm labor; and

d) discuss the role of technology as it relates to labor in "housework."

Assessment Tools: Students will participate in discussion concerning the essential questions during and after the PowerPoint presentations. Finally students will complete the At the Fair assignment and/or A Farmer's Purchase – Tractor or Automobile? assignment as a graded evaluation.

Key Concepts: The Mechanization of Agricultural Tools and Household Labor Saving Devices

Evidence/Sources: Industrialization on the 19th Century Midwestern Farm (PowerPoint presentation) and Industrialization and "Women's Work" (PowerPoint presentation); At the Fair (PowerPoint presentation) and activity handout; A Farmer's Purchase – Tractor or Automobile (PowerPoint presentation) and activity handouts; and Farm Progress -1924 film at http://blog.thehenryford.org/2010/06/30/historic-film-clip-of-the-month-june/
Agriculture and Rural Life. Organization of American Historians Magazine of History. Volume 5, no. 3. 1991. A particular helpful article is "A Tractor or Automobile? A 1920s Farm Family Faces a Decision by Joel P. Kunze.

Duration: 5-7 class periods of 50 minutes

Instructional Sequence: Students will view and discuss Industrialization on the 19th Century Midwestern Farm and/ or Industrialization and "Women's Work." Then complete the At the Fair activity. A Farmer's Purchase – Tractor or Automobile activity is an optional and shorter lesson for the Industrialization on the 19th Century Midwestern Farm presentation.

Student Project Ideas: Students might want to further enrich their understanding of the mechanization of farm activity by visiting living history farm sites or popular rural Steam and Power events.

Anticipated Challenges: Students might not be familiar with agricultural terms and activities. A review of their knowledge might be helpful before beginning the presentations. Living history farms often have internet sites that can be helpful. The Wessels Living History Farm, the Story of Agricultural innovation at http://www.livinghistoryfarm.org has a video comparing the work of a horse plowing a field versus succeeding generation of tractors plowing a field.

Curriculum Links: United States History Standards for Grades 5-12: Era 6 (1870-1900) Standard 1: How the rise of corporations, heavy industry, and mechanized farming transformed the American people.

At the Fair …

Fairs

Lafayette *Daily Courier*, October 15, 1853

The increase of agricultural fairs throughout the country, says the Philadelphia Ledger, is one of the most famous signs of the times. American farming is confessedly inferior to that of Great Britain, so that whatever tends to elevate it is a public benefit and should be encouraged by all good citizens. The greatest benefactor of his kind, it is said, is he who makes two blades of grass grow where only one grew before. These fairs, by the emulation they create among farmers, tend directly to this end. - They are to farmers and mechanics what an exchange is to merchants. Every novelty is there produced, discussed and its merits decided upon.

Scenario: You are a member of a prosperous Midwestern farm family. Your family has decided to visit one of the following fairs: Indiana State Fair (1853), Centennial Exposition in Philadelphia (1876) or the Columbian Exposition (1893) in Chicago. This may be the very first time that your family has traveled on a train! You want to record your experiences for friends at home and create a souvenir of your adventures.

Objective: Create a Fair diary, journal or scrapbook of your experiences and reflections.

Directions:

- Select a Fair destination – Indiana State Fair (1853) – Lafayette, Indiana; Centennial Exposition (1776) – Philadelphia, Pennsylvania; or Columbian Exposition (1893) – Chicago, Illinois.
- Decide on the medium of expression – diary, journal or scrapbook.
- Choose a perspective for your diary, journal or scrapbook – a mother, father, son or daughter. You may wish to dedicate the writings to someone who did not attend the fair.

Content Page Description:

- Each page (or PowerPoint slide) should include at least 3-4 images (illustrations or photos) arranged creatively. Label each image with a short caption or phrase. A paragraph of 5-7 sentences on **each page** should explain the historical significance of the images. The **best** paragraphs also explain how the images relate to your experiences and adventures at the Fair.

Cover and Page Outline/Content:

_____ **Illustrated Souvenir Cover** that includes your name, and the name, place and date of Fair.

_____ **Introduction Page** with dedication inscription and "photos" that explain your scenario.

_____ **Outline Page** of your days at the Fair – lists times and places or events that you visited.

_____ **Farm Invention Exhibits – 2 pages**

- Select farm inventions and their images that are accurate to the time period.
- Farm inventions could include: i.e. plows, cultivators, reapers, mowers, threshers, windmills, steam engines….

_____ **Household Invention Exhibits – 2 pages**

- Select household inventions and their images that are accurate to the time period.
- Household inventions could include: sewing machines, cook and parlor stoves, washing machines, carpet sweepers…. You may also want to include new household products.

_____ **Fun or Novelty Experiences at the Fair – 2 pages**

- Include commentary and images of additional activities, food or sights at the Fair.
- These experiences could include: riding the train for the first time to Lafayette, Indiana in 1853; seeing the Corliss Centennial Steam Engine at the Centennial Fair; or drinking carbonated soda and riding the Ferris Wheel at the Columbian Exposition.

_____ **Reflection Page:**

Summarize your experience at the Fair and reflect on the impact and change that you see taking place in the United States with the emphasis on industrialization and development of new technologies. **How do you see industrialization and technology affecting your way of life?**

Helpful Links:

Centennial Exhibition Digital Collection – The Free Library of Philadelphia

https://libwww.freelibrary.org/CenCol

Progress Made Visible: American World's Fairs and Expositions

http://www.lib.udel.edu.ud/spec/exhibits/fairs

World's Columbian Exposition: Idea, Experience, Aftermath

http://xroads.virginia.edu

The World's Columbian Exposition: Paul V. Galvin Digital History Collection

http://columbus.gl.iit.edu

The Northern Great Plains: 1880-1920: Photographs from the Fred Hulstrand and F.A. Pazabdak….

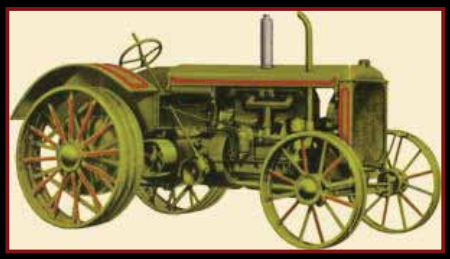
http://memory/loc.gov

Agriculture and Rural Life, **The Henry Ford**

http://www.thehenryford.org

	Excellent	Good	Fair	Score
Historical Accuracy and Research: Is the scenario believable? Are the images and text appropriate to the time period? Does the diary, journal, scrapbook show evidence of a variety of materials? Is there evidence of analysis and interpretation?				/20
Quality of Presentation: Is the scrapbook organized? Is the presentation creative and original in design?				/10
Clarity of Presentation: Is the text thoughtfully and neatly written? Is the text student written and free of grammatical and spelling errors?				/10
Cooperation and Effort: Did the student follow directions? Did the student ask appropriate questions? Was the student on task? Was the scrapbook turned in on time?				/10

A Farmer's Purchase



Tractor

Or

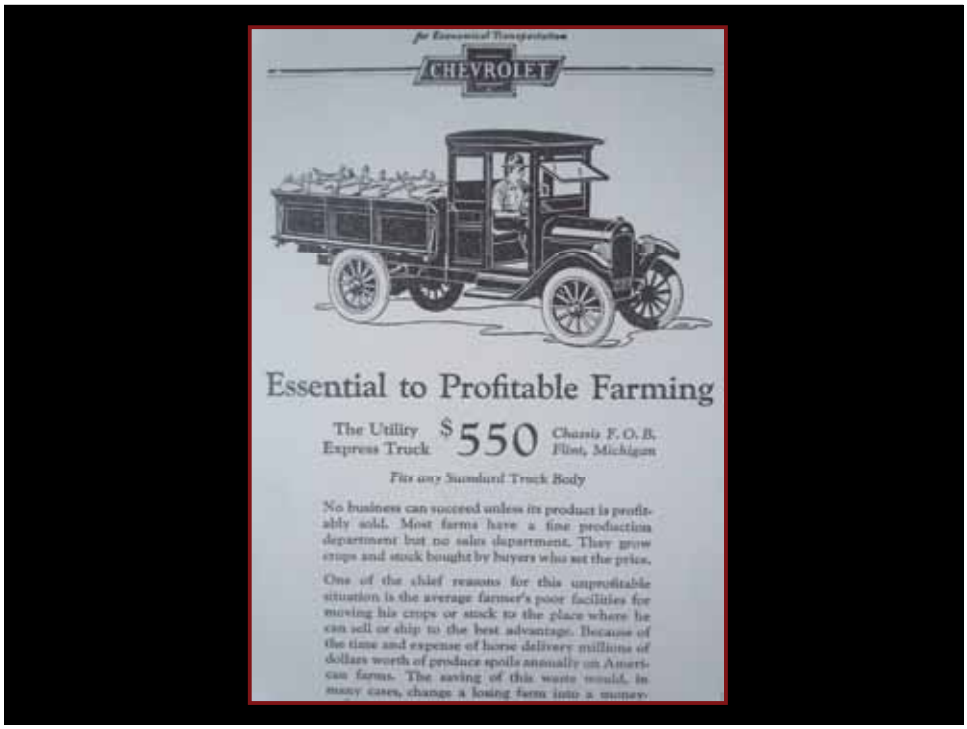
Automobile?

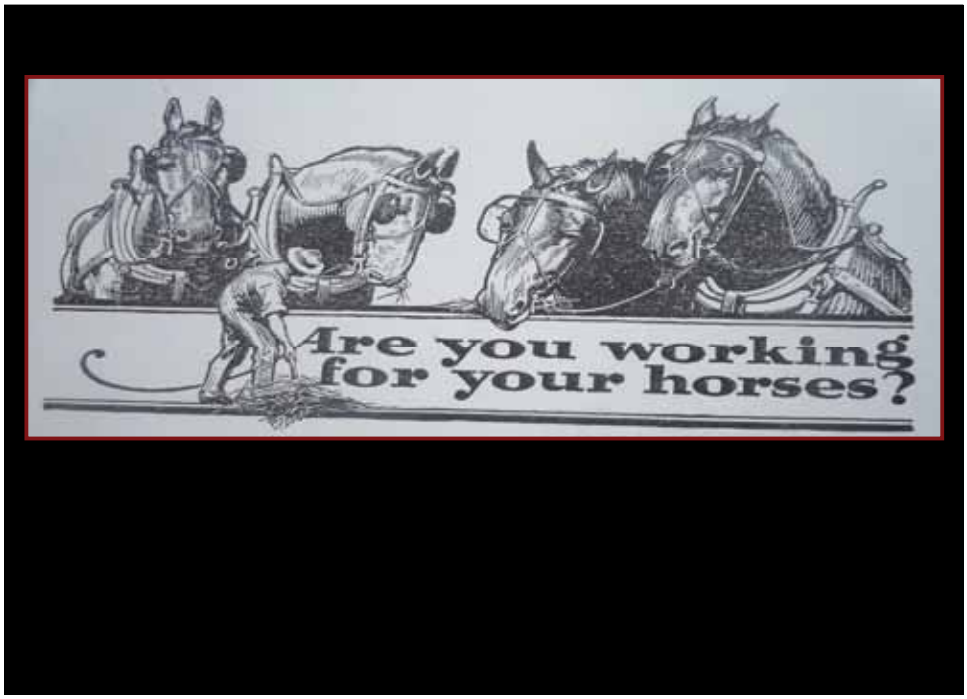
Task

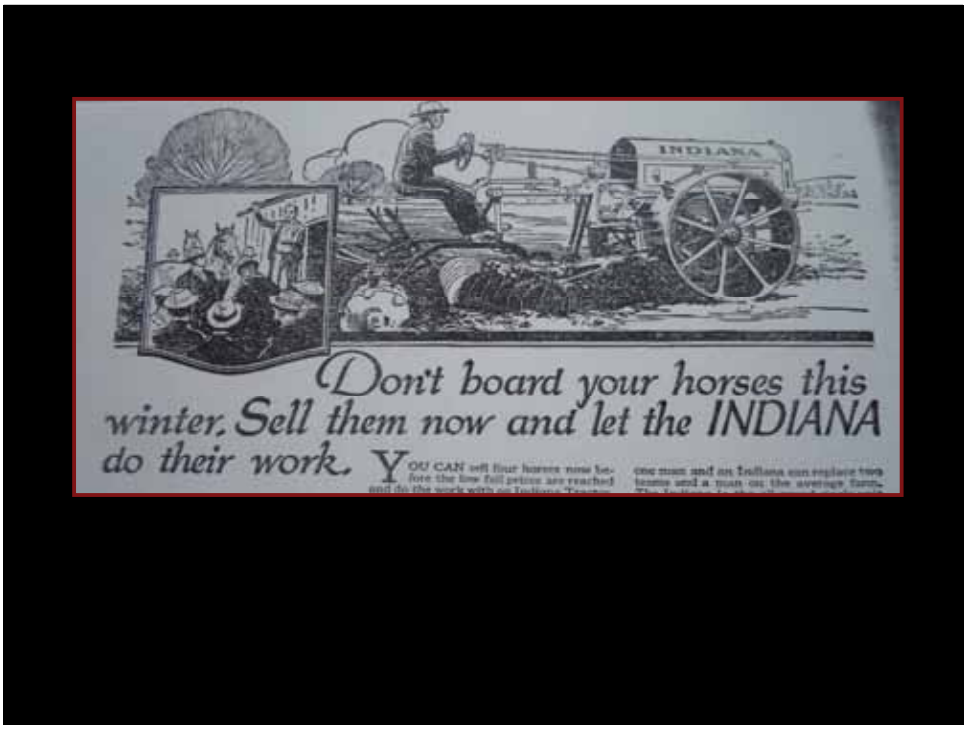
- Situation: In the 1920s the advancements in technology, the development of the assembly line and mass production, and the availability of credit made the purchase of a tractor or automobile affordable to the farm family.
- Determine the factors that influenced the decision to buy a tractor or automobile.
- Speculate on the impact the tractor or the automobile would have on the farm family's social and economic activities.

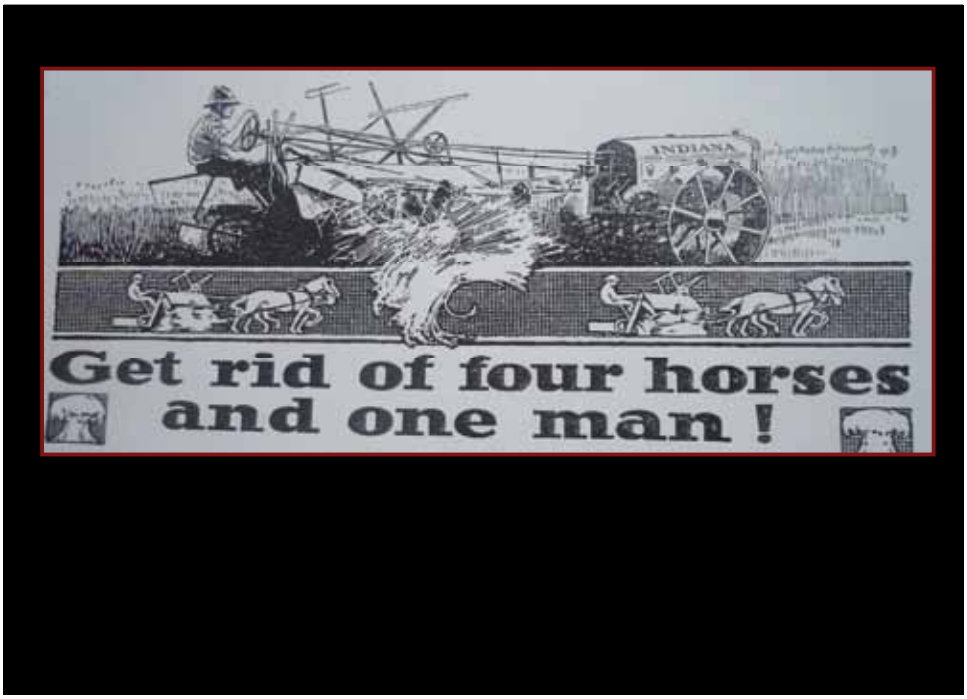

HOOSIER FARMER
for Economical Transportation
CHEVROLET
Will Your Family Be Happy This Spring?
A low-priced, modern automobile like the Chevrolet has become indispensable to the American family of ordinary income. Without it they are prisoners on limited range—like hobbled horses in a pasture.
The inspiring beauties of Nature, the interesting and educational features of other places and other types of people and ways of living remain things to be read about, or seen dimly in cold photographs, until you are free to GO TO THEM at your convenience and pleasure.


The Car for the Woman on the Farm
CHEVROLET
for Economical Transportation
The country woman needs her own car.
When the farm has only one car it is usually in use on the business of the farm, just when the wife or daughter needs to go to town or to a meeting or to make calls.
Chevrolet Utility Coupe
$680


CHEVROLET
Essential to Profitable Farming
The Utility Express Truck
$550
Chassis F. O. B. Flint, Michigan
Fits any Standard Truck Body
No business can succeed unless its product is profitably sold. Most farms have a fine production department but no sales department. They grow crops and stock bought by buyers who set the price.
One of the chief reasons for this unprofitable situation is the average farmer's poor facilities for moving his crops or stock to the place where he can sell or ship to the best advantage. Because of the time and expense of horse delivery millions of dollars worth of produce spoils annually on American farms. The saving of this waste would, in


Are you working for your horses?

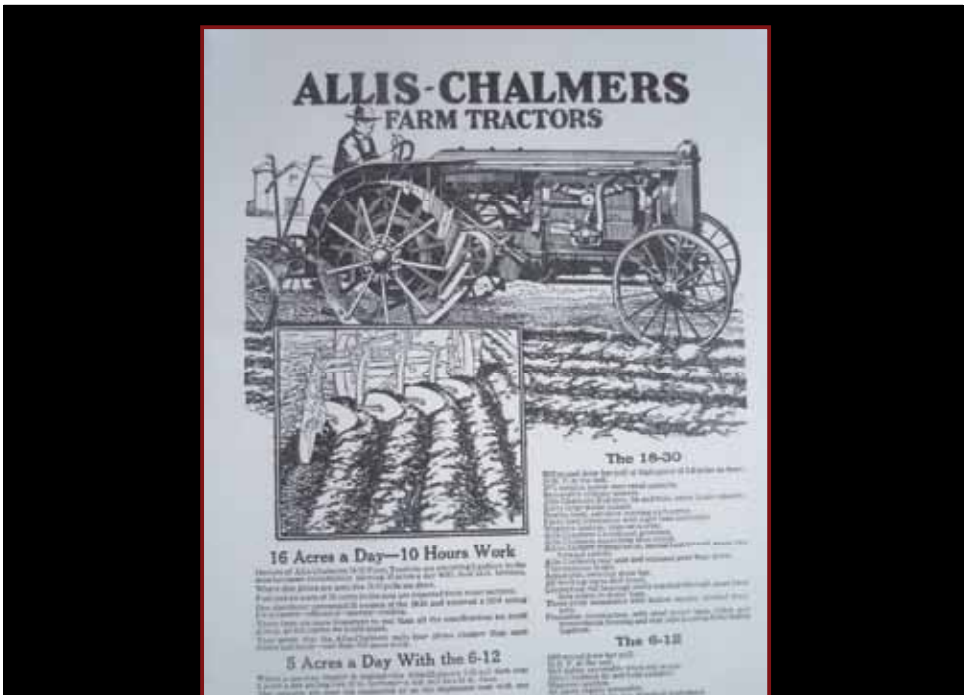

INDIANA
Don't board your horses this winter. Sell them now and let the INDIANA do their work.


INDIANA
Get rid of four horses and one man!


INTERNATIONAL HARVESTER COMPANY
606 So. Michigan Ave.
of America
Chicago, Ill.
First-class power delivered to a long list of belt jobs


$750
At Factory
$750
At Factory
Fordson Farm Tractor
Made by
Henry Ford & Son, Inc.
"Cared for by thousands of Ford and Fordson dealers"
Ask some of the 67,000 Fordson owners and you will know the reason why there is such a demand.
1327 E. Washington St.
DISTRICT HEADQUARTERS
Indianapolis, Ind.


ALLIS-CHALMERS
FARM TRACTORS
Backed by 65 Years of Quality Production


ALLIS-CHALMERS
FARM TRACTORS
The 18-30
16 Acres a Day—10 Hours Work
The 6-12
5 Acres a Day With the 6-12

An Advertisement for a Fordson Tractor

Farm Progress – 1924
Ford Motion Pictures Laboratories

http://blog.thehenryford.org/2010/06/30/historic-film-clip-of-the-month-june/

America's Greatest History Attraction®

High School Lesson Plan 3

Mary Anthrop, Catholic Central Jr/Sr High School, Lafayette, IN

Title of Lesson: The Automobile and Everyday Life

Grade level: High School U.S. History

Overview: In this lesson students explore the rise of popular use of the automobile. They examine the role that Henry Ford, the Model T and the development of the assembly line played in the car transforming everyday American life.

Central Question(s): How did the invention and the popular use of the automobile launch a new urban and industrial age and thus transform American life?

Learning Objectives: Students will be able to:

a) discuss the rise of the automobile's popular use;

b) explain the impact and development of the assembly line; and

c) analyze the impact over time on the use of the automobile.

Assessment Tools: Students will participate in discussion concerning the essential questions during and after The Automobile and Everyday Life (PowerPoint presentation). Finally student will create a scrapbook after the "I am the proud owner of a new automobile" PowerPoint presentation.

Key Concepts: The Evolution of the Popular Use of the Automobile and Its Impact on Everyday American Life

Evidence/Sources: The Automobile and Everyday Life (PowerPoint presentation), "I am the proud owner of a new automobile," activity and The Bicycle Craze (PowerPoint presentation) and Document Analysis handouts. Casey, Robert. The Model T: A Centennial History. Baltimore: Johns Hopkins University Press, 2008. and Kyvig, David E. Daily Life in the United States, 1920-1940. Chicago: Ivan R. Dee, 2002 and The Possibility of Mobility: The Rise and Fall of the Bicycle in 19th Century America at http://xroads.virginia.edu

Duration: 5- 7 class periods of 50 minutes

Instructional Sequence: If time allows, begin with The Bicycle Craze presentation and document analysis of the newspaper articles on the bicycle and auto visit. Next students should view and discuss The Automobile and Everyday Life presentation. Finally students create a scrapbook that chronicles their ownership of an historic auto.

Student Project Ideas: Students might enrich their understanding of the popular use of the automobile by photographing or journaling their use of a car during a typical week. Students might also enjoy visiting an automobile museum or attending a classic car event.

Anticipated challenges: Some high school students might not drive or have limited experiences with automobile travel. A popular teen film with cars as a central theme might be worth viewing before beginning the lessons.

Curriculum Links: United States History Standards for Grades 5-12: Era 6 (1870-1900)

Standard 1: How the rise of corporations, heavy industry, and mechanized farming transformed the American people.

"I am the proud owner of a new automobile!"

Scenario: You are the proud owner of a new automobile. This new car is one of the following: 1932 Ford V8, 1936-37 Cord, 1948 Tucker, 1949 Ford or 1965 Mustang. You have never purchased a new automobile and have decided that you will keep a record of your adventures with this new treasure.

Objective: Create a journal or scrapbook of your experiences and reflections in owning a new automobile.

Directions:

- Select a new automobile to own - 1932 Ford V8, 1936-37 Cord, 1948 Tucker, 1949 Ford or 1965 Mustang.
- Check out more information on your auto of choice at: The Showroom of Automotive History Featured Automobiles at http://www.thehenryford.org/exhibits/showroom/featured.html
- Choose a perspective for your journal or scrapbook – male or female and age. An article on "Gender" that will help you decide your perspective is found at Automobile in American life and Society at http://www.autolife.umd.umich.edu/.
- Create a scenario: What is your age and gender? Where do you live? Who are your family members? Have you ever owned an automobile before?
- For an example of a scrapbook on an automobile see: Model T Road Trip - http://www.thehenryford.org/exhibits/smartfun/welcome.html

Content Page Description:

- Each page (or PowerPoint slide) should include at least 3-4 images (illustrations or photos) arranged creatively. Label each image with a short caption or phrase. A paragraph of 5-7 sentences on **each page** should explain the historical significance of the images. The **best** paragraphs also explain how the images relate to your experiences of owning a new automobile.

Cover and Page Outline/Content:

_____ **Illustrated Cover** that includes your name, picture of your car and intriguing title.

_____ **Introduction Page** with "photos" and explanation of your scenario.

_____ **"Birth" of your automobile – 2 pages**

- Who manufactured your automobile?
- Was the automobile mass produced or custom made?
- What are your car's new and improved features?
- How did the manufacturer advertise your car?
- Do you have a nickname for your car?

_____ **Daily life of your automobile – 2 pages**

- How do you care for your automobile?
- Has the car "given you any trouble"? Does it break down easily? How is the gas mileage?
- How did historical events, such as the Great Depression, World War II…, affect you and your car?
- How do you use your car for work?
- How do you use your car for social activities?

_____ **Adventures with your car – 2 pages**

- Have you taken your car on vacation or a special trip? Where did you go? Where did you stay? How long were you gone? Who went with you?
- Have you had any accidents with your car?
- Have you had any funny experiences, romantic or sentimental adventures with your automobile?

_____ **Reflection Page:**

Summarize your experiences with your car and explain how it was eventually sold to a used car lot. Then reflect on the impact and changes that the automobile brought about in the United States. **How do you see automotive technology affecting your way of life?**

	Excellent	**Good**	**Fair**	**Score**
Historical Accuracy and Research: Is the scenario believable? Are the images and text appropriate to the time period? Does the journal or scrapbook show evidence of a variety of materials? Is there evidence of analysis and interpretation?				**/20**
Quality of Presentation: Is the journal or scrapbook organized? Is the presentation creative and original in design?				**/10**
Clarity of Presentation: Is the text thoughtfully and neatly written? Is the text student written and free of grammatical and spelling errors?				**/10**
Cooperation and Effort: Did the student follow directions? Did the student ask appropriate questions? Was the student on task? Was the journal or scrapbook turned in on time?				**/10**

The Automobile and Everyday Life

"Mr. Ford, it will take a hundred years to tell whether you have helped or hurt us, but you certainly didn't leave us like you found us."

– Humorist Will Rogers

Henry Ford and Will Rogers

Essential Question

- How did the invention and the popular use of the automobile launch a new urban and industrial age and thus transform American life?

Autos by the Number

When did the automobile become common place?

- 1910 – > 500,000
- 1915 – 2,500,000
- 1920 – 9,000,000

- 1917 – 1 in 13 households owns a car
- 1920 – 1 in 3 households owns a car
- 1929 – 4 of 5 households owns a car

By 1929

- 27,000,000 autos
- 3,550,000 trucks
- 840,000 tractors

- 1 in 8 workers involved in auto production, sales, service and fueling of automobiles

What was the impact of automobile use?

Autos

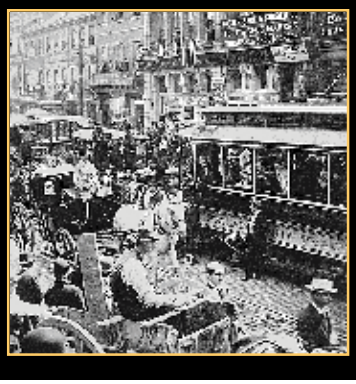
- changed the way people worked;
- conducted their business;
- shopped for necessities and wants; and
- spent their leisure time

What was the appeal of automobiles?

Autos would reduce the pollution of horse drawn vehicles – i.e. in 1900 15,000 horses dropped dead in New York City streets; city residents coped with 2,500,000 pounds of horse manure and 60,000 gallons of urine on the streets each day.

- Alternative systems of cable, steam or electric powered trolleys were too expensive.

Philadelphia 1897

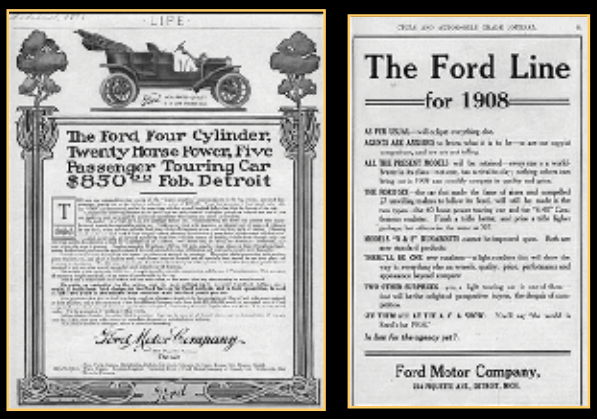


Why was the Model T a car for the masses?

Model T prototype- 1908

Henry Ford in 1908

- "I will build a motor car for the great multitude. It will be large enough for the family but small enough for the individual to run and care for. It will be constructed of the best materials by the best men to be hired, after the simplest designs that modern engineering can devise. But it will be so low in price that no man making a good salary will be unable to own one – and enjoy with his family the blessings of hours of pleasure in God's great open spaces."



- The Model T was durable, reliable and inexpensive to operate.

- The cost of the Model T declined –
  - 1909 - $825
  - 1914 - $490
  - 1921 - $310

Greenfield Village - Michigan

How did Henry Ford reduce the cost of the Model T?

The Disassembly Line
Armour Meatpacking Model in Chicago

Henry Ford

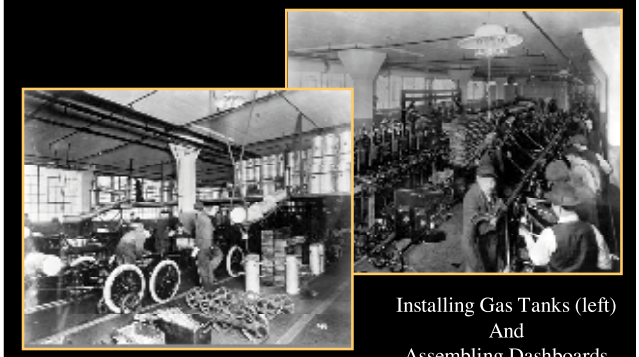
- replaced the individual construction crew with the moving assembly line;

Installation of Tops on Model Ts 1915

Station assembly of Model T chassis - 1913

Station assembly of Model T dashboards - 1913

- subdivided the task of assembly;



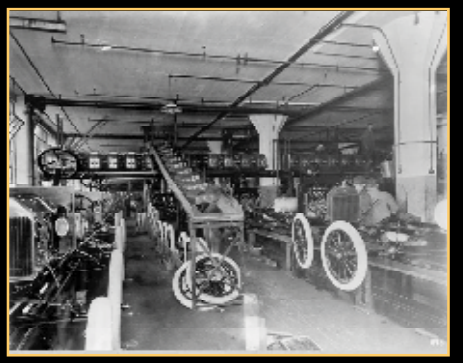
Installing Gas Tanks (left)
And
Assembling Dashboards
1914

- brought parts to the assemblies;
- delivered parts waist high so as to reduce wasted motion; and

Applying magnets on
Model T
flywheels
1913

- speeded up the chain-driven line when possible.

Installing
Wheels
And
Radiators
1914

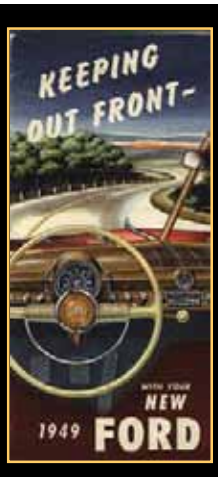


How did other companies compete with the success of the Model T?

Competitors

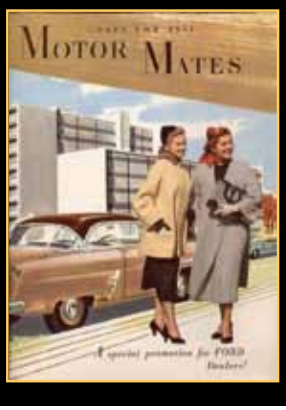
- promoted consumer credit buying;

- changed consumer buying habits – lowered resistance to buying a new car and established a market for used cars;
- inspired annual model changes to update products; and



- developed advertising with psychological appeal.

Ford Advertisement - 1953



Buy coats and purses to match your car!

How did Henry Ford's methods of manufacturing change the way people worked?

- Other companies that mass produced consumer goods copied Ford's assembly line process.

- Assembly line work utilized unskilled labor and instituted tedious, boring and yet stressful work. Turnover rates were high in the labor force.

Installing Dashboards in Ford Plant - 1914

- To attract a dependable work force, Ford departed from conventional hiring practices. He hired minorities and boosted wages – i.e. his $5 a day plan. He forced other companies to raise individual wages.

Job Seekers Outside of Highland Park Building M

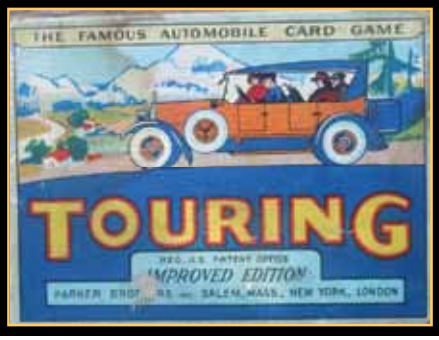
TEN THOUSAND MEN IN RUSH TO SHARE FORD'S PROFIT PLAN

Ford Profit-Sharing Plan Described in Brief

Originators of Idea Explain Their Aim

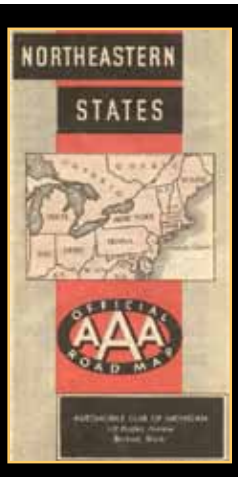
SQUAD OF POLICE TRYING TO KEEP JOBLESS IN LINE

How did the automobile change American life?



Over time the auto

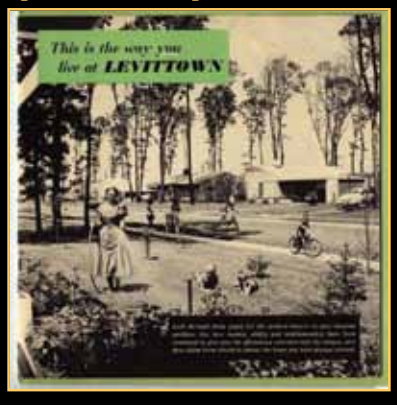
- created the gasoline and oil businesses;
- demanded better roads;



- fostered businesses such as shopping centers, motels, vacation destinations, drive-in theatres and restaurants….

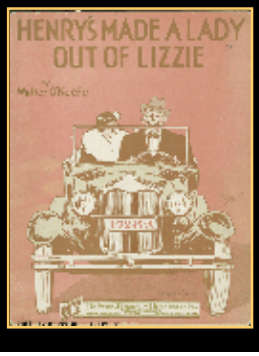
1960-Michigan

- prompted the development of suburbs;



- initiated pleasure driving and

- courtship habits.



America's Greatest History Attraction®

High School Lesson Plan 4

Mary Anthrop, Catholic Central Jr/Sr High School, Lafayette, IN

Title of Lesson: Inventing and Thomas Edison

Grade level: 9-12

Overview: Students will explore Thomas Edison's ideas on inventing and discuss his contributions to the development of the technological age from the 19th century to today. Students will also present an argument for his most significant or meaningful invention.

Central Question(s): How did Thomas Edison's philosophy of inventing and his inventions create the foundation of a technological age of a new century?

Learning Objectives: Students will be able to:

a) identify Edison's major inventions;

b) describe his research and development methods; and

c) evaluate his contribution to the technological age.

Assessment Tools: Students will compose an essay response to the question: which Edison invention, the phonograph, light bulb or moving picture projector most fulfilled "the largest possible measures of happiness and prosperity."

Key Concepts: Edison's Philosophy on Inventing and Key Inventions that Created the Technological Age of the 20th century

Evidence/Sources: Inventing and Thomas Edison (PowerPoint) presentation and handouts – Lists of "Things to Do" – Thomas Edison's Notebooks, Checking an Item off Edison's Lists, Thomas Edison's Words of Wisdom, Thomas Edison's Image and Thomas Edison Essay and the document – Another View of Edison's To Do Lists.
Carlson, Laurie M. Thomas Edison for Kids His Life and Ideas. Chicago: Chicago Review Press, 2006.

Duration: 2-3 class periods of 50 minutes

Instructional Sequence: Students will view the Inventing and Thomas Edison presentation and discuss the essential question. Insert document reading and activities when appropriate and as time allows. Complete the sequence with the essay as an assessment.

Student Project Ideas: Students may want to visit various links to Edison sites for the essay assessment, such as The Thomas Edison Papers at http://edison.rutgers.edu/.

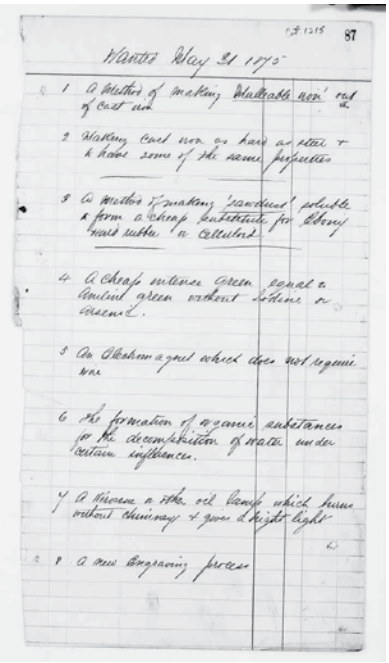
Students may also want to watch an Edison film at Inventing Entertainment at http://memory.loc.gov/ammem/edhtml/edhome.html or see and listen to early phonograph at a museum.

Anticipated challenges: Animated films might be helpful in showing students how some of Edison's inventions worked. Excerpts from the documentary film Westinghouse (2008) might help some students understand the war of Currents.

Curriculum Links: United States History Standards for Grades 5-12: Era 6 (1870-1900)

Standard 1: How the rise of corporations, heavy industry, and mechanized farming transformed the American people.

Lists of "Things to Do" – Thomas Edison's Notebooks



Wanted May 31 1875

1 a method of making malleable iron out of cast iron

2 making coal iron as hard as steel and to have some of the same properties

3 a method of making sawdust soluble to form a cheap substitute for ebony hard rubber or celluloid

4 a cheap intense green equal to aniline green without sodine or arsenic

5 an electromagnet which does not require wire

6 the formation of organic substance for the decomposition of water under certain influences

7 a kerosene or other oil lamp which burns without chimney and gives a bright light

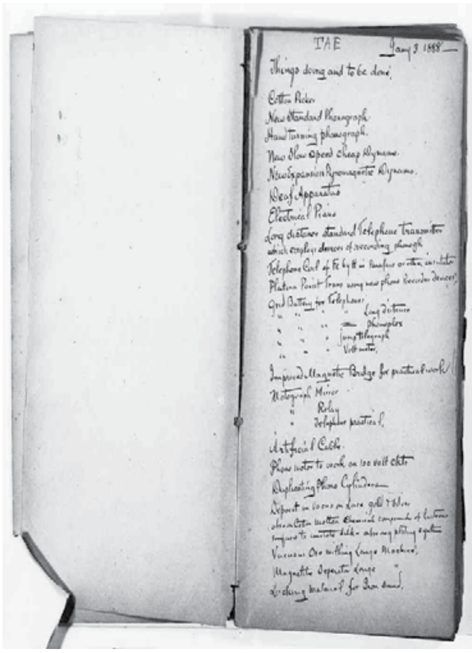
8 a new engraving process

Review Edison's notebook list of 1875. (Copy made be found at http://edison.rutgers.edu)

1) How would you interpret or classify the items on his list?

What do the items tell you about the needs or wants in 1875?

What do the items tell you about Thomas Edison?


TAE Jany 3 1888
Things doing and to be done
Cotton Picker
New Standard Phonograph
Hand turning phonograph
New Slow Speed cheap Dynamo
Deaf Apparatus
Electrical Piano

TAE January 3, 1888

Things doing and to be done

(edited items)

Cotton picker hand turning phonograph new slow speed cheap dynamo Deaf apparatus electrical piano telephone coil good battery India ink Phonographic clock ink for blind telephone repeater snow compressor Large phonograph for novels, etc. toy phonograph for dolls Red lead pencil equal to graphite butter direct from milk Long distance standard telephone transmitter which employs devices or recording phonograph

Review Edison's notebook of 1888. (Five pages made be found at http://edison.rutgers.edu)

2) Compare and contrast the lists of 1875 and 1888.

What items would you add to Edison's lists? Explain why.

Select a project or an item to invent. Choose an idea from Edison's Notebooks or suggest a project of your own. Then respond to the following in complete sentences.

1) What is your project? Why did you choose your project for research and development?

2) How many workers and what type of workers will you need to complete your project?

3) Create 5 questions that you will ask prospective workers.

a)

b)

c)

d)

e)

4) What incentives will you offer to prospective employees?

5) What equipment or supplies will you need to purchase?

6) How long do you think it will take to complete your project? Develop a preliminary timeline.

7) What experiments or research will you conduct to develop your invention?

8) Sketch a preliminary drawing of your invention below.

Thomas Edison's Words of Wisdom

Review Thomas Edison's thoughts on inventing and discovery. Discuss what he may have meant in the context of his lifetime (late 19th century and early 20th century). Then reflect on how his thoughts might have application today. Respond in complete sentences.

1) "What seems impossible today, may not be tomorrow."

2) "Genius is 1 percent inspiration, 99 percent perspiration."

3) "There ain't no rules around here! We're trying to accomplish something!"

4) "Show me a thoroughly satisfied man and I will show you a failure."

5) "We sometimes learn a lot from our failures if we have put into the effort the best thought and work we are capable of."

Thomas Edison's Image

Then and Now

Carefully examine the cartoon of Thomas Edison at the right.

1) How did the American public view Edison, his work and ideas? Explain and support your answer from clues in the images. Respond in complete sentences.

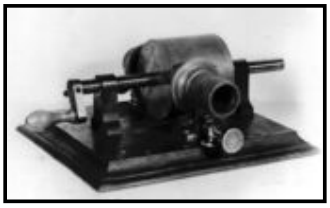
Carefully examine the images below.

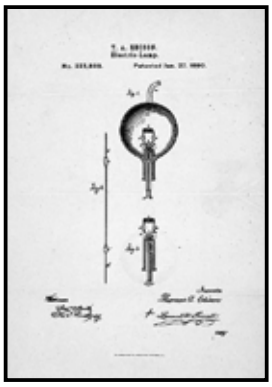
2) How do the cartoons or images above depict the work, ideas and legacy of Thomas Edison? Explain and support your answer from clues in the images. Respond in complete sentences.

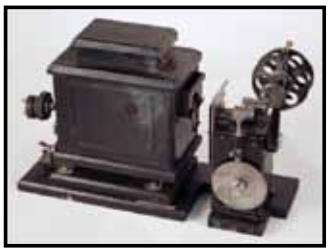
3) How do the cartoons and images in each group differ from one another? Can you explain why?

Thomas Edison Essay

"My desire is to do everything within my power to further free the people from drudgery and create the largest possible measures of happiness and prosperity." Thomas Edison







Which invention, the phonograph, light bulb or moving picture projector do you think most fulfilled "the largest possible measures of happiness and prosperity"? Defend your answer in a five paragraph essay. Be sure and explain the development of your selected invention to support your choice.

Another View of Edison's To Do Lists

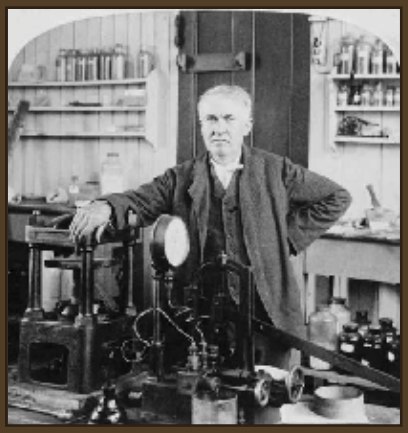
New York Tribune, February 17, 1907

Thomas A. Edison was sixty years old last Monday, but instead of taking chloroform, according to the so-called Oslcrian theory that a man's life ends at threescore years, the famous inventor announced that he was going to start fresh in a new field of scientific endeavor. For the last forty years Mr. Edison has devoted his energies almost wholly to the perfection of inventions which he believed "could be made to pay," and which in some instances have met with such success that they have revolutionized ordinary phases of modem life, have brought the inventor fame and riches and have added so greatly to the wealth of the whole world that at the present time there are two hundred and fifty thousand persons in various countries employed in industries which he has founded. In the future Mr. Edison plans to work untrammeled by commercial fetters. He hopes to solve many a scientific problem vitally associated with human life, even though his discovery may not be a money making scheme. "For many years I have longed to take up purely scientific investigation." said Mr. Edison. In talking with Borne friends on his sixtieth birthday, "but there have been so many things to engross my attention that I have had to defer this kind of work. For years, however, I have been making preparations for this task. I have kept notes of curious things which I have observed in my various experiments, but which at the time were only side issues. When a man is in a laboratory working on a problem he comes across all kinds of phenomena, and he can't take the time to trace these manifestations to their source, because that would interfere with the task he is wrestling with. He is compelled to put these things aside, for if he is striving for the commercial end of the business he must abandon the ideal, unless that, too, will aid him in attaining the commercial goal.

These side vistas into the realms of science, however, have so charmed me that now I have started to retrace my steps and strike out in search of the truths that I know must lie somewhere beyond my former horizon. By means of investigations based on the data of my note books and scrap book I hope to throw light on many subjects which now appear to me as dark mysteries."

Inventing and Thomas Edison
(1842-1931)

"To invent, you need a good imagination and a pile of junk."



Essential Question

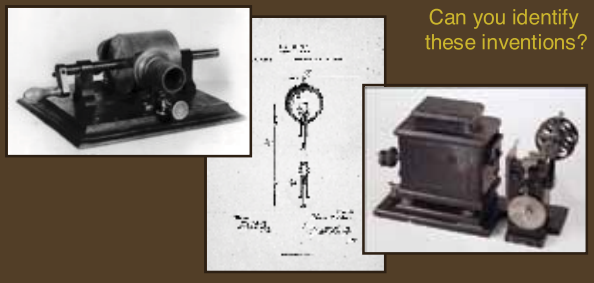
- How did Thomas Edison's philosophy on inventing and his inventions create the foundation of a technological age of a new century?

Thomas Edison's Major Inventions

- 1868 – Vote Recorder
- 1869 – Printing Telegraph
- 1872 – Automatic Telegraph
- 1876 – Electric Pen
- 1877 – Carbon Telephone Transmitter
- 1877 – Phonograph
- 1879 – Dynamo
- 1879 – Incandescent Electric Light
- 1886 – Talking Doll
- 1897 – Moving Pictures Projector (Kinetoscope)
- 1900 – Storage Battery

- "My desire is to do everything within my power to further free the people from drudgery and create the largest possible measures of happiness and prosperity."

Can you identify these inventions?



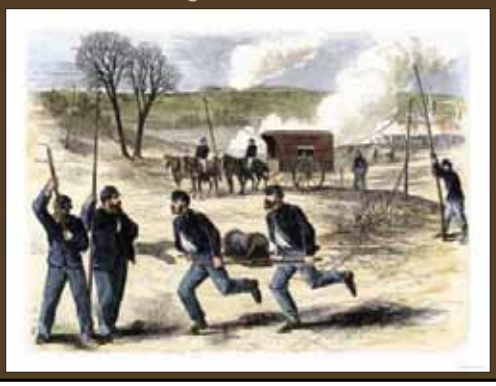
Tramp Operator

Edison

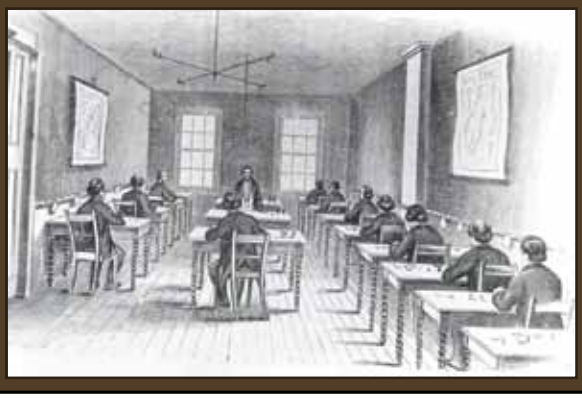
- moved from Michigan to Indiana to Ohio and after the Civil War from Tennessee to Kentucky to Boston as a telegrapher.
- invented disk of paper to record dots and dashes and cock roach trap.
- spent spare time experimenting in a make-shift laboratory.

Samuel Morse Demonstrating Telegraph in New York City

Setting up Telegraph Wires During the Civil War



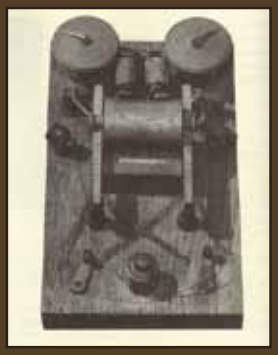
Telegraph Training



First Patents

- 1868 – vote recording machine, but it was not popular with legislators.
- 1870 – stock ticket devise; it operated like the telegraph sending prices over the wire.
- 1872 – perfect the duplex telegraph that could send two messages on one line.

Vote Recorder and Stock Ticket Devise



Inventing as a Business

- Edison, financed by the financial success of stock ticker machines, set up a workshop in Newark, New Jersey in 1871 to invent profitable products.
  - paraffin (wax paper)
  - mimeograph machine
  - electric pen
  - quadruplex telegraph that sent four messages in two different directions at one time.

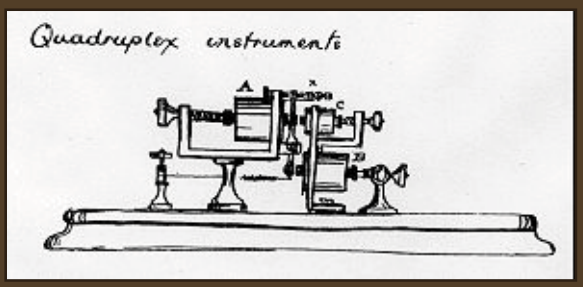
Electric Pen

July 11th, 1877

I have tried the new Electric Pen for writing MS, printing and drawing, and consider it perfectly successful for all three purposes. For simplicity, expedition, and cleanliness in working, it seems to me to be quite unrivalled, and those who, like myself, often require twenty or thirty copies of questions or formulae, &c., will save the cost of the machine in printer's bill several times over in a year.

CHARLES L. DODGSON
Mathematical Lecturer of Ch.Ch ., Oxford

Quadruplex Telegraph Drawing



Scientific American – February 20, 1886

Sending and Receiving Telegram on Moving Trains

At Menlo Park, New Jersey

- Edison set up first commercial research laboratory.
- He promised “a minor invention every ten days and a big thing every six months or so.”
- Initial complex consisted of a large building with an office, library, drawing room and workshop on second floor.

Menlo Park Complex
Greenfield Village - Michigan

Inside Laboratory

Inside Laboratory

Shed for Preparing Carbon

Burning Kerosene Lamps

Glass Building

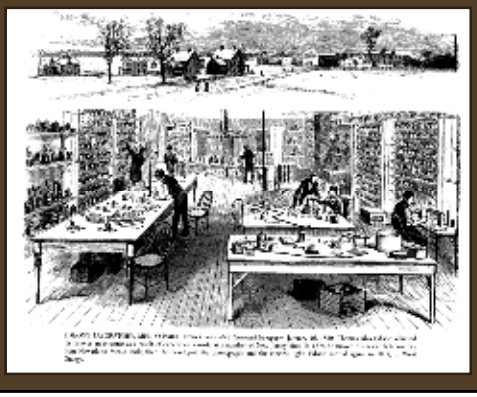
Inside Machine Shop

Boardinghouse for Workers

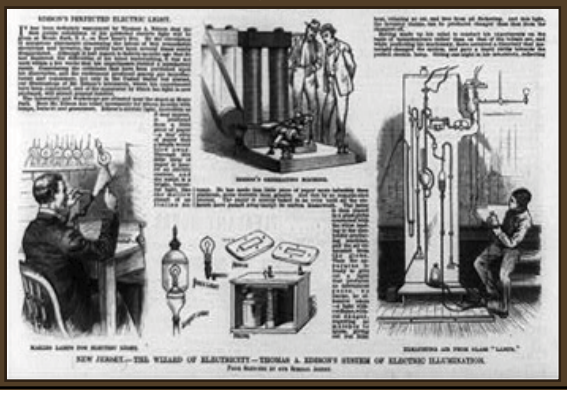
Greenfield Village
- Michigan

Electric Lights in Menlo Park

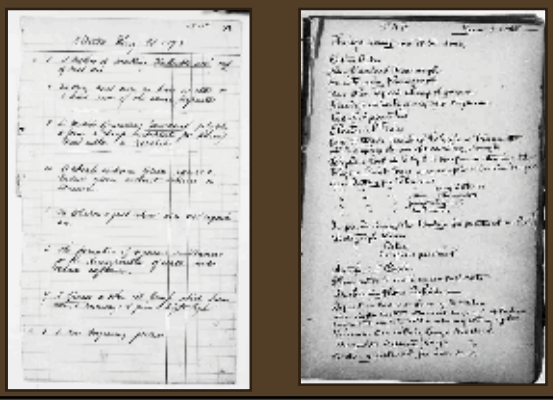
A New Model for Invention



Frank Leslie's Illustrated Newspaper – January 10, 1880

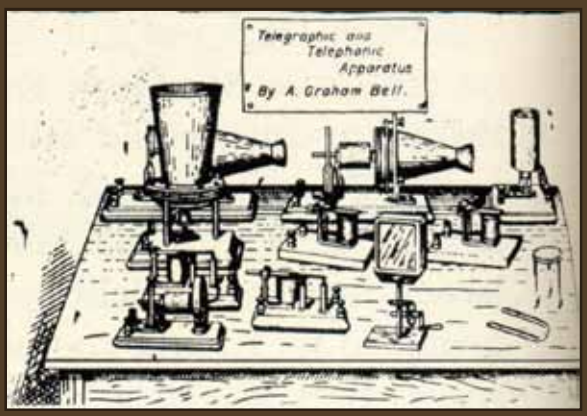


"To Do Lists" 1875 and 1888

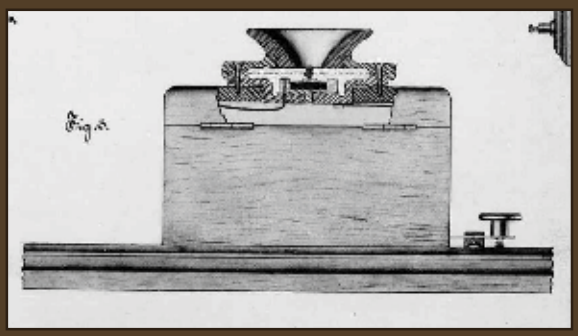


Improvements to the Telephone "Ahoy or Hello?"

- Edison patented the carbon transmitter for the telephone.
- The carbon transmitter allowed for clear and distinct voice recognition.
- Voices could now travel over long distances.



Button of Lamp Black



Phonograph

"Mary had a little lamb,
its fleece was white as snow."

- Edison's work on telephone and telegraph improvements lead to the invention of the phonograph.

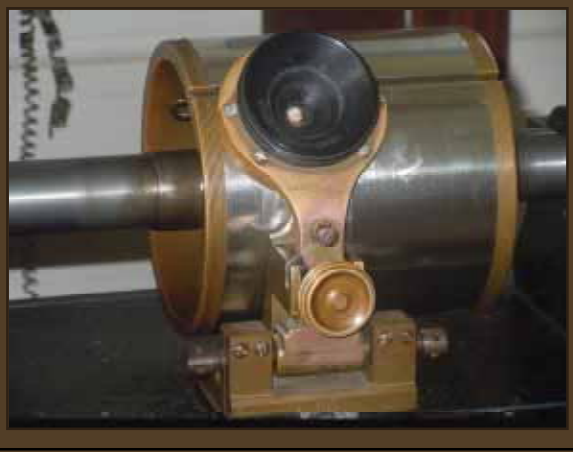
Record Your Voice

Speak into the Tube

Foil

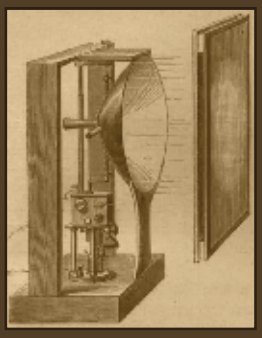
"Needle"

Listen to Recording



- Edison thought that the phonograph would be used to record speeches, lectures, books for the blind and other educational uses.
- Improvements of the phonograph led to wax cylinders, flat disks and plastic records.

Before Thomas Edison's Light Bulb



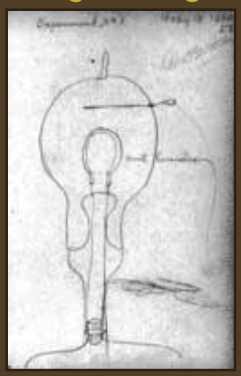
- candles and lanterns,
- whale oil, alcohol and kerosene lamps,
- gas lights and
- arc lights

Arc Light - 1849

A Cleaner, Safer and Brighter Light

Edison faced the challenge of

- finding a filament that burned longer and
- controlling the electric current through several bulbs at one time.

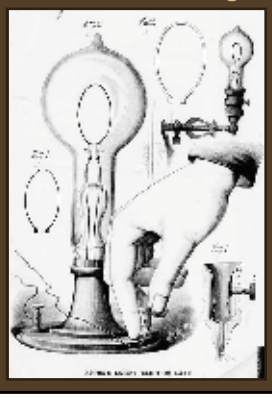


New York *Herald*
December 21, 1879

- "Sitting one night in his laboratory reflecting on some of the unfinished details, Edison began abstractedly rolling between his fingers a piece of compressed lampblack mixed with tar for use in his telephone. For several minutes his thoughts continued far away, his fingers in the meantime mechanically rolling out the little piece of tarred lampblack until it had become a slender filament. Happening to glance at it the iea occurred to him that it might give good result as a burner if made incandescent."

The Solution – Incandescent Light

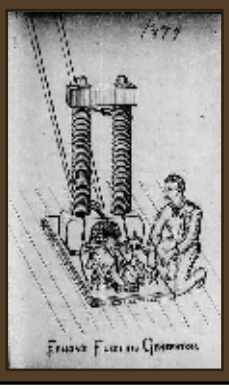
- Burn a filament inside a vacuum with very little oxygen present
- Discover a long lasting filament (bamboo coated with carbon and then carbon filament created with cellulose)



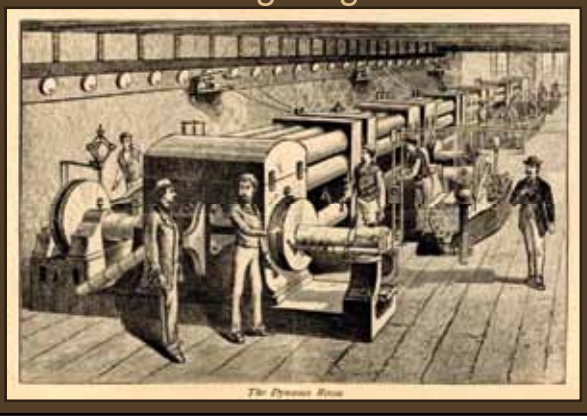
Wizard of Menlo Park

Edison's Electric System

- Edison created a "dynamo" to regulate the electric current flowing out of the heat source.
- Generator burned a fuel like coal that fed electricity to the dynamo.
- Dynamo adjusted the heat energy and sent out a constant stream of electric current.



Electric Lighting Station



War of the Currents - DC or AC?

- Edison competed with George Westinghouse over use of direct current v. alternating current.
- Edison attempted to prove the AC was dangerous.
- Edison hired H.P. Brown to discredit AC.

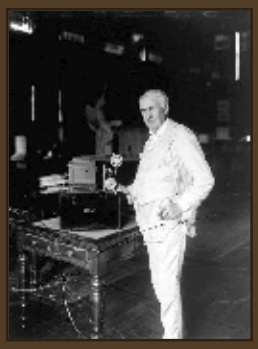
- Edison and Brown proposed that electrical execution with AC would work quickly.

First Use of Electric Chair New York - 1888

- Westinghouse won contract to light World Fair of 1893 and the War of Currents.

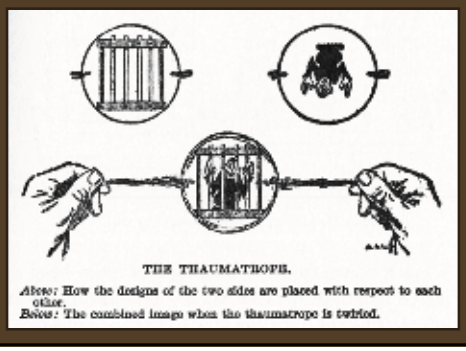
Edison and Moving Pictures

- "do for the eye what the phonograph does for the ear"



The First Moving Pictures

- Thaumatrope



THE THAUMATROPE.

Above: How the designs of the two sides are placed with respect to each other.
Below: The combined image when the thaumatrope is twirled.

Zoetrope

- Eadweard Muybridge, an English photographer, approached Edison in 1886 to discuss how his photographic zoetrope could combine with Edison's phonograph.

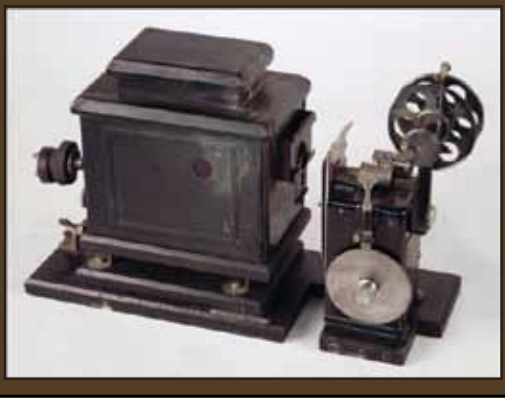
Zoetrope

In Greek - living things (zoa) and turning (thrope)

Kinetoscope Projector

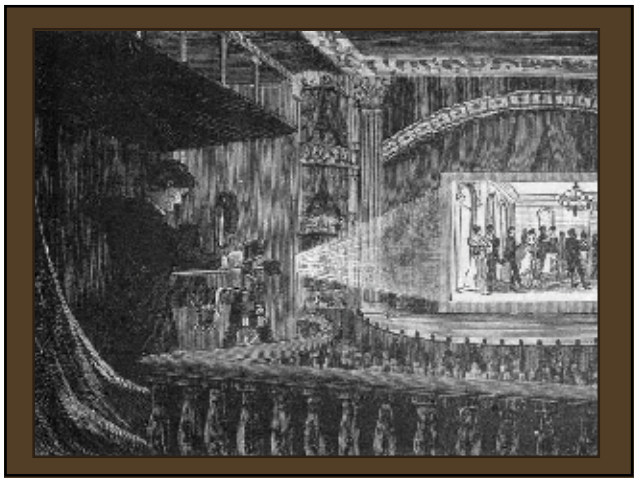
- Edison's team invented a camera that took photographs quickly as a subject moved.
- The photographs were printed on long flexible filmstrips.
- The filmstrips were wound around a cylinder that could be turned by a crank.

Kinetoscope Projector



Vitascope -1896

- Similar to today's movie projector, filmstrips moved through a projector that focused the images upon a wall.
- Edison was not able at first to add sound loud enough for the audience to hear who were several feet away.
- Edison added captions to the pictures.



Moving Picture Development

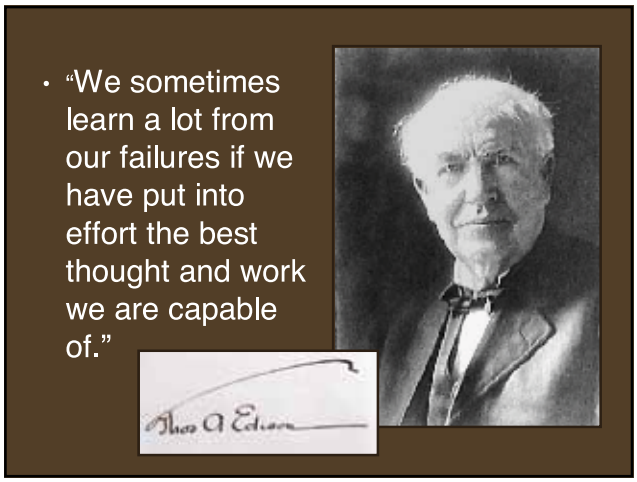
- Edison Manufacturing Company produced news stories called newsreels to be shown in movie theatres – i.e. Spanish-American War and Boer War in Africa. (Some scenes were "recreated" in New Jersey)!
- By 1909 there were 8,000 movie theatres in United States.
- The Edison Studios made first feature film *The Great Train Robbery.*

The Black Maria Studio

- Edison believed that films were more educational than books.
- "It is my firm conviction that a large part of education in coming generations will be not by books but by moving pictures. Children don't need many books when they are shown how to do things. They can learn more by some kinds of moving pictures in five minutes than they can by the usual kinds of books in five hours."

Death in 1931

- "Genius is 1 percent inspiration and 99 percent perspiration."


• "We sometimes learn a lot from our failures if we have put into effort the best thought and work we are capable of."

America's Greatest History Attraction®

High School Lesson Plan 5

Elizabeth Cahill, Wachusett Regional High School, Holden, MA

Title of the Lesson: What Does it Take to Industrialize?

Grade Level: 9-12

Overview: This lesson is about looking at the factors a nation needs in order to become a developed or industrialized nation. Taking this further, the lesson also includes a discussion about why nations in the world today are underdeveloped and struggling to industrialize.

Central Question: What does it take to industrialize?

Learning Objectives: Students will be able to:
-Explain the "ingredients" needed for industrialization.
-Understand why some nations are able to industrialize while others are not.
-Brainstorm ideas for helping underdeveloped countries.

Assessment Tools: Index card with the "recipe" for a country to industrialize, student participation in class discussion and brainstorming, test/quiz

Key Concepts: The factors involved in industrialization. Why countries like Britain, the US, and Germany were able to easily industrialize and participate in the Industrial Revolution, while African and Latin American countries have struggled.

Evidence Sources: PowerPoint presentation (see attached), textbook reading, prior knowledge

Time Frame: 1-2 class periods (50 min classes)

Instructional Sequence: Note: Teachers may reverse the recipe card activity and the PowerPoint presentation based on their student's knowledge base.

Industrialization PowerPoint presentation

Students are given a standard-size index card and are told to write a "recipe" for industrialization of a nation. Students are told to include in their recipe:

List at least 4 "ingredients" with their measurements

Give directions with at least 3 steps

Teacher may present real recipes for students who do not have that prior knowledge. These recipes could also be historical and from the turn of the century if that interests the teacher.

Students then present their recipe and the teacher can put them all together into a class "cookbook"

Class discussion about their recipes and industrialization. Do they agree with the recipes? Were they similar or different? Was anything striking to them? Teacher will then lead them into a discussion about why some nations do not industrialize. If these are needed in order to industrialize, why is some nations' industrialization stifled? (missing 1 or more "ingredient", "ingredients" misdirected or wasted, etc.) Teacher can include in this discussion real examples of corruption, etc. in underdeveloped nations. Depending on students' prior knowledge, they may add these examples themselves.

Finally, students will brainstorm ideas for how underdeveloped nations can become industrialized.

Student Project Ideas: Recipe card can be an in-class assignment or a homework assignment depending on time constraints.

Anticipated Challenges: Students may have a hard time grasping some of the abstract concepts involved in industrialization. Also, students may also look to very simple and easy solutions to underdeveloped nations' problems. The teacher will need to direct students toward more complicated and real-world solutions (which they may not find) without causing students to get frustrated. However, a good lesson there is that these are complicated world problems that do not have easy solutions or else they would have been used already.

Curriculum Links: MA Social Studies Curriculum Frameworks:
USII.1 Explain the various causes of the Industrial Revolution.
USII.2 Explain the important consequences of the Industrial Revolution.
National Standards:
NSS-USH.5-12.6 Era 6: The Development of the Industrial United States (1870-1900)
NSS-EC.9-12.1 Scarcity
NSS-EC.9-12.3 Allocation of Goods and Services

Capital

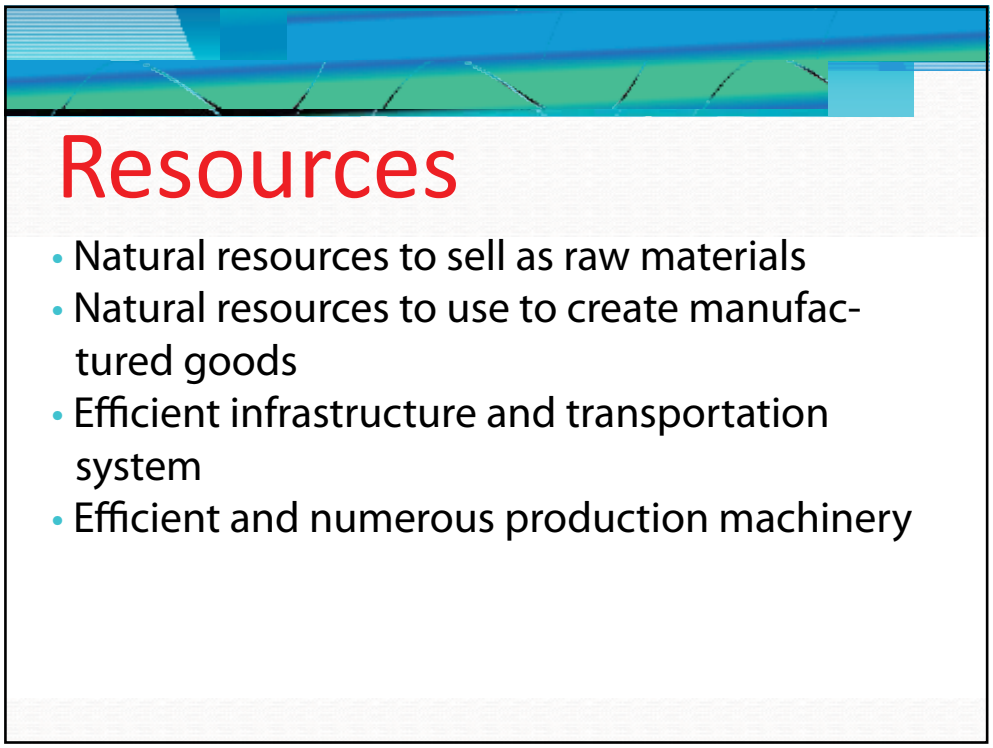
- Capital = Money $$$
- Foreign and Domestic investment in private enterprise
- Low capital costs
- Free flow of capital and trade
- Low/no bureaucratic red tape
- Private property rights

People

- Producive workers
- Low labor cost per unit of output
- Efficiently organized and managed
- Over the last 20 yrs, an emphasis exists for workers to get an education beyond high school, even for manufacturing ("working the line")
- Entrepreneurs
- Workers with expertise

Stable Government

- No/low corruption by officials
- Investors more likely to invest
- Set rules
- Managers/investors can plan
- Investors tend to hold onto money when unsure what government will do (ie. change the rules, nationalize)


Resources
• Natural resources to sell as raw materials
• Natural resources to use to create manufac-
tured goods
• Efficient infrastructure and transportation
system
• Efficient and numerous production machinery


Free Market
• No tariff barriers
• Resources and people are allocated where
they are the most productive
• Competition causes production to become
more efficient, thus lowering prices
• Lower prices = higher standard of living


References
Hazlitt, Henry. Economics in One Lesson: The Shortest and Surest Way to Understand Basic Economics. New York: Three Rivers Press, 1979.
NEH Teacher Workshop at the Henry Ford: America's Industrial Revolution
Sowell, Thomas. Basic Economics: A Common Sense Guide to the Economy. New York: Basic Books, 2007.

America's Greatest History Attraction®

High School Lesson Plan 6

Jennifer Hart, Northville High School, Northville, MI

Title: Three Loaves Strike

Grade Level: 9-12

Overview: This lesson utilizes the story of the Lawrence Textile Strike as a back drop to understanding how industrialization affected everyday life for workers/immigrants. It also reveals the growing labor union movement within the factory setting.

Central Question: What was the plight of European immigrants in the U.S. in the early 1900's and what part did they play in the labor movement?

Learning Objectives: SWBAT analyze the conditions under which the workers had to function.
SWBAT explain how labor unions helped to improve workers situations.
SWBAT compare and contrast new labor laws and their effects on industry.

Assessment Tools: Discussion questions and in-class participation

Key Concepts: The Strike for Three Loaves
The Lawrence Textile Strike was a strike of immigrant workers in Lawrence, Massachusetts in 1912 led by the IWW (Industrial Workers of the World). Caused by one mill owner's decision to decrease wages when a new law went into effect in January shortening the workweek, the strike spread rapidly through the town, growing to more than twenty thousand workers at nearly every mill within a week. The strike lasted more than two months and defied the assumptions of conservative unions within the AFL (American Federation of Labor) that immigrant, largely female and ethnically divided workers could not be organized, was successful; a year later, however, the union had largely collapsed and most of the gains achieved by the workers had disappeared.

Sources/Evidence: This lesson utilizes low cost/free materials provided by:
Teaching Tolerance
A Project of the Southern Poverty Law Center
A Place at the Table: Struggles for Equality in America
www.TeachingTolerance.org

05-threeloaves[1].pdf

Three Loaves Questions.doc

Video: A Place at the Table

Homemade Bread.doc

Bread and Roses [1].pdf

Instructional Sequence:

Day 1

1. Have students read the story The Strike for Three Loaves by Maria Fleming. Lawrence, Massachusetts c1912. See included document 05-threeloaves[1].pdf

2. Students should complete the questions after they have completed the reading. See included document Three Loaves Questions.doc

3. Begin bread making process & explanation

4. Begin Video A Place at the Table

Day 2

1. Finish Video

2. Finish bread making process & discuss "value" of bread

3. Analyze Poem 'Bread and Roses"

4. Collect all materials back form students

5. Recap discussion

Student Project Ideas: Using the internet, research the history of the Labor movement in the U.S., create a timeline and prepare a classroom presentation. Website: library.dol.gov

At this site learn about the 1998 U.S. postage stamp commemorating child labor reform. Also explore the roles women and African Americans played in the labor movement. Choose one topic and design your own stamp on the theme.

Anticipated Challenges: Low level readers could be partnered for the reading portions of the lesson

Curriculum Links: Understand the rise of the American labor movement and how political issues reflected social and economic changes

Benchmark: Understand influences on the workforce during the late 19th century.

Benchmark: Understands Labor issues of the late 19th century.

Homemade Bread: History and a Recipe

Collect traditional bread recipes from a variety of cultures. Discuss why the word “bread” is sometimes used to mean “food” in general and sometimes “money”. Why did European immigrant workers in the early 19th century sometimes say they came to America “for bread”?

Analyze the “Bread and Roses” Poem

see included document Bread and Roses [1].pdf

If possible as a class prepare and cook a historical bread recipe. (see bread recipe included)

In the early 1900’s, fresh baked bread was part of the daily routine. These women, not only made their own bread, they made their yeast, as well.

The Yeast
The yeast was made from boiling grated potatoes with a little sugar and salt until they became translucent. A cup of the old yeast was added to make it ferment faster. This yeast mixture was set on the back of the stove to ferment. It would keep for 2 or 3 days before going sour. Then new yeast was made, again by adding a cup of the “old yeast” to the new potato and sugar mixture.(Voice of Getchel)

Bread
When it was time to make the bread, one cup of yeast was combined with enough flour to make a soft dough and left to proof for several hours. Four cups of water and 2 tablespoons of salt, plus as much flour as was needed to form a dough that could be kneaded, were added. This dough was placed in a greased pail, greased on top, and covered. It was set behind the stove to rise overnight. In the morning, the dough was cut into four sections, kneaded, and placed in a large pan to rise. When it had doubled in size, it was baked for one hour at 350 degrees.

It is doubtful that any modern woman will go to this extent for a loaf of homemade bread.

This recipe will come close to the texture and flavor or the bread Grandma used to make.

I**ngredients:**
6-7 cups all purpose flour
2 packages of active dry yeast
2 cups warm water
3 tablespoons oil
2 teaspoons sugar
1 teaspoon salt

Directions
~Pour 2 cups very warm water in a large mixing bowl. Add yeast and sugar to the warm water and let set to proof for 5 minutes. Add the oil and salt and stir to mix well. Add three cups of flour and stir until it makes a smooth dough. Add the remaining flour one cup at a time until the dough forms a soft ball and cleans the side of the bowl. Scrape the sides of the bowl with a wooden spoon and form into a soft ball. Knead the dough for 10 minutes on a floured board.

- Place in a greased bowl. Grease the top of the dough and cover lightly with a clean towel.

Recipe Published April 19, 2007 by: Nannette Richford

5c – "Bread and Roses"

About a decade after the strike at Lawrence, Wobbly writer James Oppenheim commemorated the event with this poem. He said it was inspired by a woman striker who carried a sign during one of the protest's that read, "We want bread and roses too: " He thought this sentiment captured the essence of the mill workers' struggle to escape some of the hardships of factory life. The poem, like the strike, became world famous. It has since been put to music and workers have embraced it as their own rallying cry during later labor protests. Today, because of the poem, the 1912 walkout in the Lawrence mills is remembered as "the strike for bread and roses. "

As we come marching, marching in the beauty of the day,
A million darkened kitchens, a thousand mill lofts gray,
And touched with all the radiance that a sudden sun discloses,
For the people hear us singing: "Bread and roses! Bread and roses!"

As we come marching, marching, we battle too for men,
For they are women's children and we mother them again.
Our lives shall not be sweated from birth until life closes;
Hearts starve as well as bodies; give us bread, but give us roses!

As we come marching, marching, unnumbered women dead
Go crying through our singing their ancient cry for bread.
Small art and love and beauty their drudging spirits knew.
Yes; it is bread we fight for but we fight for roses, too!

As we come marching, marching, we bring the greater days.
The rising of the women means the rising of the race.
No more the drudge and idler ten that toil where one reposes,
But a sharing of life's glories; Bread and roses! Bread and roses!

This article is reprinted by from the Teaching Tolerance curriculum kit
A Place at the Table.

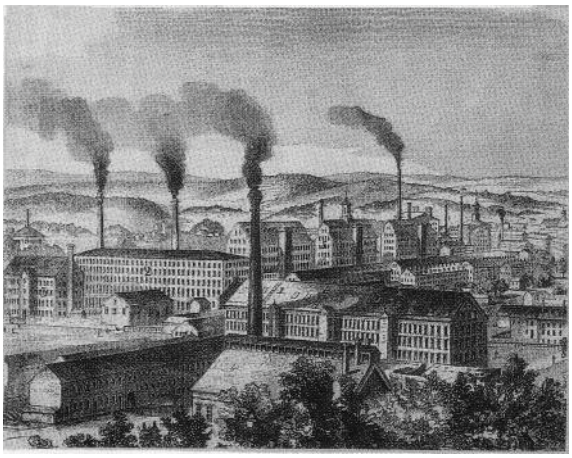
5 – The Strike for Bread and Loaves

By Maria Fleming

1912: immigrant laborers join forces to demand fair wages in Lawrence, Massachusetts.

> *In the booming economy of the early 20th century, American industries needed cheap labor to keep factories humming and profits growing. They looked to newly arrived immigrants from Southern and Eastern Europe as one source of this labor. Immigrants from Italy, Poland and other parts of Europe had left behind depressed conditions in the "old country." They said they came to America "for bread"* pane *to the Italians,* chleb *to the Poles.*
>
> *But life in the United States was full of its own hardships. Some factory owners exploited the newcomers, paying them the lowest wages for the hardest jobs. On a bitter cold day in 1912, immigrant laborers in New England's textile mills joined forces to demand fair pay for a day's work. They waged a two month struggle for economic justice that drew the attention of the nation and became one of the most celebrated stories in labor history.*

January 12, 1912, began like every other day for 14 year old Carmella Teoli. The sleep shattering screech of the factory whistle roused her from bed at dawn. The whistle regulated life in the textile city of Lawrence, Mass., telling laborers when to wake up, when to begin work and when to return home. Carmella dressed hurriedly and ate a meager breakfast of bread and molasses. When the whistle blew again, Carmella and her father shuffled to the hulking textile mills where they worked.



Lawrence resigned as queen of the milltowns, with more then a dozen textile factories lining its river banks.

Since the early 1800s, many textile cities had sprouted up in New England's green valleys. But Lawrence reigned as queen of the milltowns. Almost a dozen textile factories lined its river-banks, with more more than 40,000 people laboring in the mills. Most of the workers, including Carmella Teoli and her father, were recent immigrants from Europe. Wood Mill, where Carmella worked, was the largest worsted wool mill in the world. More then a third of a mile long, with 30 acres of floor space, Wood Mill alone employed 10,000 workers.

Carmella had left school in the 6th grade, when she was 12, to work in the mills. Her family needed the $6.55 she could earn each week to help support Carmella and her four brothers

and sisters. Laws prohibited children younger than 14 from working in factories. But poor families and mill owners often found ways around these laws.

Laws prohibited the employment of children younger than 14 in the factories, but poor families and mill owners found ways around the laws.

The Teoli family had emigrated from Italy to America when Carmella was 3 years old. Italian immigrants were not the only ones who came to New England seeking jobs. Poles, Turks, Russians, Greeks, Syrians, Portuguese, Lithuanians and dozens of other nationalities flocked to Lawrence to work in the mills.

Immigrants like the Teolis were sometimes drawn to New England by advertisements placed by American mill owners in their native towns. One poster prominently displayed in an Italian village depicted a happy family, laden with bags of gold, marching into Lawrence's Wood Mill. "No one goes hungry in Lawrence. Here all can work, all can eat," the poster read.

The reality of life in Lawrence was a far cry from the pretty picture on the poster, however. The average 16 cents an hour that workers earned barely kept a family in bread, let alone gold. Meat, butter and milk were all luxuries. Workers couldn't afford the fine wool fabric they spent their days making; they dressed instead in thin, worn clothing.

Many of the immigrants lived crammed together in a slum called "the Plains." The mill operators owned many of the tenements the immigrants lived in and charged high rents. Some families took boarders in their already crowded apartments to help meet expenses. Usually, every room had at least one bed, including the kitchen.

Garbage lined streets, rats and other unsanitary conditions in the Plains left its residents prone to diseases such as typhoid and cholera. "The mortality in the crowded tenement districts, especially in the summer ... reads like battle statistics," reported the *Lawrence Evening Tribune*.

Each morning, workers left the dismal tenements for the dismal mills. The cavernous factory rooms were alive with noise and motion clicking spindles,; whirling bobbins, thunder ing looms all turning cotton and wool into yarn and yarn into cloth. The steady roar of the machines was deafening.

Carmella Teoli worked as a doffer. Doffers scrambled over the huge machinery, replac ing bobbins full of newly spun thread with empty ones. Many other children worked in the mills, too. Some worked as burlers, cutting knots out of cloth. Others were sweepers, clearing away lint and wool that covered the floor like drifts of snow.

Mill jobs required sharp eyes and quick fingers. If Carmella found a break in the thread, she had to fix it fast by tying the ends together. But workers had to be careful. Sometimes fingers got

caught in the machinery and snapped like the threads. Machines also mangled arms and legs or worse.

One day, Carmella's long hair got tangled in some gears of a machine and a patch of her scalp was ripped from her head. Co workers wrapped the skin in newspaper and rushed Carmella to the hospital. After her wound healed, Carmella wore her hair in a bun to hide the 6 inch scar the accident had left.

Millwork was also known for its hidden dangers. The humid, lint choked air wasn't safe to breathe. Many people contracted pneumonia, tuberculosis and other respiratory diseases. The death rate for millworkers was so high that a third of young millworkers never made it to their 25th birthday.For their efforts, the average laborers earned poverty wages about $8.75 a week, barely enough to cover rent and food.

Perhaps the worst part of millwork was the grinding tedium endless hours of the same dreary work, day after day. But for Carmella and other workers, this particular snowy Friday at the Wood Mill felt different. There was an undercurrent of tension and excitement in the air. People had heard rumors that owners were cutting wages, and, if they did, workers planned to protest.

A new law was at the root of the trouble. Beginning January 1, the state had ordered mill owners to reduce the work week from 56 to 54 hours. In the past, when hours had been cut, managers also slashed wages. They made up for lost time with "speed ups" and "stretch outs"; employees had to tend a larger number of machines operating at a faster rate, making the labor even more exhausting. So laborers simply ended up doing the same or more work for less money.

But today, January 12, was the first payday at Wood Mill since the law had gone into effect. The previous day, at the Everett Mill, a group of Polish women stormed off the job when they found a shortage in their pay envelopes. Now there were murmurings that if the other mills cut wages, too, there would be a mass strike in all the factories.

When the paymaster blew his whistle, Carmella and the other employees gathered anxiously around to collect their wages. They tore their envelopes open. Suddenly the mill erupted with shouts of "Short pay! Strike! All out!" Someone pulled a switch halting the bobbins in their spinning frames. Workers ran through the factory cutting belts on the machines, smashing gears and hurling bobbins and shuttles. Carmella Teoli joined the growing crowd of workers as they swarmed out of the mill, still shouting, "Strike! Short pay! Strike!"

The strike soon spread to the nearby Washington Mill, where Carmella's father worked. Soon, several thousand more laborers spilled onto the streets. Angry workers from the Washington and Wood mills then marched to the Ayer Mill where they broke through the gates and called on others to join the walkout. By noon on Friday, the strike swelled to 11,000 mill workers.

The deduction from the workers' pay envelopes amounted to about 32 cents, roughly the cost of three loaves of bread. But for these immigrants eking out a living, it was a significant sum. What some workers came to call "the struggle for the three loaves" had begun.

That night, Angelo Rocco, a high school student and weaver for the American Woolen Company, sent a telegram to the New York headquarters of the Industrial Workers of the World,

a radical labor union. Rocco, an Italian immigrant, asked for the I.W.W.'s help in sustaining the strike till laborers' demands were met.

The I.W.W., known as the Wobblies, was a controversial group. Its mission was to unite working people everywhere in an effort to eliminate what its members called a system of "slave wages." They thought that the laborers who produced the world's goods should control the factories and reap the profits of industry.

While other unions such as the American Federation of Labor often discriminated against unskilled laborers from Asia and southeastern Europe, the Wobblies sought to bring together all workers. The Wobblies meant different things to different people: To some, they were a group of dangerous anarchists trying to wage a class war; to others, they were champions of justice and the one true friend of laborers.

Wobbly activist Joe Ettor, a fiery speaker who had organized strikes in shipyards, lumber mills and coal mines across the country, responded to the call for help. He arrived in Lawrence that weekend and immediately started organizing protesters.

Ettor knew that factory owners often used ethnic tensions to divide workers, paying some immigrant groups lower wages than others and threatening to replace workers of one nationality with workers of another. Mill executives hoped that creating such rivalries would prevent workers from forming unions.

To build unity among the 45 different ethnic groups the strikers represented, Ettor cautioned workers to "forget that you are Hebrews, forget that you are Poles, Germans, or Russians." Ettor formed a strike committee that included representatives from the different cultural groups. The committee presented its demands to the mill owners: a 15 percent increase in pay, overtime pay and a promise that no strikers would suffer penalties when they returned to work.

As some of the strikers engaged Wobbly support, city officials in Lawrence called for military backup. Hundreds of state police and militia, armed with bayonets, streamed into Lawrence to help control the crowds. News of the strike made front page headlines around the country as people waited to see what would happen in Lawrence.

Mill owners predicted that most of the belligerent workers would settle down and return to their factory posts after the weekend. But they were wrong. On Monday, January 15, in the midst of a snowstorm, 8,000 picketing strikers swirled around the Washington and Wood mills in an effort to prevent others from returning to work. Protesters were ruthless toward scabs, workers who refused to join the strike. They spat at the scabs, doused them with scalding water, dumped pails of garbage on them, tore off their coats, grabbed their lunch pails anything to keep people from breaking the picket lines.

The crowd surged to 15,000 women, men and children. Protesters marched to the Prospect Mill, then on to the Atlantic and the Pacific mills, with plans to storm the gates and shut the mills down. Police and militia turned them back with bayonets and fire hoses. Strikers threw stones, coal and chunks of ice at law enforcers and mill windows. The rioting continued throughout the week. "Real Labor War Now in Lawrence," The New York Times declared.

City leaders denounced this rebellion by "ignorant foreigners." In a meeting with one of the strike leaders, Lawrence Mayor Michael A. Scanlon fumed, "I want you to understand that a crowd of bandits is not going to run this city. I will keep order here if I have to call on the whole Federal Army, and believe me when I tell you that if today's riots are repeated tomorrow, there will be an awful slaughter."

But the city's efforts to thwart the protesters merely spurred them on. "They will need five million militiamen to keep track of our pickets," organizer Joe Ettor challenged. He accused officials of tricking people into returning to work by announcing that the strike had ended. Even if they succeeded in thinning strikers' ranks, Ettor said, the mill owners would still pay a price. "We will cripple their machinery," he threatened. "God pity their looms. God pity their cloth."

By the middle of January, 25,000 workers from 11 mills were on strike more than half of them women and children. Strikers formed human chains around the mills. They organized huge parades. Marchers carried banners reading "We Strike for Justice." Immigrants dressed their children in red, white and blue and waved U.S. flags, along with the flags of their homelands, to link their struggle with the ideals of their adopted country. The protesters shouted, sang anthems, clanged tin pans, blared horns and rang cow bells as they wound their way through the streets, calling to bystanders to join them.

Police and milita held back the Lawrence strikers at gunpoint.

A Wobbly writer described the power of the demonstrations: "It is the first strike I ever saw which sang. They are always marching and singing. The tired, gray crowds ebbing and flowing perpetually into the mills had waked and opened their mouths to sing. I shall not soon forget the curious lift, the strange sudden fire of the mingled nationalities at the strike meetings when they broke into the universal language of song."

The strike dragged on through the winter. On February 10, a violent conflict erupted between authorities and some of the protesters. Police were accused of assaulting women and children. Newspaper accounts of the bloody encounter prompted a public outcry, and Congress called for an investigation.

Some of the millworkers 16 children and a handful of adults traveled to Washington, D.C., to testify before a legislative committee about the incident. "I saw policemen clubbing women on their hearts and breasts; women being in the family way were arrested and dragged and pushed into the patrol wagon," one strike organizer reported. "I saw them take little children and pick them up by the leg and throw them in the patrol wagon like they were rags."

Children described the terrible working conditions in the mill. They also testified about how they lost an hour's wages if they were five minutes late for work, how they paid 10 cents every two weeks for drinking water, and how they cleaned the factories on Saturday mornings without pay.

Fourteen year old Carmella Teoli delivered the most dramatic testimony of the proceed ings. In stark words, she described to a stunned group of legislators and onlookers how the mill machinery had scalped her. She told of the seven months she spent in the hospital while her butchered head healed. She talked of the fluctuating wages her father brought home and of her family's dependence on her earnings. When asked why she had joined the strike in Lawrence, Carmella said simply, "Because I didn't get enough to eat at home."

The testimonies prompted President William Howard Taft to launch a national investigation into factory working conditions. Newspapers around the U.S. reported the children's testimony. A few days later, on March 12, the Lawrence mill owners humiliated by the negative publicity and worn down by the financial strain of their factories' gutted workforce gave in to the strikers' demands.

A victory parade through the streets of Lawrence marked the end of the laborers' nine week struggle. The strikers' success rippled out to other communities as well, with factory owners throughout New England announcing pay raises for workers. Labor experts estimate that more than 250,000 workers benefited from the Lawrence protest.

Angelo Rocco, who played an active role in the 1912 strike, would later recall how he and other rebelling workers were described by newspaper reporters and city officials during the demonstrations. "[They] always called me un American, an immigrant or an alien," Rocco said. "Of course, I felt myself to be much more American than they were. They thought it was American to believe in exploitation. I thought it was American to believe in the Constitution."

In the end, the workers who rose up to march and sing and struggle in the name of justice during the bitter winter of 1912 averaged less than a dollar increase in their weekly wages. But the battle of Lawrence was about human dignity and the value of work. The Lawrence millworkers were poor immigrants who, having clothed their adopted nation through endless hours of grueling labor, voiced their ardent wish to become part of the fabric of America. They sought for themselves and their families their rightful place at the table, as well as the right to put on that table pane *chleb* bread.

This article is reprinted by from the Teaching Tolerance curriculum kit
A Place at the Table.

America's Greatest History Attraction®

High School Lesson Plan 7

Karen Hickman, Loyola High School, Detroit, MI

Title of the Lesson: African Americans and Rice Production in the South

Grade Level: 10

Overview: Students will research the story of how rice production in the American South during the 18th and 19th centuries was expanded through the use of the original knowledge, skills, tools, and equipment developed by enslaved African Americans.

Central Question:

What special indigenous knowledge did the enslaved peoples along the South Carolina and Georgia coasts bring from the Senegal and Gambian regions of Western Africa? How did the African system of rice production differ from the ways Asian rice was produced and why was the African method so successful?

What specific inventions (tools, equipment, procedures for water management, dike construction etc…) did enslaved African Americans develop for rice cultivation and mass production?

What specific skills were culturally transferred by African women in the successful processing of rice in the American South?

Learning Objectives: Students will be able to tell the story of rice production in the American south.
Students will be able to describe the African system of rice production
Students will be able to compare and contrast the African and Asian systems of rice cultivation and processing.
Students will engage in cross-curricular research in the following subject areas:

Computer Literacy HTML, PowerPoint, Word processing
American History American Slavery, Agricultural Industrialization
African Agricultural History Senegal – Gambia
Science Physics – Biology
Communication Arts Grammar/ mechanics/writing, Speech

Assessment Tools: Students will demonstrate their knowledge of the subject in a variety of ways.
During the lesson: Students will be assisted in the process of synthesizing information they glean from a variety of Internet sources. Students will record their information in a word processing document using HTML conventions.
After the lesson: Students will create a PowerPoint presentation that will consist of a minimum of 10 slides (1 Title slide, 1 slide listing resources, and 8 slides with story content) Students will present their slides to the class highlighting and supplementing each slide with points of interest.

Key Concepts: Define/ Describe: Industrialization, Agriculture, Hydrology, Systems of Dikes, Sluices
Compare/ Contrast: Southern agricultural transitions, African vs. Asian systems of cultivation and processing

Evidence Sources: Littlefield, Daniel C. Rice and Slaves: *Ethnicity and the Slave trade in Colonial South Carolina*. Baton Rouge: Louisiana State University Press, 1981
Opala, Joseph A. "*Sierra Leone: The Gullah Connection*"
The U.S. National Park Service and Bunce Island
The 1672 Royal African Company of England
A.J.G. Wyse, *The Slave Trade in Colonial South Carolina*, University of South Carolina
Henry Laurens (1742 – 1792) wealthy rice planter
South Carolina in the 1750's and 1760's
The Gullah People and the preservation of African cultural traditions
Painting: "The Old Plantation ", South Carolina 1790 (Famous painting depicting Gullah slaves).
The Rice Coast of America
Gullah and the Galo Tribe of Africa
http:// www.florida state archives.gov
http://www.georgia.gov
http:// www.southcarolinaarchives.gov
http://carolinaplantationrice.com

Caw Caw Interpretive Center
5200 Savannah Highway
Ravenel, SC 29470
(843) 889-8898
Students may write for information on working rice dike
http://ccprc.com/index.asp?NID=206

Charles Pinckney Historical Site
1254 Long Point Road
Mt. Pleasant, SC 29464
(843) 881 -5516
http://nps.gov/chpi/index.htm
http://news.sciencemag.org

Brookgreen Gardens
http://www.brookgreen.org
USA Rice Federation http://usarice.com/index.php?option.com

Cypress Gardens
http://berkeleycountysc.gov/dept/
Carney, J.S., (2001) Black rice The African Origins of Rice
Cultivation in the Americas Cambridge, MA Harvard University Press

Riches to Ruin - Pharaohs of the New World
http://scseagrant.org

Time Frame: Minimum time for this unit is 2 weeks, longer if students are unable to expedite materials (brochures, pictures etc…) that must be received by mail.

Instructional Sequence: Equipment: Classroom stations with iMac computers and printers, chart paper, markers, printer paper, letter writing materials.
Students will begin with discussion KWL procedure about
rice cultivation in the American south.
Students will check their understanding of African Americans enslaved on plantations in the south.
Students will make lists on chart paper to be displayed as a reference throughout the lesson.
Students will begin exploring information, especially pictures, live video of the rice cultivation process.
Continued discussion will follow and an update of the KWL charts made on a daily basis.
Students will begin exploring the websites listed in the lesson as they develop and enhance their researching skills.
Students will develop PowerPoint presentations. Students may write to a number of working rice farms for additional information.
Students will access a number of books as extra references from the source list that will be placed on a library cart in the classroom.
Students will be encouraged to delve more deeply into any content area of study that is of particular interest.
Homework will consist of additional reading assignments and working in small groups to gather and discuss common facts and details.
Students will be encouraged to use animation, color, sound, and video to prepare their presentations.
Each student will prepare notes to answer questions following their presentations.
Students will have a debriefing session to complete their KWL charts followed by discussions and idea sharing on valuable lessons learned and implications for the future

Anticipated Challenges: As 10th graders, some students may not have had ample experiences with composition using the computer as a primary tool. Consequently, there will be time for students to work with the teacher and with peers in small groups to work through any computer literacy deficits. In addition, each day there will be time set aside for students to outline the next days activities based on where in the assignment they find themselves. Close monitoring will be done by the teacher to ensure students remain focused and on track.

Curriculum Links: Michigan Curriculum Framework Benchmarks

English S: 2:1: All students will demonstrate the ability to write clear and grammatically correct sentences, paragraphs, and compositions

Language: S: 3:5: Students will focus on meaning and communication as they listen, speak, view, read and write.

Social Studies: S: 1:4Judging Decisions from the past and evaluating critical turning points in history, their implications and long-term consequences

Social Studies: S: 11.1Diversity of People, Places and Cultures

Social Studies: S: 11:4 Regions, Patterns and Processes described and compared with characteristics of ecosystems, states, regions, countries, world regions and the processes that created them

Science: S: 5:2: The Hydrosphere: where water is found, its' characteristics and how humans interact with it.

America's Greatest History Attraction®

High School Lesson Plan 8

Lisabeth Mikolajczyk, Downriver High School, Brownstown, MI

Title of the Lesson: The evolution of everyday products

Grade Level: 9-12

Overview: This is an adaptation of two lessons presented in the Ford PAS Module 3: People at Work. Students will select several artifacts from Pre-Industrial life and times and trace its evolution (or extinction) through the Industrial Revolution.

Central Question: How and why do objects evolve/change over time?

Learning Objectives: Use active-reading and observation strategies to comprehend and gather information from historical documents and artifacts
Analyze primary and secondary source materials to reconstruct and interpret the experiences of working people in Pre-Industrial(1770-1840) and Industrial America (1850-1930)
Synthesize and present in a graphic organizer historical information about the impact of the evolution of selected artifacts.
Discuss how and why the item evolved/changed over time and its impact on working people

Assessment Tools: Through observation, students will be assessed to see if they can pick out a proper artifact. As students assemble their research, they will be observed and questioned about what their artifacts mean. Through a rubric, students' products will be assessed on the graphic organizer and their presentations of their information.

Key Concepts: The creation and production of everyday objects from Pre-Industrial and Industrial Eras in America. To assess and analyze the manufacturing process and how it impacted daily objects

Evidence Sources: Students will glean their knowledge from their Module, the Henry Ford websites (and others) and provided resources by the teacher.

Time Frame: Approximately 5 days of 55 minute class periods

Instructional Sequence:

Day One-Students will learn through class discussion
about what artifacts are and classify the five different types of artifacts (Events and Places, Objects, People, Writings and Art). Students will be guided to select either Objects or Art artifacts from the appropriate time periods and create a Graphic Organizer to present their information. Show students sample Graphic Organizer

Day Two-Having selected 3 Objects or Art artifacts, students will journal and then share their answers to the following questions:

1. What are your artifacts and how were they used?

2. What information do your artifacts provide about daily life in the Pre-Industrial Era? Industrial Era?

3. Why do you find this artifact interesting?

Day Two-Four: Students will need to research their objects' evolution through the two time periods and find out how they were created and how they were used and what materials were used in order to create them. They are to create a graphic organizer to display that they will present to the class to show their objects' evolutions

Day Five: Students present and take notes on each other's objects with the following questions:

1. What were (student's name) objects?

2. Why did he/she pick them?

3. What surprised you about the evolution of at least two of their three artifacts?

Anticipated Challenges: Making sure students know what artifacts are, which is why on the first day there is a class discussion about it. Students might have trouble deciding on or finding artifacts which is why students will be shown different types of artifacts and guided as they hunt for their own.

Curriculum Links: **Michigan Standards: Social Studies**
K1, P1.2, P1.4, P.2, F2.1, 6.1.1, 6.1.5

National Standards:
NCTE/IRA: 3 and 7
NCEE/Pitt: 1c
NCHS: Era 2: 1A, 3B; 2B, 2C, 2E, 2F, 2H, 4D, 5A
NCSS: 2e, 3i and 5a
NBEA: MGT 9

Graphic Organizer of Artifacts Assessment

Use the following assessment to make sure you have completed all of the necessary elements of your Graphic Organizer. Your teacher will use these criteria and point assignments to evaluate your work.

Student Checklist	Criteria	Maximum Possible Points	Teacher Score
	Provides information about each artifact (minimum 3): • When created • How made • How many made (on average) during both Pre-Industrial and Industrial eras • Why it was used • How it evolved/became extinct and why	75	
	Includes images of both Pre-Industrial and Industrial artifacts (minimum 6 images needed)	30	
	Organize and connect pieces of information about each artifact in a logical manner both on the graphic organizer and throughout the presentation	40	
	Is edited for spelling, grammar and punctuation	30	
	Is neat and colorful	25	
	Total Points	200	

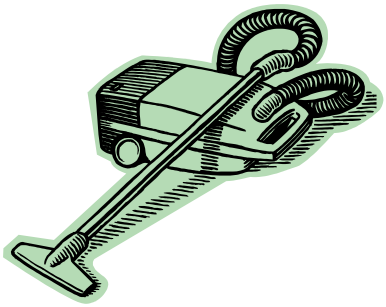
EXTRA CREDIT:

Put a modern version of your artifacts on the Graphic Organizer and comment on how and why it is the way it is

COMMENTS:

Sample Graphic Organizer

- When created
- How made
- How many made (on average) during both Pre-Industrial and Industrial eras
- Why it was used
- How it evolved/became extinct and why
- My views on this



America's Greatest History Attraction®

High School Lesson Plan 9

John Mulvaney, Midland High School, Midland, MI

Title of the Lesson: The importance of legal protections such as patents to encourage innovation and economic growth from the American Industrial Revolution to the modern US economy

Grade Level: 9-12

Overview: Through analysis of primary and secondary documents students will discover the importance of innovation and patents in the development of an economy. Specific examples including Thomas Edison and Henry Ford from the American Industrial Revolution will be compared with modern examples including the inventors of the iPhone and Google to examine how the concept of innovation has evolved and how patents are still important. The lesson will culminate in students weighing the unintended consequences of inventions, looking at some failed ideas, and brainstorming innovations of their own to solve a problem they have by developing their own "patent."

Central Question: What is the role of innovation as an engine of economic growth? How can this innovation be protected and encouraged? What are the pros and cons of innovation?

Learning Objectives: Through a teacher-led powerpoint discussion, Students will be able to evaluate several inventors and their patents and comment on their importance to economic development from the industrial revolution to the present.

Students will show how these new inventions "cross-pollinated" to increase the progress of society and serve as fertile ground for even more innovation. This is done through visiting several linked websites, especially the Diego Rivera link.

Students will explain how patents serve as incentives to investors to innovate and disincentives to potential copiers who might infringe on the patent.

Students will measure the pros, cons and unintended consequences of an invention.

Students will learn that innovation is not easy, and often requires several failed attempts.

Assessment Tools: "Internet Invention Worksheet" used to organize internet research of one patent from the industrial revolution and one from the modern economy.

"Cost Benefit Analysis Worksheet" of a favorite invention.

"Failed Invention Worksheet"

Use "Original Invention Worksheet" to explain an original student-created invention.

OnInnovation Video paragraph written by students to highlight an innovator they visited on the website.

Key Concepts: Innovation
Patents
Inventors
Process of research and development and cross-pollination of ideas
Economic Growth
Unintended consequences

Evidence Sources: Powerpoint lesson modeling evaluation of inventors, innovations, and patents using Thomas Edison and others as an example. When viewing the powerpoint either together as a class or at student's own pace, the following websites increase student understanding of the material and encourage interaction with the topics. Material includes audio of Edison's first phonograph recording, interactive of Rivera's Mural at the DIA, and a modern Ford assembly line, among many others:
http://inventors.about.com/od/famousinventions/tp/topteninvention.htm
http://www.muscularmustangs.com/2009/news0234_mustang_assembly_video.php
http://www.history.com/audio/edison-phonograph-message#edison-phonograph-message
http://thehenryford.org/exhibits/innovators.aspx
http://www.dow.com/
http://totallyabsurd.com/archive.htm
http://www.acoustiguidetours.com/rivera/RIVERA_TOUR11-7.swf
http://www.oninnovation.com/

Time Frame:

Day 1: Slides one and two.

Day 2: Slides three through five.

Day 3: Slides six through ten.

Day 4: Slides eleven through twelve, assign original invention homework.

Day 5: Evaluate original patents and complete OnInnovation video.

Instructional Sequence: Powerpoint

Slide 1: Discuss what innovation is, and important inventions. Activity: students guess pictured invention and visit top ten invention site, what is the top invention for them? Students complete "Internet Inventor Worksheet"

Slide 2: Focus on Edison and Ford as two extraordinary innovators, experience samples of their inventions. Activity: Students complete "Cost Benefit Analysis Worksheet."

Slide 3: Students complete brief research on Ford and Edison

Slide 4: Local connection as class looks at inventions and impact of Herbert H Dow on student's hometown of Midland, MI.

Slide 5: Introduction of the importance of a patent.

Slides 6-8: Why would an inventor not want a patent? Franklin/Salk as examples.

Slides 9-10: Patents that might not work. Activity: Students visit a website to evaluate some "absurd" inventions and complete "Failed Invention Worksheet."

Slide 11: Class discussion of modern innovations and how they have contributed to economic growth.

Slide 12: Direct connection to economic growth from innovation. Activity: Students will use an interactive site of Diego Rivera's DIA mural to explore connections between innovation and economic growth.

Homework
Students complete “Original Invention Worksheet” and bring to class to be evaluated by a classmate. Students visit an innovator on the OnInnovation website and write a one page analysis describing the topic discussed and how it relates to any of our discussions throughout the innovation lesson.

Student Project Ideas: Class discussion highlighted throughout PowerPoint.

Several opportunities for students to dig deeper into topics via weblinks in PowerPoint.

Tangible activities giving students an opportunity to record what they have learned using the following worksheets: Internet Inventor, Cost Benefit Analysis, Failed Invention.

Opportunity to create an original invention and have it evaluated for a patent.

Visit OnInnovation website to explore the secrets of innovation as explained by the experts.

Anticipated Challenges: Patent language hard to understand of and so many patents to choose from.

Lack of understanding economic topics: scarcity, opportunity cost, production possibility frontier, etc.

Easy to get lost in web links and lose focus

Curriculum Links: All standards sourced from the MDOE website:
I. Historical Perspective
Standard I (Chronological Sequence) Strand II(Description of the US Industrial Revolution)
Standard II (Historical Narrative) Strand I (Draw upon narratives and data to describe the development of the US since Reconstruction, Strand III (Select events and individuals that have had a global impact)
Standard III (Analyze and Interpret the past) Strand I/II (Use primary and secondary documents to analyze significant events and unintended consequences)
Standard IV (Judge decisions from the past) Strand IV (Evaluate pivotal decisions in US history through cost benefit analysis)
II. Geographic Perspective
Standard III (Location, Movement, Connections) Strand I (Describe major world patterns of economic activity and explain the reasons for the patterns)
IV. Economic Perspective
Standard IV (Economic Systems) Strand I (Use case studies to exemplify how incentives, etc. determine decisions in a competitive market)
V. Inquiry
Standard I (Information Processing) Strand III (Develop generalizations to a specific topic by interpreting information from a variety of sources)

Failed Invention Worksheet Name_____

http://totallyabsurd.com/archive.htm

1. Name of Inventor:_____

2. Describe the invention: _____
_____
_____
_____
_____
_____

3. Describe the problem the invention was meant to solve:

_____
_____
_____
_____
_____

4. Did the invention work as planned by the innovator, do you think it would make money? Explain.

_____
_____
_____
_____
_____

5. List and explain two unintended consequences from the use of this invention:

_____
_____
_____
_____
_____

6. How would you improve the invention or market the original to improve the chances of making a profit?

_____
_____
_____
_____
_____

1. Name of Second Inventor:_____

2. Describe the invention: _____

3. Describe the problem the invention was meant to solve:

4. Did the invention work as planned by the innovator, do you think it would make money? Explain.

5. List and explain two unintended consequences from the use of this invention:

6. How would you improve the invention or market the original to improve the chances of making a profit?

Cost Benefit Analysis Worksheet

Sample Problem:
Cost Benefit Analysis of Edison's Light Bulb

Pros, positive outcomes of the invention:

- More hours can be worked +10
- Allows for the spreading of electricity +6
- Cleaner than other forms of energy +8
- Provides more education opportunities for workers +8

Others we can brainstorm as a class?

Total positive = +34

Overall a +9 positive reading, the pros outweigh the cons, it was overall a positive invention.

Cons, negative outcomes of the invention:

- Hurts worker's rights -9
- Increases need for energy -5
- Increases gap between rich and poor -5
- Increases unemployment among whale fisherman -6

Total negative = -25

Cost Benefit analysis of your researched invention, list invention: _____
_

Pros, positive outcomes of this invention:

-
-
-
-

Total positive =

Final Cost Benefit Analysis:

In paragraph form explain why you think overall this invention was good or bad for society:

Cons, negative outcomes of this invention:

-
-
-
-

Total negative =

Internet Inventor Research Name_____

1. Name of American Industrial Revolution Inventor (1876-1925):

_____

2. Describe the invention:

_____
_____
_____
_____
_____

3. Describe the problem the invention was meant to solve:

_____
_____
_____
_____
_____

4. Did the invention work as planned by the innovator, did it make money?

_____
_____
_____
_____
_____

5. List and explain two unintended consequences from the use of this invention:

_____
_____
_____
_____
_____

6. Explain the efforts of one competitor to this innovator:

_____
_____
_____
_____
_____

7. How has this innovation developed to the modern day?

_____
_____
_____
_____
_____

Original Invention Name_____

1. Describe the problem the invention is meant to solve:

_____
_____
_____
_____
_____

2. Describe the invention (must include some unique characteristic that does not yet exist to be approved for a patent): _____
_____
_____
_____
_____
_____

3. Diagram with appropriate measurements and notes what the invention will look like:

4. Explain how you developed the invention and any existing ideas, products, or technology used to in your invention:

_____
_____
_____
_____
_____

5. Briefly describe how you will market the invention and how much you will charge?

_____
_____
_____
_____
_____

6. To be completed by classmate Patent Approved? ____ Yes ____ No

Explain _____
_____
_____
_____

The Importance of Innovation and Patents in Economic Growth

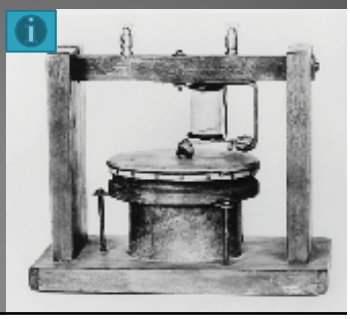
What Is innovation?

- A creation (a new device or process) resulting from study and experimentation.
- Innovation is the process that translates knowledge into economic growth and social well-being. It encompasses many fields including economics, science, business, education, etc.
- The act of being innovative: producing something like nothing done or experienced or created before; often building upon the innovations of others (cross-pollination)

What has been the top innovation for humanity?

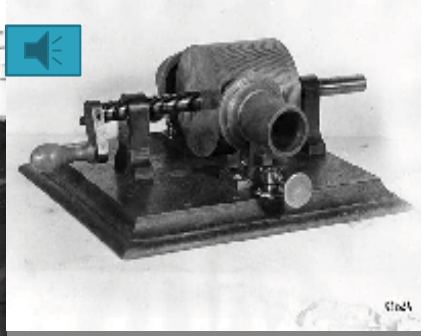
What has been the top innovation in your own life?

What is the invention pictured to the right? Click on the information icon to discover a Top Ten list of the world's most important innovations.



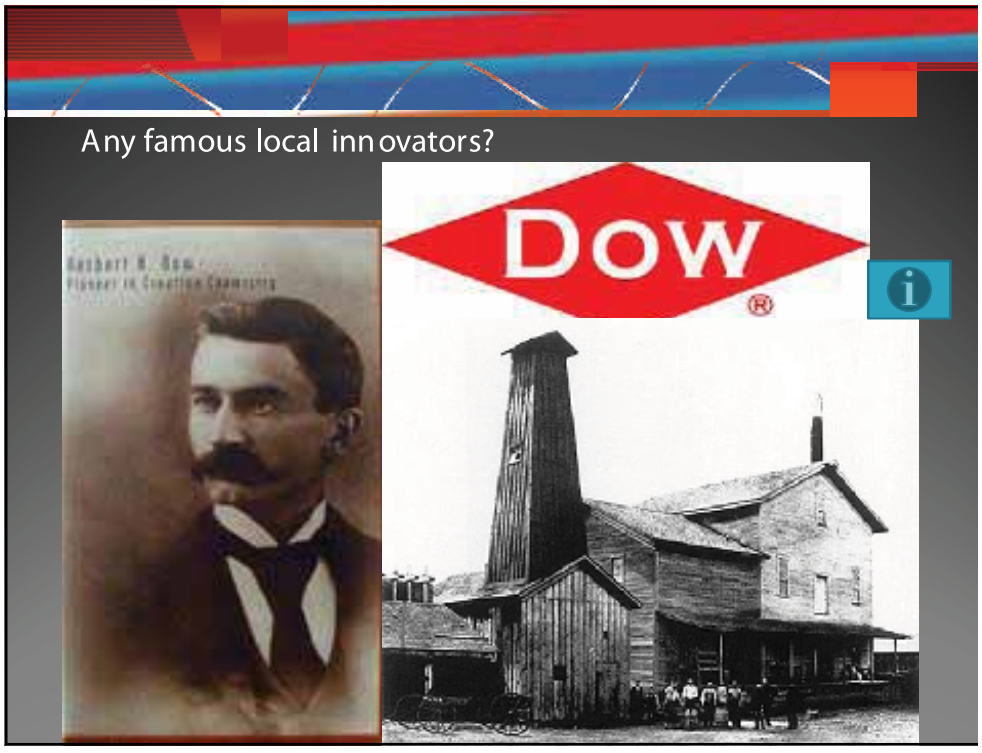
Who are these two famous innovators?

Which invented the phonograph and which invented the "American System" of manufacturing?

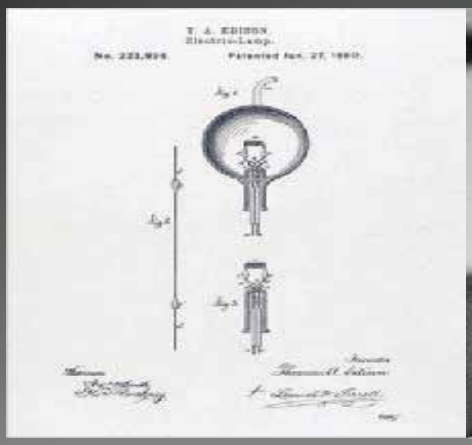


With a neighbor complete a cost benefit analysis for each of these innovations.


Click the info icon to discover more about these famous innovators.

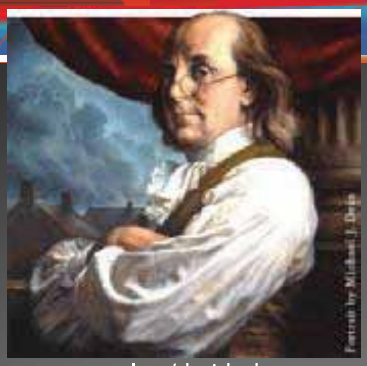

Any famous local innovators?
DOW

"Just as energy is the basis of life itself, and ideas the source of innovation, so is innovation the vital spark of all human change, improvement and progress."



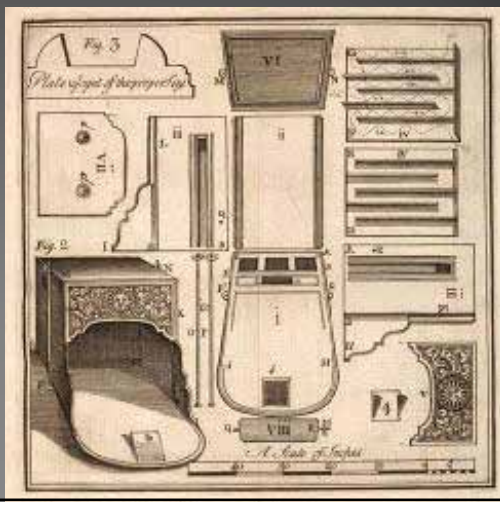
Patent: A grant made by a government that confers upon the creator of an invention the sole right to make, use, and sell that invention for a set period of time.

Why would an inventor want a patent?



Is there a time <u>not</u> to use a patent?

"Thomas was so pleas'd with the construction of this stove, as described in it, that he offered to give me a patent for the sole vending of them for a term of years; but I declin'd it from a principle which has ever weighed with me on such occasions, viz., That, as we enjoy great advantages from the inventions of others, we should be glad of an opportunity to serve others by any invention of ours; and this we should do freely and generously." –Ben Franklin on his stove



DEVELOPED POLIO VACCINE

"RISKS, I like to say, always pay off. You learn what to do or what not to do."

- Inducted: 1976 -

In 1955 Salk's years of research paid off. Human trials of the polio vaccine effectively protected the subject from the polio virus. When news of the discovery was made public on April 12, 1955, Salk was hailed as a miracle worker. He further endeared himself to the public by refusing to patent the vaccine. He had no desire to profit personally from the discovery, but merely wished to see the vaccine disseminated as widely as possible.

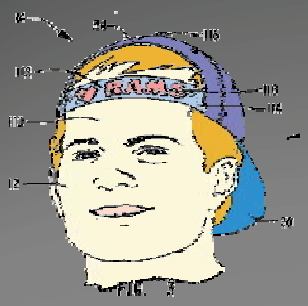
Well, the people, I would say. There is no patent. Could you patent the sun?
[On being asked who owned the patent on his polio vaccine by journalist, Edward R. Murrow in 1954.]

— Jonas Salk

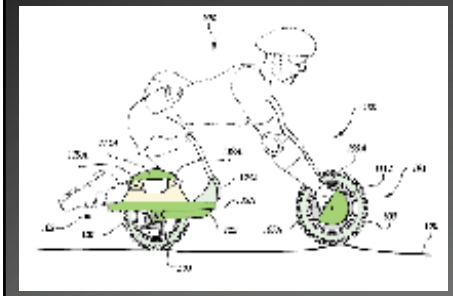
The licenses for most software are designed to take away the freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee freedom to share and change free software - to make sure the software is free for all its users. Linux source code is freely distributed and available to the general public.

Innovation is not always easy . . .

"If you're not failing every now and again, it's a sign you're not doing anything very innovative." Woody Allen



Skin Stencil
US Patent Issued In 1996
Finally, a hat designed for the ultimate fan. Now you can burn your favorite team logo right into your forehead! That's right, the logo portion your hat's adjustable headband has cutouts allowing the sun to sizzle your skin. We suggest that you don't apply any sun block to the part of your forehead that's under the headband and stay in the hot sun all day so tomorrow will truly be a red letter day!
(This suggestion is not endorsed by the National Cancer Institute.)



Be The Bike!
US Patent Issued In 2004
In the race to satisfy adrenaline junkies need for speed and for something new and dangerous, we present you with an extraordinary new form of downhill racing, where the rider becomes one with his steed, where the biker actually becomes the bike!

There are no motors so gravity is your go juice and to activate the rear brakes you need to squeeze your knees together like a mobile ThighMaster. Your legs are strapped to the rear gear so there's no bailing out but there is a fender to fend off fanny friction should you sit too low. We recommend wearing as much padding and body armor as possible because there's no way to catch yourself if you start to fall but hey, before you get going too fast, we bet you could pop a few wacky wheelies!

Find your favorite goofy innovation at the following website:

http://totallyabsurd.com/archive.htm


"Innovation is the ability to see change as an opportunity - not a threat"
It's essential for economic growth
iPhone
Say hello to iChat
Hot Rod Google™


What is economic growth?
A positive change in the level of production of goods and services by a country over a certain period of time. Economic growth is usually brought about by technological innovation and positive external forces.
"Innovation is the specific instrument of entrepreneurship. The act that endows resources with a new capacity to create wealth."

America's Greatest History Attraction®

High School Lesson Plan 10

Sue Nelson, Martin Middle School, Martin, MI

Title of the Lesson: Wag the Dog: Culture vs. Technology

Grade Level: 8-12

Overview: This is to help students understand the costs and consequences of industrialization, and gain insights into some of the unintended consequences. In Activity 1, students gain background information on costs/consequences of contemporary inventions by completing the "Problem/Solution" graphic organizer. In Activity 2, students research a particular invention of the 19th century, completing graphic organizers: "History Frame" and "Thesis Proof", summarizing what they learned. In the Closing Activity, students compare research findings, synthesizing information, presenting their summaries in an online persuasive essay, taking a position that answers one of these questions: "Did the culture change to demand this invention, or did the invention demand that the culture change?"

Central Question: Does culture drive invention, or does invention drive culture?

Learning Objectives: Using higher order thinking skills of creative and critical thinking, students will be able to investigate various inventions and calculate political, social, and economic outcomes, as well as predict potential future consequences of technologies.

Assessment Tools: http://www.readingquest.org (click on "strategies")
"Problem/Solution" "History Frame" "Thesis Proof"
Organizational & Research Tools:
http://thinktank.4teachers.org/
http://notestar.4teachers.org/
http://persuadestar.4teachers.org/

Key Concepts: Industrialization
Technology and Society
Global Relations
Economic Development

Evidence Sources: http://www.thehenryford.org/exhibits/ypit/index.html
http://www.thehenryford.org/exhibits/innovators.aspx
Individual internet search sources
Visuals include:
Pictures of artifacts from the 19th century, as well as from the 21st century.
Videos of curator/presenter talks from NEH workshop on Industrial Revolution, 6/2010: Marc Gruether, *Henry Ford Museum*; Paul Israel, Edison Papers, Rutgers University
PowerPoints from NEH Workshop: Bob Casey, Paul Israel, Martin Hershock, Nancy Gabin, Douglas Hurt

Time Frame: 5 class sessions for activities and research; 1 class session for presentations; 2 class sessions for follow-up discussions; 1 class session for formal assessment

Instructional Sequence:
Opening:
Guiding Questions: Was there a problem that led to this invention? What problems/solutions did it create?
Try this first!
A new drug has been invented that will make it possible for a person to live to be 250 years old! What are some problems that you see as a result of that? What are some solutions? What could be some effects? What might be some causes of a need for that drug?
Inquiring minds want to know! Students complete the "Problem/Solution" organizer in response to this problem. Results are shared with a partner, then with the class. Discuss some of the possible unintended consequences of this invention.
Development:
Activity 2: Inventions Research
Students will do online research, using "Thinktank.4teachers.org" and "Notestar.4teachers.org" to connect with members of their research group, as well as the teacher. (This is interactive, but must be set up ahead of time by the teacher.):

1. Staging the activity. Students are assigned a research group with a research topic. The instructor chooses a list of 19th century inventions, and assigns a topic to each research group.

2. Instructions: Explain that each group will research its invention, gathering information around the questions selected in the "Thinktank.org".

Create an outline of topics and subtopics to assist research. ·Narrow their research topic so it becomes more specific. Export their research topics to NoteStar
Once they've exported to Notestar student s can:
· Create sub-topics for research topics · Assign topics to group members · Take notes · Easily track source information · Organize notes and sources to create printable notes and bibliography

Students use their research to write an online persuasive essay, using Persuadestar. The essays will answer the central question/problem pertaining to the assigned invention topic*: Does culture drive invention, or does invention drive culture?*
Students will be required to read the online essay of one other student (assigned), and use the scoring rubric to assess that student's work. It should be given to each student before writing the persuasive essay. The rubric used for this lesson can be found at:
http://rubistar.4teachers.org/
It is # 1929690
(An individualized rubric can be created with this tool also.)

Anticipated Challenges: Doing any kind of research can be daunting, at best for many students. Using the 4teacher.org tools will minimize that challenge. It requires some" front end loading" on the part of the teacher, in the form of registering the classes & student names on these websites, but once that's done, these sites can be used for numerous projects during the school year. Students can have a much more successful outcome than with traditional research formats.

Curriculum Links: Social Studies

MI 1.1: Time and Chronology
MI 1.2 Comprehending the Past
MI 1.3 Judging Decisions from the Past
MI 11.2 Human/Environment Interaction
MI V.1 Information Processing

English/Language Arts

MI 10. Ideas in Action
MI 11. Inquiry and Research
MI 12. Critical Standards

Educational Technology Standards and Expectations: Research, problem-solving, and decision-making tools, using communication tools.

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High School Lesson Plan 11

Erin O'Leary, Northville High School, Northville, MI

Title of the Lesson: The Impact of the Industrial Revolution in the United States

Grade Level: 9-12

Overview: Students will investigate the impact the plow, steam engine, phonograph/light bulb, and assembly line had on the Industrial Revolution.

Central Question: What was the impact of these inventions on the development of industry and society?

Learning Objectives: Students will identify the impact of the development of the plow, steam engine, phonograph / light bulb and assembly line and the effects it had on the Industrial Revolution in the United States.

Assessment Tools: 1 chart or graph Students will choose one of the following; plow, steam engine, phonograph / light bulb, assembly line. Identify and explain the effects of the invention on the Industrial Revolution in the United States in a report that will include:
1 timeline
4 pictures or illustrations
2 page persuasive paper, integrating the above elements, illustrating the impact and effect these inventions had on the Industrial Revolution in the United States.

.**Key Concepts:** Shovel plows, Kerry plow, Eagle plow, John Deere plow, seed planters, grain drill, steam engine, Corliss Steam Engine, steam boats, mobile steam engines, T- Rail, stamping mills, Bessemer Converter, printing press, machinists, machine shop, cylinder phonograph, telegraph repeater, ticker tape, cable telegraph, telephone, light bulb, carbon arch, glass shop, Model T, John Deere, John Fitch, Robert Fulton, Thomas Edison, Charles Steinmetz , Alexander Graham Bell, and Henry Ford.

Evidence Sources: One day trip to **The Henry Ford**. Once focus is chosen students are to visit the corresponding sites.

<u>Plow</u>
Susquehanna Plantation
Firestone Farm

<u>Steam Engine</u>
D T & M Roundhouse, Ride the 1870 steam locomotive and horse drawn carriage ride
Armington & Sims
Benson Ford Research Center

Phonograph/Light Bulb
Thomas Edison's Menlo Park
Laboratory Complex
Charles Steinmetz Cabin

Assembly Line
Ford Rouge Plant Tour

Time Frame: Three Days (Block Schedule)

Instructional Sequence: Introduce the standard of living prior to the industrial revolution including examples of indoor and outdoor work to be done at home as well as the way in which work was done to support one's family.

Curriculum Links: *Standards:* 6.2.3 Industrialization- Analyze the origins, characteristics and consequence of industrialization across the country

America's Greatest History Attraction®

High School Lesson Plan 12

Barry Wittig, Valley Lutheran High School, Saginaw, MI

Title of the Lesson: Field Trip to **The Henry Ford**

Grade Level: 9-12

Overview: This is a 3 part lesson. Part 1 prepares students for a visit to *Henry Ford Museum* and *Greenfield Village*. Part 2 is a scavenger hunt activity sheet for visiting specific places in the Museum and the Village using high level critical thinking questions. Part 3 contains 2 post activities for after the visit. The best time to use this lesson is during the Industrial Revolution Unit of American History.

Central Question: How did technology affect the United States during the 19th and 20th Century?
What is an innovator?
Who are some of the most famous American innovators and why?

Learning Objectives: Define and give examples of an innovator.
Study several innovative people featured at **The Henry Ford**.
Visit Museum and Village and experience what innovative people have done in the past.
Experience how technology and innovation has affected Americans in the 19th and 20th Centuries.

Assessment Tools: Rubrics for PowerPoints and writing

Key Concepts: Critical thinking
Problem solving
Analysis and interpretation
Inquiry and research
Evaluating, taking, and defending positions

Evidence Sources: The Henry Ford Website (www.thehenryford.org) Resources from the Museum and Village.

Time Frame: 3-4 Days of classroom instruction. Pre visit should be given about a week prior to Field Trip.

Instructional Sequence: Describe and assign Pre visit activity.
Day before Field Trip students turn in their PowerPoint
Field Trip
Day after trip wrap up
3-5 days after trip post visit activity turned in.

Student Project Ideas: Creation of individual PowerPoints
Group discussion of questions while on the field trip
Analysis and critical thinking writing.

Anticipated Challenges: Classroom/computer labs time to research, create and edit power points instead of homework.

Students need to be able to write a paper that defends a position. This should be addressed prior to activity and should be practiced several times before implementing lesson.

Curriculum Links: Foundational Issues in USHG – ERAS 1 – 5
F1 Political and Intellectual Transformations of America to 1877
F2 Geographic, Economic, Social, and Demographic Trends in America (to 1898)

Era 6 – An Age of Global Revolutions, 18th Century-1914
6.1.4 Changes in Economic and Political Systems – Compare the emerging economic and political systems (industrialism and democracy) with the economic and political systems of the previous era (agriculture and absolutism).

6.2.3 Industrialization – Analyze the origins, characteristics and consequences of industrialization across the world by comparing and contrasting the process and impact of industrialization in Russia, Japan, and one of the following: Britain, Germany, United States, or France describing the social and economic impacts of industrialization, particularly its effect on women and children, and the rise of organized labor movements (National Geography Standard 11, p. 206) describing the environmental impacts of industrialization and urbanization (National Geography Standard 14, p. 212)

Era 7 – Global Crisis and Achievement, 1900-1945
7.1.4 Global Technology – Describe significant technological innovations and scientific breakthroughs in transportation, communication, medicine, and warfare and analyze how they both benefited and imperiled humanity. (National Geography Standard 11, p. 206)

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High School Lesson Plan 13

Kenneth Cameron, Andover High School, Bloomfield Hills, MI

Title of the Lesson: APUSH Document Based Question (DBQ) Project

Grade Level: 10

Overview: Using selected collections from the historical archives of the *Benson Ford Research Center*, students will create a document-based question. To accompany the DBQ, students will also create a detailed, APUSH-style rubric that would be used to score potential responses to their DBQ. Finally, students will write a one-page explanation of their DBQ, including a brief description of each of the documents and an overall synopsis of the question.

Central Question: This project will hone students' research skills and improve their historical writing through the active exploration and utilization of the historical archives of the BFRC.

Learning Objectives: Students will enhance their ability to select, analyze, and categorize primary documents.

Assessment Tools: Students will be assessed according to accompanying rubric.

Key Concepts: The students' research/DBQ project will focus on early twentieth century American automobile culture.

Evidence Sources: Students will enhance their textbook learning through at least one and possibly two scheduled field trips to the BFRC.

Time Frame: This project will be completed over a two week period.

Instructional Sequence: This project will accompany a unit of study entitled "American Industry at the Turn of the Twentieth Century." Before starting this DBQ project, students will have read their textbooks, prepared historical identification paragraphs on relevant historical terms, and participated in at least one overview lecture/discussion on the topic.

Student Project Ideas: See accompanying rubric for more detailed project requirements.

Anticipated Challenges: Students might have a difficult time conducting primary research. The instructor will work with the BFRC staff to prearrange highly accessible primary documents for the students to explore.

APUSH DBQ Project Rubric

DOCUMENTS: _____ (50)

- 3-4 appropriate primary sources
- 3-4 appropriate secondary sources
- 2 appropriate visual sources
- Citations listed directly above documents
- Documents numbered properly

ESSAY QUESTION: _____ (10)

- Covers appropriate subject matter
- Elicits higher-level thinking skills

HISTORICAL BACKGROUND PARAGRAPH: _____ (10)

- Relates directly to the documents
- Relates directly to the essay question
- Well-written; free of grammatical errors

APUSH-STYLE DBQ RUBRIC: _____ (5)

- Based on a 9-point scale
- Modeled after DBQ rubrics used in class

WORKS CITED PAGE: _____ (5)

- Contains source information for each document used
- Properly cites documents using MLA format – see: http://owl.english.purdue.edu/owl/resource/557/01/
- Neatly organized

DBQ REFLECTION ESSAY: _____ (15)

- Brief analysis of each document
- Suggestions of ideal thesis/response for your question
- Appropriate length (not longer than 1.5 pages, single spaced)
- Well-written; free of grammatical errors

PRESENTATION OF PROJECT: _____ (5)

- Includes title page and table of contents
- Placed in a project folder
- Arranged in the proper order
- Visually appealing

TOTAL: _____ (100)

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High School Lesson Plan 14

Joseph Cislo, Northville High School, Northville, MI
Thomas Gunnells, Camden Frontier High School, Camden, MI
Toni Simovski, South Lyon High School, South Lyon, MI

Title of the Lesson: To Cure All Ailments: Patent Medicine and the Industrial Revolution

Grade Level: 9-12

Overview: Examining the impact of the Industrial Revolution on medicine in the Nineteenth and early Twentieth Centuries.

Central Question: How did advancements in technology change attitudes toward medicine?

Learning Objectives: Students will:
Examine the nature/types of medicine dispensed in the early 19th century.
Consider positive and negative qualities of pre-industrial attitudes toward medicine.
Appreciate the ways in which technology affected medicine in the late 19th and early 20th centuries.
Realize connections between the impact of technology on pre-industrial medicine and modern medical practice.

Assessment Tools: Informal discussion; collaborative and individual written responses.

Key Concepts: Traditional herbal medicines, patent medicines, industrialization/ standardization/ quantification, scientific methods, the Pure Food and Drug Act of 1906, professional licensing

Evidence Sources: "Plants in The Dr. Howard Garden" handout, the Pure Food and Drug Act of 1906, Patent Medicine examples, Lydia E. Pinkham Medicine Company records.

Time Frame: 1-2 days

Instructional Sequence:

1. INTRO ACTIVITY—"YOU BE THE DOCTOR"
On an overhead projector, display the following list of maladies with an adjacent blank line and ask the class to identify an appropriate modern medicinal response to the problems:

RELIEF OF HEADACHES	_____	(basil)
INTESTINAL CRAMPS	_____	(catnip)
DECONGESTIVE	_____	(cayenne pepper)
SEDATIVE	_____	(lavender)
SOOTHING WOUNDS	_____	(St. John's wort)
POWERFUL SEDATIVE	_____	(valerian)

It is likely that students will identify a number of modern medicines—Sudafed, aspirin, etc.—to address these maladies. The traditional or pre-industrial herbal medicines (listed above in parentheses) are available in the "Plants in Dr. Howard's Garden" handout, which also includes a medical advisory about using these substances for these purposes. The teacher may read over the whole list of herbal remedies with the class, or focus on several interesting examples.

Then, the teacher should ask students about the provenance of the modern medicines they identified. Where do they come from? How are they made? Under what conditions are modern medicines produced? It is likely that, after guided discussion, students will identify a sterile chemical factory as the source of modern medicine production. Share the back of the "Dr. Howard's Garden" handout, which displays his private medicinal garden and ask students about their thoughts and feelings on using this as a source of the medicine that would cure their ills.

2. COLLABORATIVE ACTIVITY—PATENT MEDICINES OF THE 19TH CENTURY

The teacher will then hand out or display examples of patent medicine of the late 19th century, before the advent of government regulation of medicine. As a class, go over the Ayer's Sarsaparilla advertising card and text, examining the claims made in relation to the product. http://www.mc.vanderbilt.edu/biolib/hc/nostrums/ayers.html Then, do the same with the advertising material for Dr. Morse's Indian Root Pills, including the accompanying testimonials purportedly from satisfied customers. http://www.mc.vanderbilt.edu/biolib/hc/nostrums/morse.html
After this large-group work is done, pairs or small groups of students will work with the idea of advertising patent medicines. Students may use given examples or make up their own medicines, emulating the outrageous claims made by these products. A few possible true examples are:
Horsford's Acid Phosphate
(http://www.hagley.lib.de.us/library/exhibits/patentmed/items/horsfords.html)
G. G. Green's August Flower German Syrup
(http://www.hagley.lib.de.us/library/exhibits/patentmed/items/witwisdom.html)
For either the invented or the historical product, students will be expected to devise a set of claims for the product, as well as a letter from a customer.

3. BRIEF LECTURE—THE LYDIA E. PINKHAM MEDICINE CO.

The Lydia E. Pinkham Medicine Company was one of the most successful of the old patent medicine companies. Her vegetable compound was marketed to deal with "female matters," became a mainstay of the patent medicine business and is still available today. Brief summaries of the company's history and advertising are available at the following websites:
(http://www.mc.vanderbilt.edu/biolib/hc/nostrums/pinkham.html)
(http://ocp.hul.harvard.edu/ww/pinkham.html#arc)

4. INDIVIDUAL ACTIVITY—THE PURE FOOD AND DRUG ACT OF 1906

Read excerpts and use it to craft a response to Pinkham's Vegetable Compound.
Optional link: http://www.fda.gov/regulatoryinformation/legislation/ucm148690.htm

5. OPTIONAL EXTENDED RESEARCH—HERBAL MEDICINE IN THE MODERN WORLD

For an optional continuation activity, students can research the prevalence of homeopathic medicine and herbal remedies in the modern world. In doing so, students could consider the licensing of these remedies, the position the Food and Drug Administration has taken on them, and the positive and negative results that have emerged with their use.

Student Project Ideas: Surveys on medicine, summarize changes in lifestyle, newspaper column on laws enacted.

Anticipated Challenges: Students may encounter difficulties with the following
- Understanding the different forms of herbs & plants
- Understanding knowledge of current medications
- Understanding primary source documents
- Understanding licensing processes between the States

Curriculum Links: MI US History HSCE's:
6.1.1 **Factors in the American Industrial Revolution** – Analyze the factors that enabled the United States to become a major industrial power
6.1.5 **A Case Study of American Industrialism** – Using the automobile industry as a case study, analyze the causes and consequences of this major industrial transformation by explaining
6.3.1 **Social Issues** – Describe at least three significant problems or issues created by America's industrial and urban transformation between 1895 and 1930 (e.g., urban and rural poverty and blight, child labor immigration, political corruption, public health, poor working conditions, and monopolies).
6.3.2 **Causes and Consequences of Progressive Reform** – Analyze the causes, consequences, and limitations of Progressive reform in the following areas
MI Civic HSCE's:
3.1.4 Identify the role of independent regulatory agencies in the federal bureaucracy (e.g., Federal Reserve Board, Food and Drug Administration, Federal Communications Commission). (See USHG 6.3.2)
3.1.7 Explain why the federal government is one of enumerated powers while state governments are those of reserved powers.
6.1.1 Identify and research various viewpoints on significant public policy issues.

Supplemental Material:

Ballad of Lydia Pinkham

Let us sing (let us sing) of Lydia Pinkham
The benefactress of the human race.
She invented a vegetable compound,
And now all papers print her face,

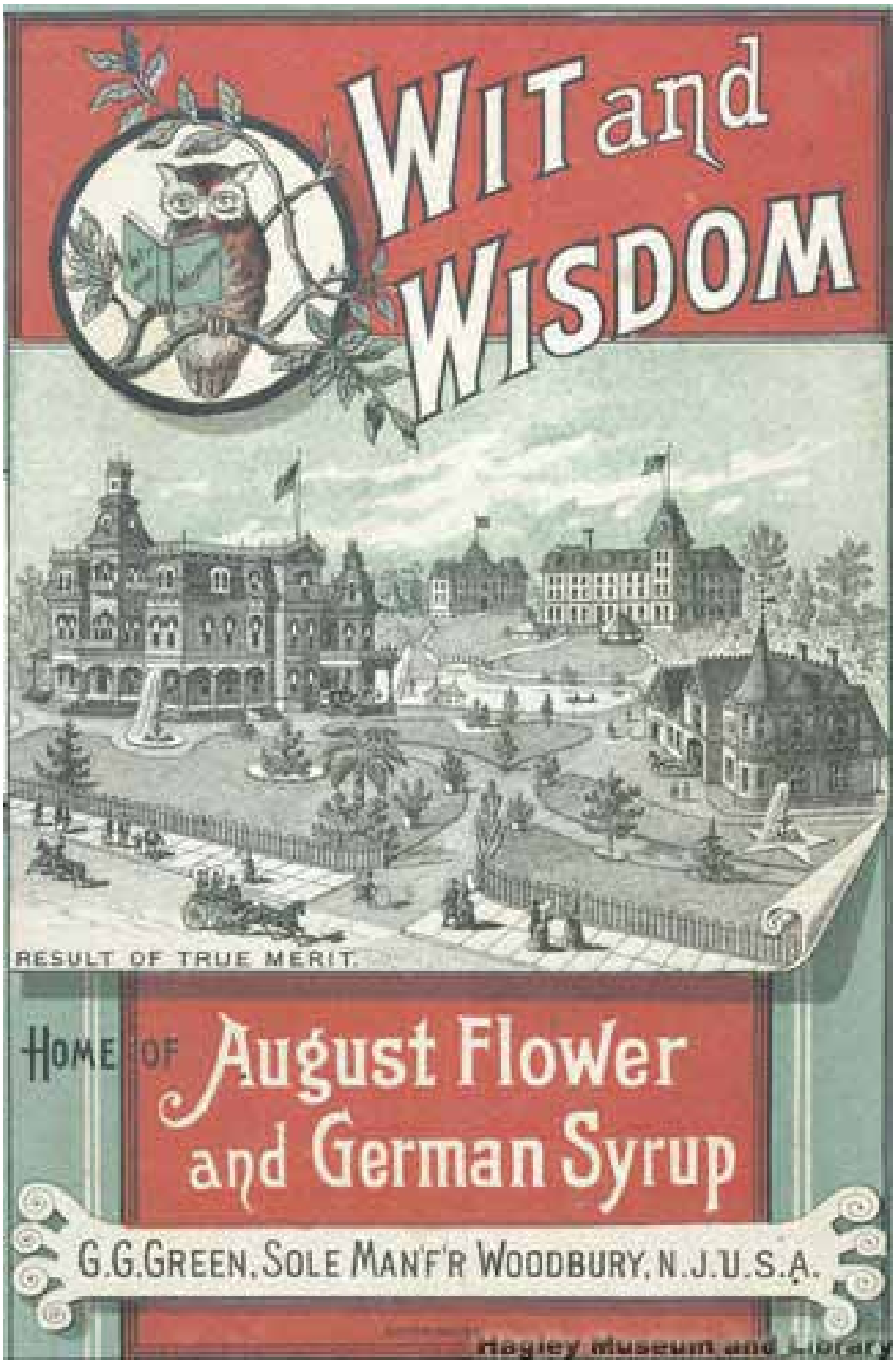
O, Mrs. Brown could do no housework,
O, Mrs. Brown could do no housework,
She took three bottles of Lydia's conpound,
And now there's nothing she will shirk,
she will shirk,

Mrs. Jones she had no children,
And she loved them very dear.
So she took three bottles of Pinkham's
Now she has twins every year.

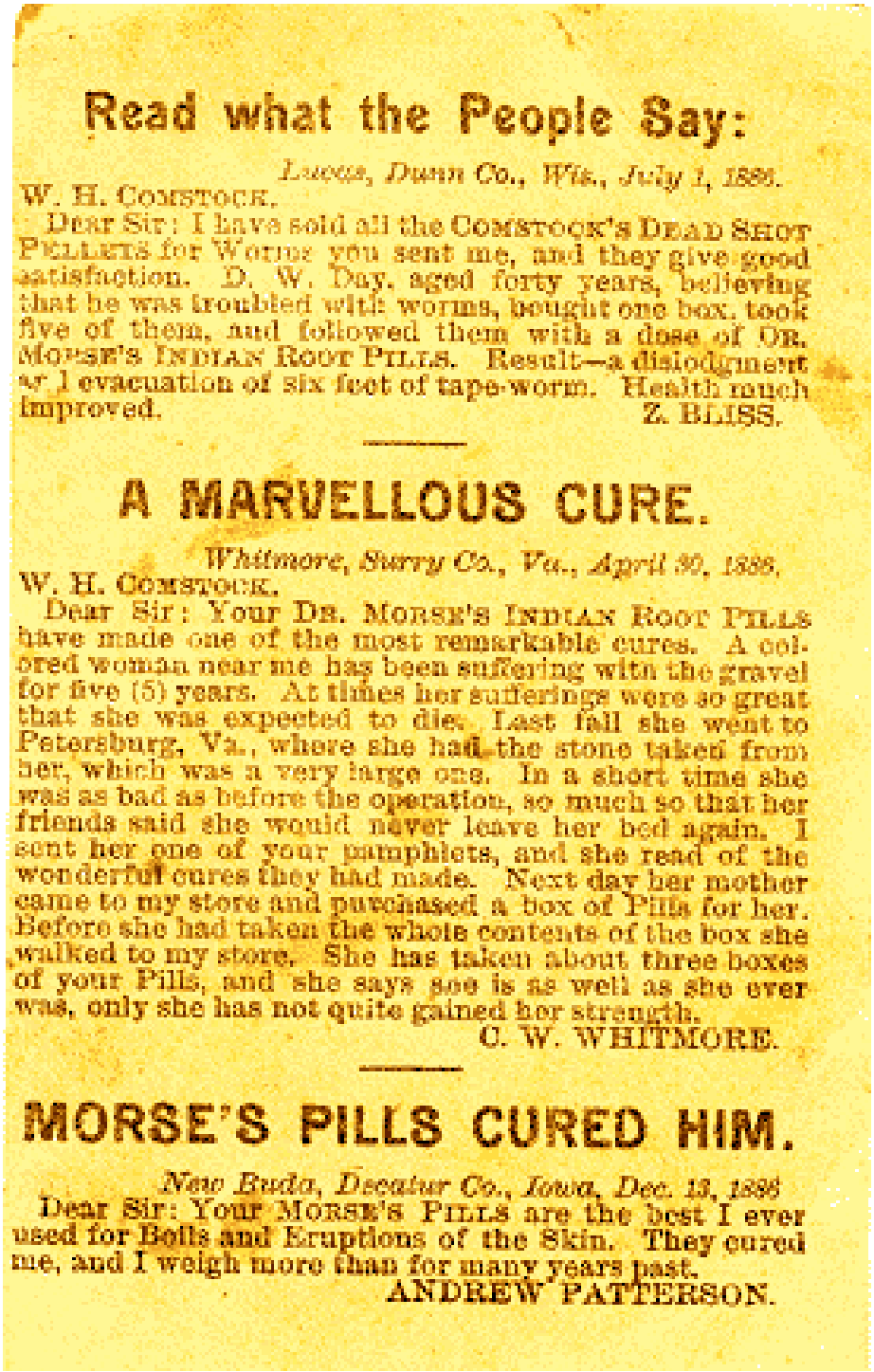
Lottie Smyth ne'er had a lover,
Blotchy pimples caused her plight;
But she took nine bottles of Pinkham's–
Sweethearts swarm about her each night.

Oh Mrs. Murphy (Oh Mrs. Murphy)
Was perturbed because she couldn't seem to pee
Till she took some of Lydia's compound
And now they run a pipeline to the sea!

http://sniff.numachi.com/~rickheit/dtrad/pages/tiLYDIAPNK;ttLYDIAPNK.html


WIT and WISDOM
RESULT OF TRUE MERIT.
HOME OF August Flower and German Syrup
G.G.GREEN, SOLE MAN'F'R WOODBURY, N.J.U.S.A.
Hagley Museum and Library


A tom-cat sat on a back yard fence,
With an aching heart and a soul intense,
Rigged out in a style in every sense,
Immense!
He was musing upon his lonely lot,
And said to himself, "She cometh not"!
What a terrible heart-ache I have got,
Great Scott!
Dr. Morse's Indian Root Pills.
The Best Family Pill in use.
FOR SALE EVERYWHERE.



Read what the People Say:

Lucas, Dunn Co., Wis., July 1, 1886.

W. H. COMSTOCK.

Dear Sir: I have sold all the COMSTOCK'S DEAD SHOT PELLETS for Worms you sent me, and they give good satisfaction. D. W. Day, aged forty years, believing that he was troubled with worms, bought one box, took five of them, and followed them with a dose of DR. MORSE'S INDIAN ROOT PILLS. Result—a dislodgment and evacuation of six feet of tape-worm. Health much improved.

Z. BLISS.

A MARVELLOUS CURE.

Whitmore, Surry Co., Va., April 30, 1886.

W. H. COMSTOCK.

Dear Sir: Your DR. MORSE'S INDIAN ROOT PILLS have made one of the most remarkable cures. A colored woman near me has been suffering with the gravel for five (5) years. At times her sufferings were so great that she was expected to die. Last fall she went to Petersburg, Va., where she had the stone taken from her, which was a very large one. In a short time she was as bad as before the operation, so much so that her friends said she would never leave her bed again. I sent her one of your pamphlets, and she read of the wonderful cures they had made. Next day her mother came to my store and purchased a box of Pills for her. Before she had taken the whole contents of the box she walked to my store. She has taken about three boxes of your Pills, and she says she is as well as she ever was, only she has not quite gained her strength.

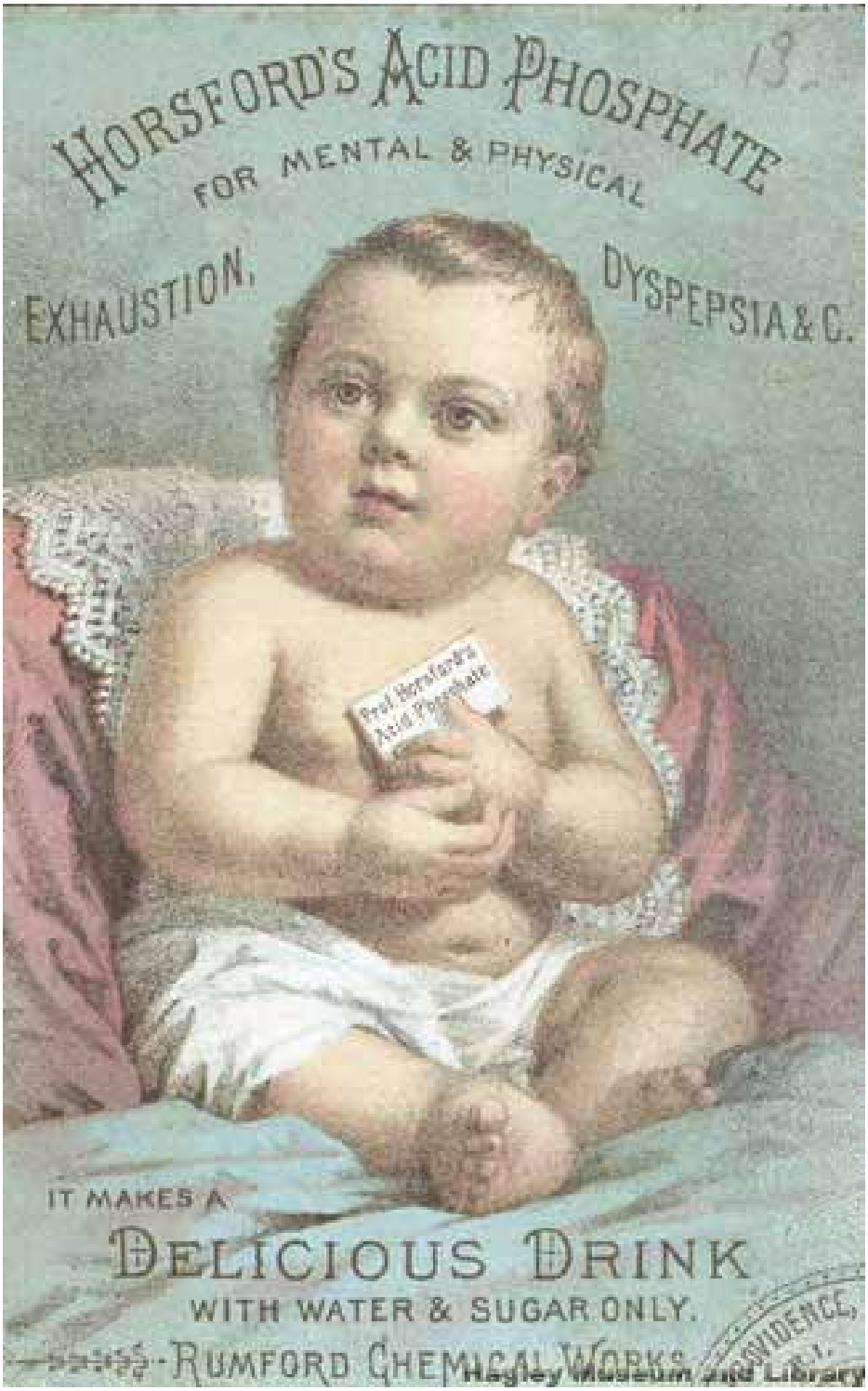
C. W. WHITMORE.

MORSE'S PILLS CURED HIM.

New Buda, Decatur Co., Iowa, Dec. 13, 1886

Dear Sir: Your MORSE'S PILLS are the best I ever used for Boils and Eruptions of the Skin. They cured me, and I weigh more than for many years past.

ANDREW PATTERSON.


HORSFORD'S ACID PHOSPHATE
FOR MENTAL & PHYSICAL
EXHAUSTION,
DYSPEPSIA & C.
IT MAKES A
DELICIOUS DRINK
WITH WATER & SUGAR ONLY.
RUMFORD CHEMICAL WORKS
PROVIDENCE, R. I.
Hagley Museum and Library


AYER'S
Sarsaparilla
The Best
Blood Purifier.
For HEALTH and LONG LIFE
USE
AYER'S SARSAPARILLA,
Prepared by Dr J.C. Ayer & Co. Lowell, Mass, U.S.A
OVER.

Ayer's Sarsaparilla

is a skilfully prepared extract of the finest Honduras sarsaparilla and blood-cleansing roots, such as stillingia and yellow dock, combined with the iodide of potassium. Each of its ingredients is in itself a superb alterative, universally recommended by the medical faculty. Combined, they make a blood-purifier of the highest power and efficacy. These facts have caused this preparation to be adopted by the medical and pharmaceutical professions as the standard Sarsaparilla, and furnish the reasons why it has earned the hearty gratitude of millions who have used it and bear witness to its excellence.

If you telephone for the doctor and find that he is out of town, just ask your druggist to send you a bottle of Ayer's Sarsaparilla. Those *tired feelings* are frequently the result of an impure, impoverished, or scrofulous condition of the blood, which weakens the digestive and assimilative organs, and renders them incapable of performing their functions. Thus, **Dyspepsia** is frequently due to a depraved condition of the blood, which also causes **Liver and Kidney Diseases, Jaundice, Dropsy,** and other serious disorders. In all such cases, the best remedy that can be used is AYER'S SARSAPARILLA.

PREPARED BY

Dr. J. C. AYER & CO., Lowell, Mass., U. S. A.

FOR SALE BY

The Name that Launched a Million Bottles

One of the most interesting patent medicines–one that is still on the market–is Lydia E. Pinkham's Vegetable Compound.

First marketed in 1875, the "female complaint" nostrum was widely advertised in the backs of newspapers and women's magazines. The ads often played on themes of the pain and suffering of being a woman, and featured glowing testimonials from women who claimed to have been healed from all manner of dysfunction and disease by the compound.

Such testimonials were encouraged by ad copy such as "Any woman... is responsible for her own suffering who will not take the trouble to write to Mrs. Pinkham for advice." The fact that Lydia Pinkham had died in 1883 didn't deter the company from continuing to play on her name and image.

The "write to Mrs. Pinkham" ruse was first given wide public exposure in 1905 when the muckraking *Ladies' Home Journal* published a photograph of Lydia Pinkham's tombstone, and speculated on the quality of medical advice being dispensed by a woman who had been dead for 22 years.

The red-faced company asserted that it hadn't meant to imply that *Lydia* Pinkham could be written to–it was her daughter-in-law, *Jennie* Pinkham, who answered the letters.

This explanation was soon exposed as a lie by journalist Samuel Hopkins Adams, who reported in *Collier's Weekly* that the Pinkham company employed a battery of typists who answered women's health inquiries with form letters, which usually encouraged the use of more of the Vegetable Compound.

The next year saw the passage of the Pure Food and Drug Act, which among other things, forced makers of patent medicines to disclose on the label the nostrum's alcohol content.

For the first time, users of the compound–many of whom were adamant non-drinkers, and some of whom were WCTU members–discovered that the Pinkham's was 15 percent alcohol. In fact, just before labeling was required, the formula had been changed; The old, undisclosed formula was even higher octane–closer to 20 percent alcohol.

The new law also forced manufacturers to scale back the claim for cures on the labels. No longer would purchasers of the compound be treated to claims such as: "A sure cure for PROLAPSUS UTERI, or falling of the womb and all FEMALE WEAKNESSES including leucorrhoea, irregular and painful menstruation, inflammation and ulceration of the womb, flooding,...for all weaknesses of the generative organs of either sex, it is second to no remedy that has ever been before the public, and for all diseases of the kidneys it is the GREATEST REMEDY IN THE WORLD."

The family-owned business sold out to Cooper Laboratories in 1968; pills and a liquid bearing the name of Lydia Pinkham are still for sale, albeit at a dwindling number of drug stores.

Lydia E. Pinkham and her Great Granddaughter, Health Hints, No. 136, 1926, Advertising records: Pinkham pamphlets, Schlesinger Library, Radcliffe Institute.

Born in 1818 in Lynn, Massachusetts, Lydia Estes was one of the most successful American businesswomen of the 19th century. As a young woman, she worked as a midwife, nurse, and schoolteacher and also became involved in the Female Anti-Slavery Society, the temperance movement, and the pseudoscience phrenology, which made character deductions about a person based on bone irregularities in the skull. In 1843, she married Isaac Pinkham, a wealthy real estate mogul.

In 1873, Pinkham founded the Lydia E. Pinkham Medicine Company in order to market an herbal medicine, Lydia E. Pinkham's Vegetable Compound, that she had developed to treat the medical problems of her female friends and family members. Comprised of black cohosh, life root, unicorn root, pleurisy root, fenugreek seed, and a substantial amount of alcohol, Pinkham's Vegetable Compound claimed to bring relief to women during the menstrual cycle by alleviating menstrual cramps, and also during menopause by counteracting depression, hot flashes, and other symptoms. The timing of Pinkham's business venture could not have been better, for in 1875 Isaac Pinkham's real-estate fortune plunged due to the onset of an economic depression in 1873.

The Lydia Pinkham Company was immensely successful. By the time of Pinkham's death in 1883, her famous Vegetable Compound was grossing $300,000 annually, and in 1925 annual profits peaked at $3.8 million. The success of the Vegetable Compound was due to Pinkham's wise decision to protect her herbal remedy by filing a patent with the US Patent Office in 1876, which ensured Pinkham family control over the herbal remedy for the next 50 years.

Even more important to the company's success were Pinkham's savvy marketing skills. In order to market her product directly to women, she placed her own face on the label to persuade women consumers that she understood personally the maladies from which they suffered, and thus could help them with her Vegetable Compound. In addition, the company published letters from customers endorsing the medicine in the "Pinkham Pamphlets."

The Pinkham Pamphlets published Lydia Pinkham's "answers" to women's medical queries, which in reality were staff-written responses that continued for decades after Pinkham's death. Nevertheless, the Pinkham Pamphlets were a means for distributing important medical advice about menstruation to women in an era when the standard treatment for vaginal cramps was the removal of the ovaries—a dangerous procedure in the 19th century with a mortality rate of 40 percent—as well as a reflection of 19th-century women's desires to take care of their own health, rather than leaving it in the hands of male medical practitioners.

Although her company had humble origins in her own kitchen, by the time the FDA restrained the company's activities in the early 20th century (the Pure Food and Drug Act of 1906 forced the company to reveal that the compound contained up to 20% alcohol), the Lydia E. Pinkham Medicine Company was a true multi-national corporation with production centers in Canada, Mexico, and the United States. "Lydia Pinkham Herbal Compound" is still available for sale in pill and liquid form. In the process, Lydia Pinkham changed the lives of thousands of American women by drawing attention to serious female medical issues that were being neglected by mainstream medicine.

Supplemental Food and Drug Act

Before 1906 people could sell whatever they wanted to, call it whatever they wanted to and claim that it could cure anything.

In 1906 the FDA passed the Pure Food and Drug Act, which required all medications to have correct labeling of all of its contents. This however did not mean that it had to work! You could still sell snake venom and tell people it cured arthritis as long as you labeled exactly what it was.

In 1938 the Federal Food, Drug and Cosmetics Act was brought on by the Elixir Sulfanilamide tragedy. Sulfanilamide is antibiotic that came in pill form, however they couldn't get children to take the pill so they decided to dissolve it into a liquid form using a solvent: diethyl glycol known to us as coolant, also used in brake fluid and other very hazardous and very poisonous products. It was chosen for the sweet taste, to get kids to like it. They also added a raspberry flavor to it. There were 107 deaths caused by the drug most of which were children.

This tragedy brought on the Federal Food, Drug and Cosmetics Act, which set standards for drug Safety. You now have to prove the drug's safety by the use of animal testing and clinical trials before it can be put on the market.

Then in 1962 there was the Thalidomide tragedy. Thalidomide was found to be a remedy for morning sickness in pregnant women; however it also caused horrifically severe birth defects in the fetus causing deformities of the arms and legs, causing what it is referred to as "flipper babies" because their limbs were just stubs or extra appendages.

This brought on the Kefauver-Harris Amendments of 1962, which required that drugs now not only had to be proven they were safe before they could be put on the market but that they were also effective. They had to do what they claimed to do and the benefit of the drug had to outweigh the potential risk.

America's Greatest History Attraction®

High School Lesson Plan 15

Adam Cooper, Re-Start High School, New York, NY

Title of the Lesson: How Mass Production of Early Automobiles Changed America

Grade Level: 9-10

Overview: The following lesson explores the impact of the efficient manufacturing of the first mass-market automobiles, in particular the Model T, and how Ford's manufacturing process impacted American culture and society. Students will examine the early history of automobiles and the world of early 20th century Americans. Students will also explore how the creation of an affordable car radically changed car culture, how business is done, how people view cars in their lives, and the car's impact on the American Dream.

To appreciate the importance that automobiles play in American society both historically and in the present, students will initially engage in exercises exploring how cars have played a role in their own lives and the contemporary world around them. Students will explore the early history of cars and the revolutionary role the Model T played in that story. Integrating this material students will use photographs of Ford cars past and present as source material to understand and articulate how cars and American culture have changed over the 20th century.

In addition to the central activities of the lesson, this unit plan also includes numerous resources for further classroom activity as well as for homework assignments. These resources include topics for further discussion, Internet and other media resources that offer text and photographs, and a list of questions to stimulate more expansive class discussion.

Assessment Tools: In understanding how cars and consequently how American car culture has developed over the past century, students should be engaged in open class discussion on topics that might include the following:
Describe in detail what observations students make of the two photographs
Compare and contrast the two photographs
How do the images relate (or not) to evolving concepts of style, functionality, and values
Explore ideas on what life stories and experiences might accompany the cars from each period
To synthesize these ideas, students should write about the changing American culture as reflected in these diverging automobiles. The writings could be in the form of an essay, poem, song, or short story, and each should convey a sensitivity to the depth of importance that the car plays in impacting on American culture.

Evidence Sources: As a launching point, students should view the following images of Ford cars past and present:
1) Photograph of a 1912 Model T Ford
http://harryallen.info/wp-content/uploads/2008/10/1912-ford-model-t-2-lg.jpg
2) Photograph of a 2010 Ford Taurus
http://www.egmcartech.com/wp-content/uploads/2008/05/photo_rendering_2010_taurus_sho_image006.jpg

Some Major Characters in Early 20th Century Automobile History
Henry Ford
Thomas Edison
Ransom E. Olds
William C. Durant
Charles and Frank Duryea
Karl Benz
Gottlieb Daimler
Wilhelm Maybach

Internet Resources on Early Automobiles and their Mass Production
http://inventors.about.com/library/weekly/aacarssteama.htm
http://en.wikipedia.org/wiki/Automobile
http://www.ausbcomp.com/~bbott/cars/carhist.htm
http://www.greatachievements.org/?id=3880
http://en.wikipedia.org/wiki/Ford_Model_T
http://www.musclecarclub.com/other-cars/classic/ford-model-t/ford-model-t.shtml
http://www.ford.com/about-ford/heritage/people/henryford/650-henry-ford
http://www.gm.com/corporate/about/history/
http://www.thehenryford.org/index.aspx
http://atdetroit.net/forum/messages/6790/78791.html
http://www.oldcars.com/

Time Frame: 2-3 class periods

Instructional Sequence: Introductory Activity
To introduce students to the early history and implications of the automobile and its mass production, students will begin by writing a focused free-writing exercise on cars in general and how they play a role in students' lives today. Students will be asked to write anything that comes to mind regarding the car and its role in society and the students' worlds. Students will then share their ideas with the class and ideas will be organized into categories on the chalkboard. Students will be encouraged to think in multiple dimensions regarding cars, including their appearance, function, role in advertising, uses, history, industries impacted by cars, work related to car manufacture and servicing, the sport of car racing, ties to other vehicles such as buses, tractors and trucks, famous people associated with cars, and more.

Central Activity
Following the completion of the introductory activity, students will be asked to discuss themes and salient points from selected readings that the teacher has assigned to the students about the early history of the automobile industry. From the readings and open class discussion students should acquire a preliminary understanding of the history of the invention of the car and how turn-of-the-century life was impacted by its creation. The class should also engage in a discussion on what forms of transportation were available to the average citizen by the early 20th century. (See Internet websites below for sample readings.)

Students should then be assembled into small groups and each group will digest readings on the history of the Model T and the changes it effected in car manufacturing, daily lives, transportations networks, modern business administration, labor, and employer-employee relations. Each group will be asked to compile notes on one unique way that the Model T revolutionized society. Each group will then make a short presentation to the class about their ideas on the various significances of the Model T that make it a landmark invention.

Connecting the information compiled in the Introductory Activity about cars today and the historical information about early cars from above, students will interpret how the car has changed over the course of the 20th century.

Homework Activity

As an extension of activities above, students should engage in a small family history research project on the role the car has played in their family's history. Students should interview their parents and grandparents and collect information on how the automobile shaped family activities, reflected family members' styles, identities, and values, and what the cars were used for. Students should investigate especially meaningful moments with family cars, such as a cross-country trip, a first purchase, learning to drive, or an accident. Students should compile their notes into detailed written summaries.

Further Classroom Discussion

Explore what life was like for early 20th century Americans, in particular work, home economics, values

Examine the different forms of transportation available to early 20th century Americans

Discuss how advertising played a key role in marketing the idea of car ownership to the general public

Analyze how the mass production and availability of an affordable car impacted local and national transportation systems

Have a discussion on what motivations there were for average Americans to own an automobile

Compare and contrast rural farm work to urban factory-based manufacturing and assembly

List the unique design features that made the Model T a breakthrough automobile

Analyze why people bought Ford automobiles in such great qualities

Explore how Ford used modern communication and advertising techniques to persuade people to want to own cars in general and to buy Model Ts in particular, including the use of song, posters, booklets, postcards, and entertainment

Analyze the driving experience and how having personal control over a vehicle likely impacted early 20th century Americans

Compare and contrast using a horse versus an automobile as one's main form of transportation

Compare and contrast the roles cars would play in an urban setting versus a rural one

Discuss what the Ford Sociological Department was and the role it played in labor relations

Examine the different techniques used to maximize efficiency in the assembling of an automobile

Questions

- Why was Ford's Model T called the Model T (or Flivver or Tin Lizzie)? What does the name reveal about how Ford wanted the car to be seen by the mass market? How did style or lack thereof play a role in the manufacturing and marketing of the Model T?

- Who was the audience for automobiles before the Model T? What role did cars play in society before they became affordable to the average consumer? How did the availability of an affordable car impact the auto industry?

- What role did works and labor unions play in the creation of the automobile and the effectiveness of the assembly line? How did working conditions differ among various car manufacturers? How did Ford Motor Company's working conditions and paternalistic social policies impact labor politics?

- What role did car manufacturing and automotive assembly lines play in the Industrial Revolution? How did Ford's drive to lower costs and fine-tune manufacturing efficiency impact other industries?

- What were advantages and disadvantages of early automobiles powered by steam, electricity, and gasoline?

- What was Ford's Five Dollar Day plan? How did the Five Dollar Day impact working conditions at the Ford plant? How did the plan impact working conditions in other industries? How did Ford Motor Company's finessing of car manufacture impact the kinds of work available and the relationship between labor and pay?

- What role does a car play in a person's public persona and sense of identity? How is owning a car different from owning other products? What role does car ownership play in the American Dream? How does the meaning of car ownership different in different parts of the US?

- How did American life, both personal and professional, change as a result of mass proliferation of cars and car drivers? How did values change as a result of easier access to the automobile? What role do cars play with American notions of freedom, liberty, independence, maturity, and power?

- How were other industries such as oil, glass, steel, and rubber impacted by the mass production of automobiles? How did cars help shape the road infrastructure and help create industries such as motels, roadside diners, repair shops, racing, car magazines and clubs?

America's Greatest History Attraction®

High School Lesson Plan 16
Norman Hurns, Groves High School, Beverly Hills, MI

Title of Lesson: Changing Technology

Grade Level: 9-10

Objective: The objective of this lesson is for students to understand the ways in which civilizations have changed over time because of technology. Students will be able to describe various factors that contribute to these changes and their impact.

Evidence/Sources: http://www.thehenryford.org/exhibits/edison/default.asp

http://www.thehenryford.org/exhibits/hf/default.asp

Time Frame: 2 periods

Instructional Sequence: Musical Organization. Show students various mediums of music and have a representation for each. For example record (78,33,45) eight track tape, cassette tape, compact disc, compact disc labeled "mp3", mp3 player, and or phone. You could use an index card and write "limewire" and "satellite radio" as well. Start by asking for 2 volunteers to individually put the mediums of music in order from the earliest to the most current form. You will need to play music as this is how the game is played. Give each student one minute. After completing the game give the correct order. A discussion should take place in which you could ask:

Why has music changed? Causes? *(technology –computers, phones, internet)*

What were the Repercussions? *(policy changes, piracy, lost of jobs, price reduction?*
Was the change fast or slow*? (the move from record to tape and tape to cd were slow, the move from mp3 to mp3 player, satellite radio, Pandora has been fast, humans sometimes fight change, were other things in the world changing as well at the same pace?*

The same activity can be replaced by using communication mediums social net working , text messaging, instant messaging, skype, etc…

Did You Know? Technology. Have students watch the "Did you know? Technology" video http://www.youtube.com/watch?v=Mmz5qYbKsvM . The video will prompt students to think about how technology is changing our world. After the five minute video have students brainstorm about why the change is taking place and what the global and personal ramifications are?

Changes Over Time Chart. Students will now complete the "changes over time chart" the chart is designed to identify changes that have taken place in global society. The chart also has the student identify the causes (that led to) and effects (impact) of the invention of the Model T and electricity. Students might need an example of major a historical event in order to guide the learning. You might decide to use an event that has taken place during the students' life time and or major historical event. Discuss with students the similarities of causes and effects of changes.

Curriculum Links: World History & Geography
6.1 Global or Cross-temporal Expectations
Evaluate the causes, characteristics, and consequences of revolutions of the intellectual, political and economic structures in an era of increasing global trade and consolidations of power.
U.S. History & Geography
6.1 Growth of an Industrial and Urban America
Explain the causes and consequences – both positive and negative – of the Industrial Revolution and America's growth from a predominantly agricultural, commercial, and rural nation to a more industrial and urban nation between 1870 and 1930.

"*Changes Over Time*"

*Name*_____ *Date*_____ *Hour*_____

Students will complete the "changes over time chart" the chart is designed to identify changes that have taken place in global society. You will need to identify the causes (that led to) and effects (impact) of the invention of the Model T and electricity.

Causes	Historical Event	Effects
	Invention of the Model T	
	Invention of Electricity	

Resources:

http://www.thehenryford.org/exhibits/edison/default.asp

http://www.thehenryford.org/exhibits/hf/default.asp

List any similarities in the causes or effects of the events.

America's Greatest History Attraction®

High School Lesson Plan 17

Karen Washington, Watertown High School, Watertown, MA

Lesson Title: Technology: Now and Then

Grade Level: 8-11 (Honors or higher-level readers)

Overview: Students' concept of technology is normally assumed to be something new such as an iPad or a hybrid car. Technology is not a new concept. The Neanderthal's ability to fashion tools out of materials in their environment is technology. This lesson seeks to expand students' ability to conceptualize technology. They will also compare different types of technology and analyze the consequences of technology.

Central question: What is technology? Is new technology always a good thing?

Learning objectives: Define technology
Identify different types of technology
Describe technology's role in advertising
Analyze reactions to technology
Explain issues with technology

Assessment tools: Minute papers
Homework
Literature/document analysis

Key concepts: Technology can take different forms. Something that we see as primitive was technology to someone else. Focusing on the automobile, we will examine the benefits and consequences of technology.

Evidence/sources: PowerPoint images from Google images and pictures taken at *Henry Ford Museum* and *Greenfield Village*.

Advertising images from the *Benson Ford Research Center* internet site.
Duryea http://www.thehenryford.org/exhibits/showroom/1896d/lit.html
1912 Model T http://www.thehenryford.org/exhibits/showroom/1908/dobbin.jpg
1924 http://www.thehenryford.org/exhibits/showroom/1908/companion.jpg
1924 Freedom http://www.thehenryford.org/exhibits/showroom/1908/woman.jpg
1924 Roundabout http://www.thehenryford.org/exhibits/showroom/1908/boy.jpg
Readings taken from Horseless Age available at www.archives.org
I have transcribed the reading passages so that students are able to read sources and to edit for better understanding.
Definitions available from www.merriam-webster.com

Duration: Two to three days (based on 55 minute class)

Instructional sequence:
Day One

Prior to this lesson, students have seen the first part of *Modern Times* (available on YouTube). You could also use any video that shows technology's impact on human beings.
Start the class with the following minute paper/journal inquiry:
Explain what the movie "Modern Times" has to say about technology.
Students take notes on slide 4
For the next activity, pass out the "What is Technology?" worksheet. Give students a few minutes to work on the definition, then show students slides 6-9 and discuss reactions. Next, give students about 10 minutes to finish the worksheet, then come back as a class and discuss student responses. The main idea is for students to think about what comprises technology. Although there is a definition in the book, students may have a different conception of what technology consists of. End with either the book's definition or any standard definition of technology.
Have students view slide 11. You can give them up to 5 minutes to try to figure out what the item is (slide 12). If one student recognizes it, you can stop or see if other students recognize the connection.
Move on to slide 13. Have student brainstorm what items they feel are necessary for cars today. Give them about 10 minutes. Then have a recorder from each group present their findings. Write the responses on the board.
Move to slide 14. Discuss the questions as a class.
End the day with the homework assignment on slide 15.

Day Two

Start with Minute Paper/Journal (slide 16).
You can also put students into a Socratic seminar to discuss the minute paper. Follow the explanation below.
For the first half of class, present students with different advertisements (slide 17). Begin this activity individually, giving students 5 to 10 minutes to answer the inquiries. Then have students group themselves according to their advertisement to discuss the inquiries.

The next part can take place as a Socratic Seminar or class discussion. Utilize the questions on slide 18. The best way to utilize the Socratic Seminar is to rotate students in and out so that all students can participate. Have the observers take notes. You can also assign each member of the group a task (redirector, initiator, inviter, etc).
For homework, assign students the inquiry on page 18.

Student Project Ideas: Drawing on the cell phone demonstration, ask students to improve a product they already use. This can take the form of an artistic project, paper, or both.

Anticipated Challenges: Inability to see older devices as technology
Prejudice toward newer technologies

Curriculum links: Massachusetts Curriculum Frameworks: History and Social Science
USII.1 Explain the various causes of the Industrial Revolution. (H, E)
important technological and scientific advances
USII.2 Explain the important consequences of the Industrial Revolution. (H, E)

WHAT IS TECHNOLOGY?

Define Technology:

List the benefits of technology.

Rank the five most important technical devices you own.

1.

2.

3.

4.

5.

Explain why you could not live without device #1.

Haynes, Irving S., M.D., "Metropolitan Experiences," in *Horseless Age,* Volume 11, No. 1, January 7, 1903, p. 9. http://www.archive.org/details/horselessage03unkngoog. Accessed July 22, 2010.

I have been through the school of experience; it is costly, but valuable. My father was a physician in the country and always kept two or more horses, and I am therefore familiar with their care, use, and limitations. For such work as my father had to do an automobile – of the present standard, at least- would clearly be inadequate, but reason of the lack of good roads in that part of the country.

For city use I think the automobile is superior to horses, not because the auto is so much cheaper to keep than a horse, but on account of the very fact that an auto is a machine, devoid of all like, feeling and volition in itself. It consequently is absolutely under the control of the driver. A horse, no matter how well trained, at times loses his head – although his driver may not – and serious results happen. This is especially applicable to New York. Therefore, if it were a question of a horse or street car as a means of getting around to my work, I would take the street car, as it is cheaper, surer, and quicker than a horse.

Concerning the use of an automobile in my practice, I am in doubt, as to its efficiency and reliability. The automobile was purchased to satisfy my desire to operate and tinker about a machine – not primarily for use in my work. Hence I have never used it continuously, nor very much in stormy weather. True, I have been out in every sort of weather at times and over the very roads, but not from choice. On runs into districts where the streets are bad I have intentionally left the auto at home, in the belief that the machine would give me more pleasure for a run on a pleasant day in the country at my leisure than to push it over very rough places with the risk of breakage.

Inquiries:

1. Explain why Dr. Haynes believes that an automobile would not have been suitable for his father's practice.
2. Describe where he thinks the car would be better suited. Why?
3. Examine the reasons he feels the automobile will not help him in his practice.

"Objectionable Clause in Goods Roads Bill," in *Horseless Age,* Volume 11, No. 6, February 11, 1903, p. 236. http://www.archive.org/details/horselessage03unkngoog. Accessed July 22, 2010.

Editor Horseless Age,

Permit us to call attention through your column to a "Good Roads" bill that has been or is about to be introduced at this session of the Legislature of State of Pennsylvania, having been prepared by Arthur Kirk, of Sharpsburg, Pa. This bill was before the House of Representatives in 1901, but was not passed for some reason. Whether the next attempt will be more successful is, of course, not known. While the bill as a whole is probably a good one so far as it applies to good roads, it contains a slap at automobile users that is unquestionably unfair and uncalled for, and this section should be stricken out or amended before the bill is passed. It is section 38, and provides that "Every owner or user of an inanimate motive power propelled road travelling vehicle shall annually pay to his or her country treasurer (except makers) $20 on or before the first day of April of each year, or $3 per month for any fraction of a year. For which he or she shall be given a licensed figured plate by the county engineer, which must be conspicuously attached on the left side if the vehicle, so that its number can easily be read while the vehicle is in motion, and if the above license fee is not paid before the tenth day of each month, 50 cents for each month or fraction of a month. The above license fee, with the cost of collection and all penalty for the non-payment of license, shall be paid to the informer who made the information that license for that year has not been paid."

Charles E. Duryea, First V.P American Motor League

Inquiries:

1. Describe why Mr. Duryea thinks this is a good law.
2. Explain why Mr. Duryea has a problem with the law.
3. What do you think Mr. Duryea's main issue is? Do you think it is valid?

"Depreciation Owing to Advances in the Art and the Fashion," in *Horseless Age,* Volume 11, No. 6, February 11, 1903, p. 237. http://www.archive.org/details/horselessage03unkngoog. Accessed July 22, 2010.

Editor HORSELESS AGE:

It is perhaps a good recommendation for a machine to say that it can beat anything on four wheels, yet the ordinary man does not hanker after the kind of excitement caused by fairly flying through space. I therefore conclude that the useful automobile – and the style that will eventually become popular – will be designed to be employed any time, exactly as horses are.

When at the New York Show I talked considerably with the representative of one that has sold a lot of carriages at a good price. He blandly told me that the 1902 model was fairly decent, but advised me not to buy one at any price, at the same time pointing out its weaknesses, saying everything has been remedied in the new machine. One pleasant feature he mentioned regarding the 1903 style was the steering post might snap off at any minute.

While on the subject of styles I want to say a few things about the changes made by even the leading makers. It has got so that a carriage a year old is regarded as mere junk in the sporty circles of high toned automobilism. I remember that last summer I drove a 1901 machine into New York City, and some of the helpers at the stable pleasantly inquired where I had dug up the Noah's Ark – and the machine had only been out of the factory six months…

A few men can and will have a new automobile every year, but the majority either do not want to bother with a change or cannot afford to make one each spring. Yet to keep in the swim one must not be seen with a last season's carriage any more than a lady wants to wear her 1902 summer hat in 1903. An aristocracy in automobilism is being plainly established. Not more than three years ago any old thing on wheels was good enough, but in a short time things have changed remarkably.

Robin Damon

Inquiries:

1. Explain what Mr. Damon wants in an automobile.
2. Describe Mr. Damon's complaints about automobilism.
3. Examine the reasons why someone might want to have the latest model of an automobile, even if it is not the best.

"New Automobile Bill for Massachusetts," in *Horseless Age,* Volume 11, No. 6, February 11, 1903, p. 248. http://www.archive.org/details/horselessage03unkngoog. Accessed July 22, 2010.

Judge Henry S. Dewey, of Boston, has filed with the clerk of the House of Representatives of the Massachusetts Legislature a bill which asks for power to be granted the Governor and council to create a board in automobile registration to comprise three persons. The bill provides that every owner of an automobile be obliged to give his name, residence, description of the vehicle, seating capacity, type and power of motor used. The board has the power to refuse a certificate if automobiles are not up to the standard.

Every owner must file a certificate as to his ability to manipulate one of these machines. When found, after examination, lacking in physical or mental qualities, the board shall declare the owner or operator of the machine unfit for a certificate. Each operator or owner of an automobile shall submit to trials and examination before a certificate (good for one year) is issued.

Each automobile shall have two brakes, one for going forward and the other for going backward. Illuminated numbers are prescribed for the side light of each vehicle, and a white light is insisted upon for the front and a red light for the rear end.

The limit of speed is placed at twenty miles an hour in outlying districts and twelve miles an hour in outlying districts and twelve miles an hour in business or congested districts. Automobilists are cautioned not to scare horses. The police may command an automobilist to stop.

Should there be an accident and the automobilist run away to escape responsibility, his certificate must be forfeited. The penalties fixed for a violation of the law are a fine of $200 and imprisonment for ten days for each offense and cancelling the certificate of registration.

Inquiries:

1. Explain the reasons why the state would want to know the details of a car and its owner.
2. Analyze whether a fine and imprisonment might be enough to make people obey the law.
3. Examine the reasons why these regulations might have been enacted.

"Automobile Damage Case Adversely Decided," in *Horseless Age,* Volume 11, No. 6, February 11, 1903, p. 235-236. http://www.archive.org/details/horselessage03unkngoog. Accessed July 22, 2010.

Editor HORSELESS AGE:

In a case before the Supreme Court here, brought by a young woman against an automobilist to recover $2,000 damages alleged to have been sustained in a runaway caused by the automobilist's machine, a verdict has just been rendered in favor of the complainant, allowing her $600. Exceptions have been filed in the case and it will go up to the full bench.

The parties concerned in the suit met each other on one of our widest and straightest streets, the automobile proceeding at a rate of from 4 to 5 miles an hour and the horse driver at 11 miles per hour, according to the testimony offered. The defendant, Mr. Chapin, when nearly 400 feet away turned to the right into the gutter until his forward wheels struck the curb. The horse passed him safely, but when about 200 feet beyond the automobile, in making a turn, a wheel collapsed, owing to its catching on the street car track, and the carriage overturned. The occupants were thrown out, but no evidence was introduced showing that they had received serious injuries.

The evidence showed that the horse has run away six times on previous occasions, smashing carriages and endangering the life of the driver, and at one time had dragged a little girl a long distance, owing to her foot having caught. The owner of the horse testified that he had sold it because he did not consider it a safe horse for his wife to drive. Two former owners, both well known and influential citizens of this place, told of their troubles with it, and both sold the animal with the distinct understanding that it was fit only for a saddle horse.

Mr. Chapin is a much respected citizen, an automobilist for about three years' experience and a most careful and considerate driver. On this occasion he acted according to his best judgment and did exactly as every other experienced automobilist would have done and what every competent horseman would have wanted him to do – i.e., steered toward the side of the street and gave the horse the whole road. Automobiles have been used on our streets for the past four years, and at present about seven are owned here. This is the first case of the kind, and if this verdict stands on appeal it will practically mean that the owner of an automobile has no rights on our streets.

Henry R. Stickney

Inquiries:

1. Assess Mr. Stickney's concern about the judgment in this case.
2. After reading this, describe what you believe may have happened.
3. Explain how the judgment might reflect a bias against cars or one against horses.

Technology Changes the World

Lesson plan submitted for the National Endowment for the Humanities Landmarks of American History Teacher Workshop: America's Industrial Revolution.

Karen Washington
Watertown High School
Watertown, MA

2

Minute Paper

- Explain what the movie "Modern Times" has to say about technology.

- Listen to the directions as we work on the worksheet.

3

Wild Dreams Change Lives

- Inventions and new technologies change the way people live
  - Patents
    - Allow one person or group to control the production and sale of new technologies

BUT

4

IT IS TIME TO PLAY …

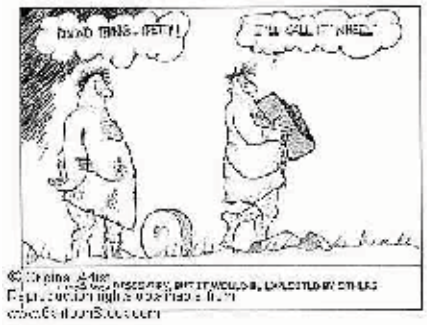
WHAT

IS

TECHNOLOGY?

5

Is this technology?



6

How about this?

This?

8

This?

9

Definitions

- Technology: the science of the application of knowledge to practical purposes

- Innovation: the introduction of something new

10

What do these have in common?

11

If you guessed …

- You're right

12

Group Activity

- In your assigned groups, discuss the following inquiry:
  - Describe what you think is necessary to have in a car.
- Select one person from each group to report out to the other groups. You will be given paper to write down your ideas.

13

Think about it

- Explain how people got around before the invention of the car.
- Describe what might be necessary in any type of transportation in 1890.

14

Homework

- Read a selection about the effect of the car on American society.
- Answer the inquiries that follow your reading.
- Each of you will have different readings, so do not lose it.

15

Minute paper

- Based on your article, explain how the car affected American life.

16

Document Analysis

- Independently, view the advertisement for early cars.
- Be sure to
  - Identify the innovations they are advertising.
  - Describe what features would be pleasing to someone at the time.
  - Explain what makes you want to buy this car (or not).
- Now get into groups according to your picture and discuss the same questions.

17

Consider it

- Cars have evolved to suit the needs and wants of the people.
- Examine how has the car changed:
  - Social expectations
  - Social responsibility
  - Social problems
  - Explain whether the car has made life easier or harder, or both.

18

Final question

- For homework, answer the following inquiry in at least one paragraph.
  - Define technology (yes, again in your words). Provide an analysis of whether technology makes life better for people. Explain your analysis.

19

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High School Lesson Plan 18

Kathryn A. Gross, Loyola High School, Detroit, Michigan

Title of the Lesson: African American Women and Changing Technology: Analyzing the role of the Industrial Revolution in the role and responsibilities of African American women.

Grade Level: Senior English

Overview: This lesson involves student predicting, researching, and analyzing information on the role of African American women from 1840 – 1930 in comparison to changing roles of women from 1940-2010 due to growth of technology.
Senior English students each year must complete a research paper. However, it is necessary to deem the paper meaningful to the student and relevant to everyday life, while providing opportunities for developing content knowledge. This lesson will have 5 basic components to the development of this paper.

1. Compare and contrast the role of African American women historically in the U.S. and today.

a. Include discussion as to political and social reform.

b. Include discussion of economic and technological reform.

2. Personal visits to **The Henry Ford** to hear slave stories and different plantations – Hermitage Slave Quarters; Mattox Family Home; Carver Exhibit

3. Research conducted on-line and at the Detroit Public Library to view primary source documents and note taking.

4. Develop questions and interview 4 different African American women within specific age ranges: 70+ years of age; 50-69 years of age; 30-58 years of age; and 17- 29 years of age.

5. Do a comparison and analysis of this information searching for common threads or fundamental differences over time.

Central Question: How did the roles of African-American women change between 1840 and 1930 due to the advent of technology for home and industry as compared to changes between 1930 and 2010?

Assessment Tools: Student involvement in discussions and participation in activities such as field trips are critical. Each step of the process will involve student reflective writing, as well as completion of the interview worksheet and Venn Diagram for periodic assessment. The final paper and rubric are attached as well.

Evidence Sources: http://digital.nypl.org/schomburg/writers_aa19/biographies.html African American Women biographies at
African American Women of the 19th Century - http://digital.nypl.org/schomburg/writers_aa19/
Elizabeth Harris biography - http://scriptorium.lib.duke.edu/harris/harris-indx.html
Related Names:
Du Bois, W. E. B. (William Edward Burghardt), 1868-1963 , collector photo #1

African American Women Washington
http://www.loc.gov/pictures/related?fi=subject&q=African Americans–Women–Washington (D.C.)–1920-1930.
http://www.loc.gov/pictures/item/95508608/
http://www.loc.gov/pictures/resource/cph.3c22410/ State Fair Minnesota
African American women and men posed by machinery, Lexington Laundry, Richmond, Virginia
African American Women University of Georgia
http://lcweb2.loc.gov/service/pnp/ppmsca/08700/08757v.jpg
State Fair Minnesota

Time Frame: 1 day – field trip, 2-3 days for class discussion, guest speakers, 2-3 weeks allowed for research, writing, editing, etc.

Instructional Sequence:

1. Teacher will engage students in a discussion as to the role of women in their lives – from their mothers, sisters, aunts, grandmothers, neighbors, teachers, girlfriends, etc.
a. Brainstorm the roles and responsibilities students believe women have today.
b. Ask students to think about the reasons for these responsibilities – the why or how did that happen factor.

2. Teacher will introduce the assignment involving interviews with women they know in each of the age categories. At this point, it may be beneficial to ask for volunteers to visit the classroom for total class interviews such as with the 70+ category.
a. Students receive the interview worksheet to complete with their own questions. Assign the interviews according to age brackets.

3. Students will share their findings with small groups then report commonalities to the total class discussion.

4. Teacher will present a sampling of information on the roles of African American women from 1840-1930 through PowerPoint photos, slave stories, and data provided from the attached websites. Students will receive the rubric for the research paper with detailed information as to expectations.

5. Students will visit the Greenfield Village for specific information on the roles of African American women through this time period by visiting the Hermitage Slave Quarters; Mattox Family Home; and Carver Exhibit. They are to take notes and question the presenters gathering information for their paper.

6. Students will visit the Detroit Public Library Research Center and access at least 3 primary source documents for their papers.

7. Students write a first draft incorporating information. Edit, and rewrite!

Student Project Ideas: Students will present the highlights of their findings through photographs, quotations, and graphic organizers in a PowerPoint.

Curriculum Links: Michigan High School Content Standards and Expectations
Language Arts: 1.4 Inquiry and Research, 1.5 Finished Products, 2.2 Meaning beyond the literal level; and 3.3 Text Analysis
U.S. History and Geography: Era 6 Development of Industrial, Urban and Global United States (1870 – 1930).

Name: _____ **Interview Data Collection**

Directions: Complete the questions for each person interviewed and design 5 of your own questions.

Questions	70+ years of age	50-69 years of age	30-58 years of age	17- 29 years of age
Name				
Age				
What was the most significant change in your lifetime for women?				
How have your responsibilities in the family changed over time?				
What do you feel is the most helpful improvement in your life and responsibilities?				
What do you think has hampered your life the most?				

Final Paper Analysis Questions to Consider and Rubric

Criteria	100%	80%	60%	Must Rewrite
APA	Student meets all APA standards in formatting and citations.	Student follows APA formatting; however, 1-3 mistakes in citing sources.	Student follows basic APA formatting and citations with 4-7 mistakes.	More than 7 mistakes or lack of formatting.
Grammar Usage and Spelling	Student writes a paper accurately using appropriate grammar, transitioning, and spelling throughout.	Student writes paper using appropriate grammar and spelling; however, weak transitioning between concepts.	Student writes paper using grammar and spelling with 1-5 mistakes.	More than 5 mistakes in grammar or spelling usage and lack of transitioning.
Sources	Student conducts 4 interviews; uses 3 two dimensional primary source documents, and 2 three-dimensional sources to support paper.	Student conducts at least 3 interviews; uses 2 two dimensional primary source documents, and 1 three-dimensional source to support paper.	Student conducts 2 interviews; uses 1 two-dimensional primary source documents, and lacks three-dimensional sources to support paper.	Student lacks primary sources to support paper.
Content	Paper has a clearly stated thesis statement; is well-organized; clearly supports the thesis; and shows more than one perspective.	Paper has a clearly stated thesis statement; is well-organized; clearly supports the thesis; but lacks opposing perspectives.	Paper needs clarity in supporting thesis statement. Paper does not clearly support the thesis statement.	Paper lacks clarity, is semi-organized; and fails to thoroughly support the thesis.

Questions to consider:

1. Are there common threads among the women interviewed, or drastic differences?
2. What commonalities do women of the previous eras share with current era?
3. What major differences are there between women of each era?
4. What do you find to be contributing factors to the responsibilities and roles of women over the decades?

Women of Different Periods

1840-1930

1931-present

America's Greatest History Attraction®

High School Lesson Plan 19
Michael Hart, Bloomfield High School, Bloomfield, NY

Title of the Lesson: Great Innovators in American History

Grade Level: Grade 11 United States History & Government

Central Question: How did the work of Thomas Edison, Henry Ford, George Eastman and the Wright Brothers impact the history of the United States.

Learning Objectives: The students will research the lives of selected Innovators in American History and present biographical sketches to the class. They will also select a product developed by their subject and create a printed advertisement.

Assessment Tools: Oral Presentations will be graded. Product advertisements will be graded.

Evidence Sources: Pathways to the Present, Prentice Hall 2000
Websites: Henry Ford : www.thehenryford.org/research
Thomas Edison: www.edison.rutgers.edu
Wright Brothers: www.wrightbrothers.org
George Eastman: www.eastmanhouse.org

Time Frame: 3 Days

Instructional Sequence: Project introduction
Research
Research presentations
Advertisement presentations

Biographical Worksheet

1.) Identify your subject.

2.) What was the educational background of your subject?

3.) Describe the early career of your subject. Be sure to include any obstacles that the person had to overcome.

4.) Describe the breakthrough that led to the person's invention (If the person is credited with more than one, select the one that interest you the most.)

5.) Was the invention immediately successful, or did it need to be refined further?

6.) What was the impact of the invention on society?

7.) Suppose that this person never lived – How would society be different?

America's Greatest History Attraction®

High School Lesson Plan 20

Laura James, Bridgewater-Raritan Regional High School, Bridgewater, NJ

Title of the Lesson: Farmers and how they were impacted by the Industrial Revolution after the Civil War.

Grade Level: 10

Overview: At the beginning of the year the students learn about lives of early Americans and British colonists. They gain a textbook understanding of how difficult daily life was for the colonists, but in order to give them a greater appreciation for early American living, they will till, plant, maintain, and harvest crops of their own.

Central Question: How did American life change for farmers in the "west" with the development of tools and technological advances?

Learning Objectives: To connect the innovations of the Industrial Revolution to the successes and struggles of the farmers in the West and the formation of the Populist Party.

Assessment Tools: Student charts will be graded and student will take a test on the information at the end of the unit. Depending on how much time is available, the students may write a letter to their family "back home" at the end of their five years to update their loved-ones on their progress (or lack thereof) in the West.

Key Concepts: Students will understand how life in America changed (and continues to change) with the development of tools and technological advances.

Evidence Sources: Photos from **The Henry Ford** (Museum & Village) relating to the advancement of farming tools throughout the Industrial Revolution (in PowerPoint format).

Time Frame: 4 days in class, then incorporated throughout the rest of the unit on the Industrial Revolution during the late 1800s and early 1900s.

Instructional Sequence: Context of the Lesson: Students have just finished their study of the Civil War and Reconstruction. The curriculum our school follows then goes back to 1860 and focuses solely on farmers in the West, Native Americans, and then moves on to the industrialization of the nation (including the development of the railroads). This lesson would come at the beginning of the start of the farmers in the West unit. The students will be role-playing farmers who have just taken advantage of the Homestead Act in 1862. They can choose the circumstances under which they chose to move West as well as their family status, (to show the diversity of the individuals who moved West). They each have 160 acres of land in a part of the Great Plains of their choosing and now have 5 years to determine whether they are going to "make it" or end up moving closer East.

Day #1: As a class, we will view and discuss primary source photographs of sod houses and families traveling West during the 1860s as well as early farming technology from the beginning of the Industrial Revolution. We will also discuss the potential pitfalls the farmers might encounter in trying to make their land profitable within the 5 year period, including benefits and limitations of the early technology.

Days #2 & #3: Explain the overall lesson to the students and hand out the worksheet on which they will keep track of their frontier lives. The worksheet is a chart with the following time frames: 6 months, 1 year, 3 years, and 5 years. For each time frame, the students will evaluate their progress in the following categories: immediate goals, accomplishments thus far, family concerns/update, status of farm, financial situation. They will have the rest of the 40 minute period as well as the next class period to complete their charts. What is not finished becomes homework.

Day #4: Discussion of student-created lives on the frontier. Begin with a class poll – who stayed for the 5 years? Who chose to return east? Why didn't they succeed in the West? Of those who stayed, what is the status of their farms? As students share their individual stories, comment on what would have happened historically as well as what is going on in the rest of the nation that will affect the farmers. (Ex: Transcontinental Railroad is being completed, Sherman is marching through the South, etc.)

Anticipated Challenges: One of the things that I've noticed about my students is that if they can put themselves in an historical situation, they have a much better ability to see how that situation connects to other events in history. My hope is that if the students see themselves as farmers, then they will be better able to see the far reaching effects of the Industrial Revolution on the rest of the nation. I intend to continue to refer to them in the first person when teaching the rest of the 19th century so that they can keep that perspective. This also translates well to my Honors class where the students have a three-sided debate to make a treaty over land between the American government, Native Americans, and the western farmers.

America's Greatest History Attraction®

High School Lesson Plan 21

Mitchell Schrager, High School for Enterprise, Business & Technology, Brooklyn, NY

Title of the Lesson: How did technology change rural life in the early 19th Century?

Grade Level: 9-12

Overview: Choose one example of technology. In 2-3 sentences, describe how life was different before we had that piece of technology.

Central Question: How did technology change rural life in the early 19th Century?

Learning Objectives: Students will Identify examples of technology developed in the early 19th century and describe effects of that technology.
Describe changes over time in rural life between 1800 and 1890 and indicate in what ways these changes were positive or negative
Appreciate the ways in which technology affected domestic life in the early 19th century.
See connections advances in the technology of 19th century and current-day technology.

Evidence Sources: Documents related to 19th century life on handouts.

Time Frame: 1-2 class periods

Instructional Sequence: Go over Do Now. Ask students:
In what ways has this technology made life better/easier; in what ways has it made life worse/harder?
How was life different before the advent of this piece of technology?

Why do you think someone invented this piece of technology? Did it solve a problem? Quicken or cheapen a process?

Mini-Lesson

In the early 19th century, America experienced significant changes in the ways things were done. Historians call this period the industrial revolution. The general meaning of this is the switch from human and animal power to the use of machines to get work done.The word "revolution" may be misleading. Although this was indeed a time of major change, the change happened incrementally, and over a very long period of time, and at different times in different places and for different classes. Today, we will be looking at some of the changes that occurred during this period.

Group Work:
Divide class into three segments. Each segment will look at one of following groups: Farmer, Traveler/ Merchant and Woman.

Assignment: Read and examine documents given to you. After looking at the documents, write in your notes the following information: Describe change; positive/negative effects on your life.

Two group members will come to front of room and act out conversation between grandfather/mother and grandson/daughter. Grandfather will describe life in 1800; grandson will describe life in 1850. As each group presents, class assignment is to make list of changes and indicate whether they are positive or negative.

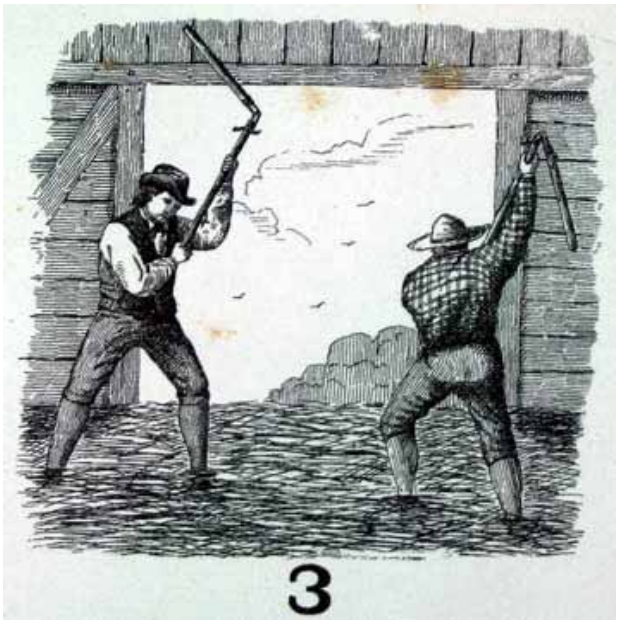
Class discussion will focus on how technology changed in this time period, and the positive and negative effects of those changes on rural life.

Sequence

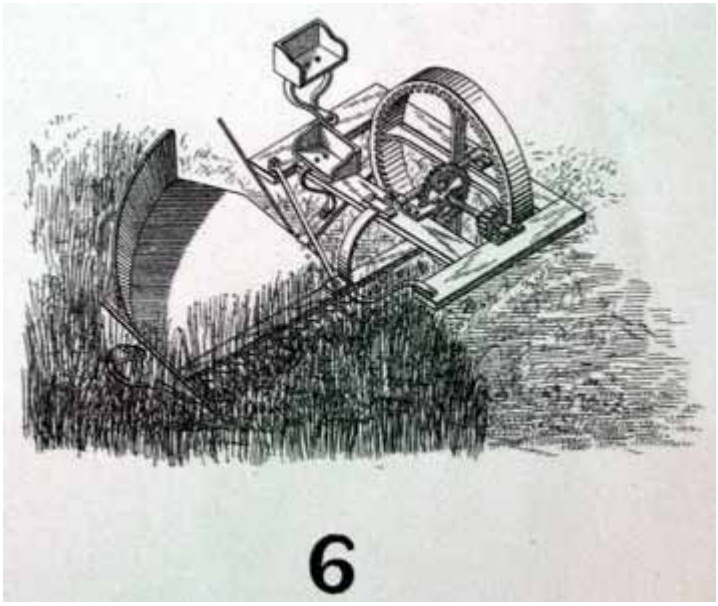
GROUP 1: Farmers

Document 1a: (early 1800's) Blacksmiths working in specialized shops made many of the tools that farmers needed to work in their fields. The blade on this large hay knife was made by a blacksmith. He then added a wooden handle that helped the farmer cut down tall grasses during harvest time.

Document 1b: (18th century) This image from Benjamin Butterworth's *The Growth of Industrial Art* depicts reaping grain during the colonial period. Reaping had to be done by hand, using a scythe or hay knife to cut the grain. Notice that the whole family helps with the field work.



Document 1c: (18th century) Threshing is the process used to separate the chaff, the protective covering around the grain, and the grain from a plant's stalk. Farmers used flails to remove the chaff and grain from the stalk and to crack open the chaff.



Document 1d: By the mid-19th century farmers no longer had to reap entirely by hand. Machines made the work of harvesting go more quickly. This Self Raker Harvester was patented in 1855 to help farmers bring in their harvest.

Document 1e: (1892) Threshing, also spelled thrashing, is the process used to separate the chaff, the protective covering around the grain, and the grain from a plant's stalk. During the 19th century farmers used a variety of methods to remove the chaff and grain from the stalk and to crack open the chaff. By the late 19th century and early 20th century farmers used steam-powered machines to do their threshing. The threshing machine pictured here was patented in 1883. Today farmers thresh primarily with gasoline-powered machines.

Sources:

Harvest of History, http://www.harvestofhistory.org/primary_sources.html

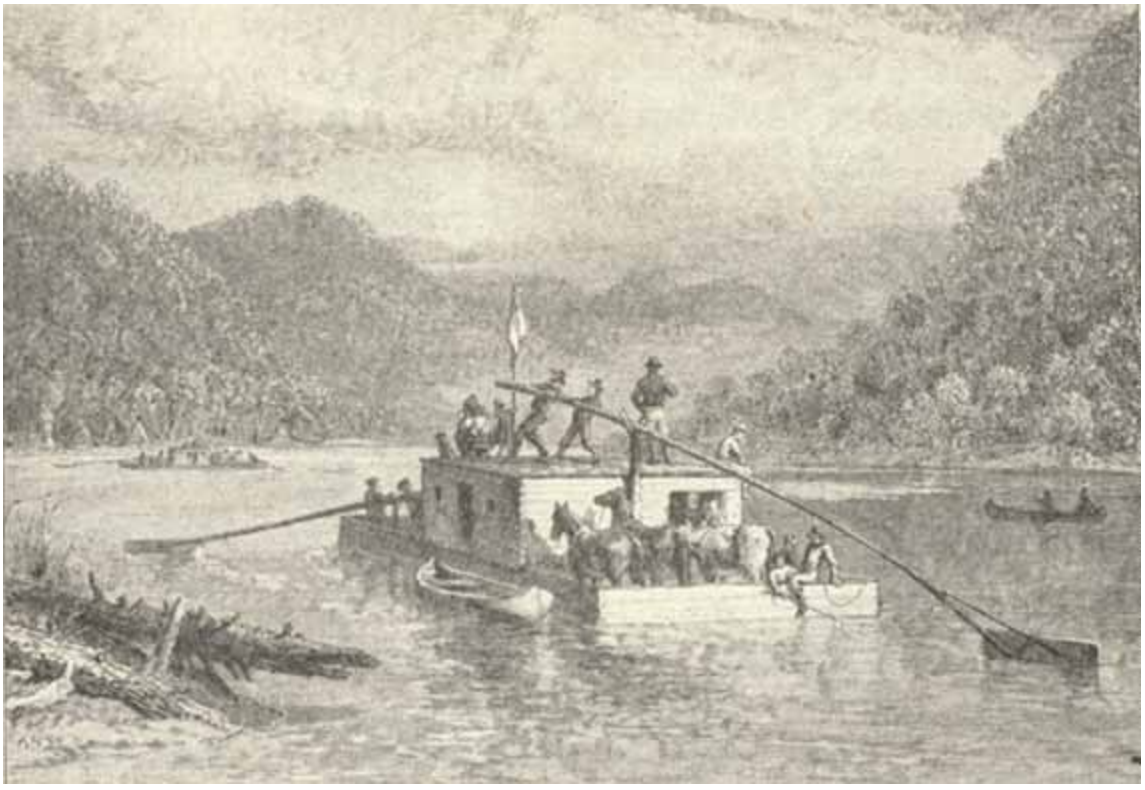
Library of Congress, American Memory, http://memory.loc.gov

Group 2: Traveler/Merchant

Document 2a. *A Journey to Ohio in 1810: As Recorded in the Journal of Margaret Van Horn Dwight*

We yesterday travell'd the worst road you can imagine- over mountains & thro' vallies- We have not I believe, had 20 rods of level ground the whole day- and the road some part of it so intolerably bad on every account, so rocky & so gullied, as to be almost impassable- 15 miles this side Morristown, we cross'd a mountain call'd Schyler or something like it- We walk'd up it, & Mrs W told us it was a little like some of the mountains only not half so bad–indeed every difficulty we meet with is compar'd to something worse that we have yet to expect- We found a house built in the heart of the mountain near some springs- in a romantic place Whether the springs are medicinal or not, I do not know- but I suspect they are, & that the house is built for the accommodation of those who go to them- for no human creature, I am sure, would wish to live there- Opposite the house are stairs on the side of the mountain & a small house resembling a bathing house, at the head of them– Soon after we cross'd the mountain, we took a wrong road, owing to the neglect of those whose duty it is to erect guide boards, & to some awkward directions given- - This gave us a great deal of trouble, for we were oblig'd in order to get right again, to go across a field where the stones were so large & so thick that we scarcely touch'd the ground the whole distance [...]

Document 2b. The flatboat was the cheapest of the many types of boats and became the standard conveyance for families moving west. All of the boats in this period were hand-powered, using poles or oars for steering, and usually just floated with the current. Unwieldy flatboats were not intended for round trips since they couldn't fight the current for the return journey. This vessel both carried families to new homes in the Ohio Valley and transported goods down the Ohio and Mississippi rivers to market. Once in the Mississippi port of New Orleans the boats were broken up and sold for firewood. The traders would then spend weeks in slow and laborious travel either walking or riding home. Source: http://www.georgianindex.net/America/barge/mississippi.html

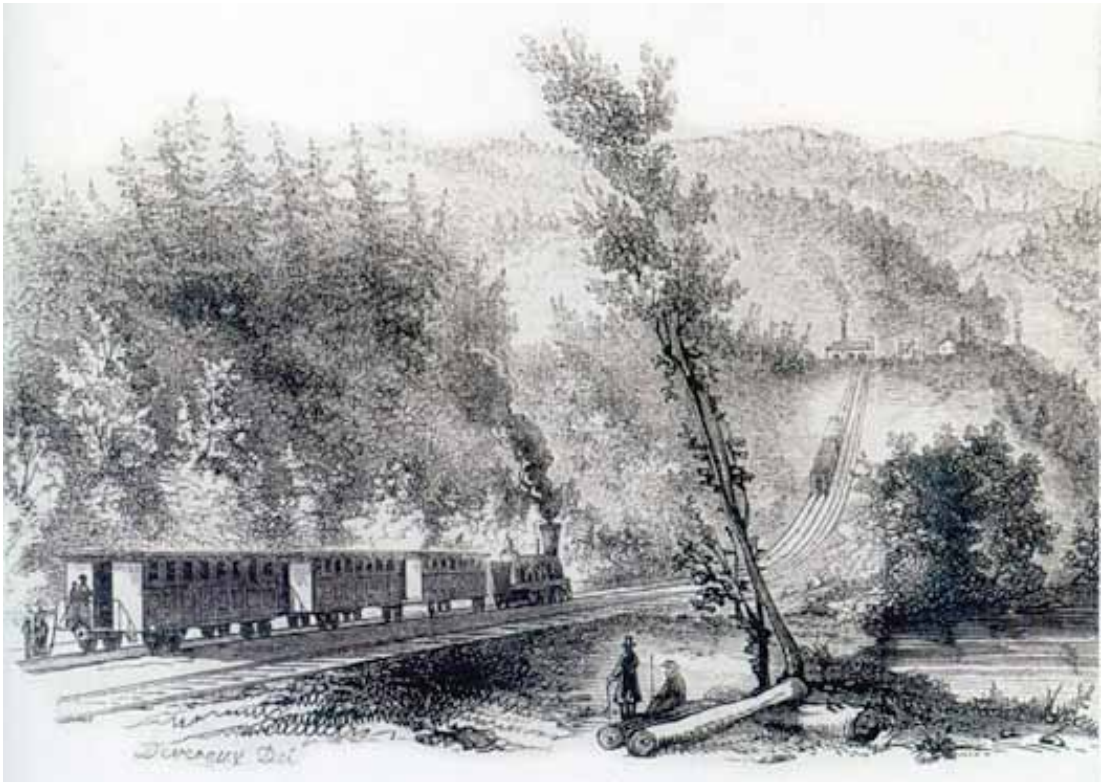


Document 2c. Ralph Waldo Emerson, *The Conduct of Life* (1860). In the following excerpt, Emerson talks about the possible effects of using steam power to bring the agricultural produce of the old Northwest (today we call this area the Midwest) to the East by way of steam-powered railroads.

A clever fellow was acquainted with the expansive force of steam; he also saw the wealth of wheat and grass rotting in Michigan. Then he cunningly screws on the steam-pipe to the wheat-crop. Puff now, O Steam! The steam puffs and expands as before, but this time it is dragging all Michigan at its back to hungry New York and hungry England. Coal lay in ledges under the ground since the Flood, until a laborer with pick and windlass brings it to the surface. We may well call it black diamonds. […] When the farmer's peaches are taken from under the tree, and carried into town, they have a new look, and a hundredfold value over the fruit which grew on the same bough, and lies fulsomely on the ground. The craft of the merchant is this bringing a thing from where it abounds, to where it is costly.

Document 2d. Lithograph entitled, "Crossing of the Allegheny, Pennsylvania Railroad" from the 1850s.

Source: http://www.funimag.com/funimag28/Allegheny01.htm



Group 3: Woman

Document 3a. This photo shows a typical hearth found in the late 18th century. Source: http://atlanticportal.hil.unb.ca/acva/loyalistwomen/en/context/gallery/hearth.html

Document 3b. A housewife "blacking" the cast-iron stove in her kitchen.. Source: http://www.jaha.org/edu/wagner_house/ideal/index.html

Document 3c, from *More Work for Mother*, by Ruth Schwatz Cowan

The impact of those [cast-iron] stoves [around 1840s and 1850s] on the houses in which they were installed is not difficult to discern: stoves were labor-saving devices, but the labor that they saved was male. The important activity that was radically altered by the presence of a stove was fuel gathering; if a stove halved the amount of fuel that a household required, it thus halved the amount of work that men had to do to in cutting, hauling and splitting wood. […] The conversion from hearth to stove may well have [led to] more work for mother, rather than less. One of the advantages of the stove—according to contemporary cookbooks—was that different kinds of cooking (say, fast boiling, slow simmering, and baking) could be accomplished with the same fire […] It was possible for her to boil potatoes, simmer a soup, and bake an apple pie for dinner all at the same time […] The stove, in short, [led to] the death of one-pot cooking or, rather, of one-dish meals—and, in so doing, probably increased the amount of time that women spent in preparing foodstuffs for cooking.

America's Greatest History Attraction®

High School Lesson Plan 22

Debbie McConnon, Temple Baptist Academy, Powell, TN

Title of the Lesson: Home Improvement Plan

Grade Level: 11-12

Overview: This lesson is designed to introduce the student to Henry Ford's idea that better wages would ultimately create better living conditions in the home and that improvements in life at home would lead to happier and more productive workers. The emphasis will be on the assessment of the worker's homes. The lesson is intended to be analytical in nature.

Central Question: Is there a direct correlation between home life and work performance?

Learning Objectives: TSW understand the "5 Dollar Day" plan introduced by Henry Ford in 1914.
TSW recognize the wage increase was linked to the condition of a worker's home.
TSW analyze primary source documents related to the plan and the home inspections to determine the positive and /or negative consequences of the plan.
TSW determine qualities they would look for during a home inspection.
TSW identify social conditions that led workers to accept home inspections

Assessment Tools: Complete Introduction worksheet
Answer DBQ related to Five Dollar Day home inspections
Create a home inspection form based on their own ideas of home improvement

Key Concepts: Henry Ford and the Five Dollar Day Plan
Economic conditions in the life of a factory worker
Management and labor relations

Evidence Sources: *Lambre, Kathy. "Getting the ducks out of the bathtub: the hygiene and Americanization campaigns of the Ford Sociological Department, 1914-1921" www-personal.umd.umich.edu/FiveDollarDay*
Photos and documents – *"Teaching American History Project – The Progressive Era"*
Ford Motor Company labor photos – *Benson Ford Research Center – Acc. 1660*
Ford Motor Company documents – *Benson Ford Research Center – Acc. 280*

Time Frame: Two 90-minute class periods

Instructional Sequence: Introduction and Background of the 5 Dollar Day Plan:

*Show Images 1-3 to introduce lesson theme

*Explain that $5 a day doubled the worker's paycheck. Students should answer Question 1 on worksheet.

*Discuss Ford's assumption that the home and the factory influenced each other. Students should answer Question 2 on worksheet.

Putting the Plan into Practice

*Allow students to view before and after photos of Ford factory worker's homes.
Point out living conditions of the period.

*Handout copies of Ford Motor Company inspection forms.
Students should answer DBQ 1.

Analyzing the Plan

*Handout Quotes 1 and 2.
Students should answer DBQ 2

Expanding the Plan

*Use breakout groups to design a different Home Inspection form for the Ford Motor Company

Anticipated Challenges: Lack of understanding regarding impact of 5 dollar day because of today's rate for minimum wage – explain that Ford nearly doubled the rate of hourly pay for many workers. Unaware of living conditions of industrial workers in early 20th century - establish worker living conditions through use of period photos.

During the early years of the 20th century American industrialist Henry Ford was becoming a very wealthy man. This wealth was the result of his production of the Ford "Model T".

Image 1

One way Henry Ford spent his money was building an estate on the Rouge River near Detroit, Michigan. He enjoyed living in a beautiful home and being surrounded by beautiful objects.

Image 2

By 1914 Henry Ford decided to "share the wealth". He introduced a daily wage of $5 to his factory workers. To receive the $5 plan, the workers had to permit inspections of their own homes. Henry Ford thought better pay meant a better life at home and a better life at home meant a better worker on the job.

Image 3

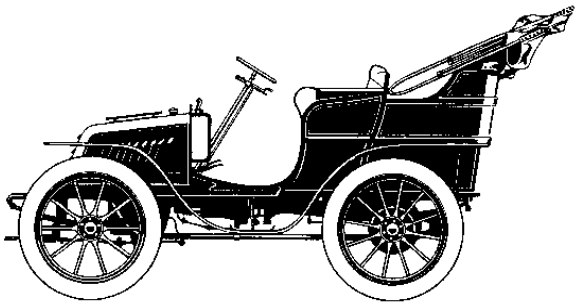
"The rate of turnover fell from 370% to 16% in 1915. (It went back up to 51% by 1918.) Absenteeism declined dramatically too. Meanwhile, productivity went up, as did the number of Ford workers who had insurance, owned a home, had a savings account, and were married. Also, from what can be measured, drinking decreased"

taken from FiveDollarDay www.personal.umd.umich.edu

"Although the Sociological Department (of the Ford Motor Company) seems heavy-handed to modern readers, much of what went on was not particularly more aggressive than other social programs of the day; the main difference was that Ford Motor Company put the entire package together"

taken from "Getting the duck out of the bathtub: the hygiene and Americanization campaigns of the Ford Sociological Department, 1914-1921" by Lambe, Kristy

"The Five Dollar Day"



Question 1: The Five Dollar Day nearly doubled the pay for Ford's workers. If you earned $7.50 an hour at work and your boss decided to raise your pay to $15.00 an hour, how would your spending habits change? List at least five specific changes that would occur.

1._____

2._____

3._____

4._____

5._____

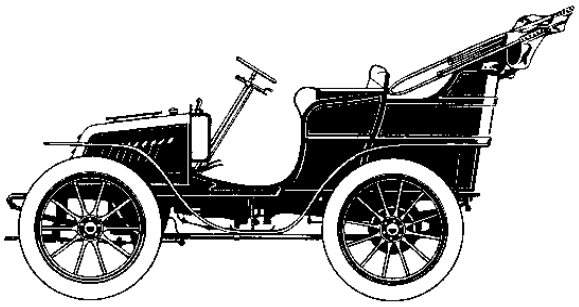
Question 2: How do you think the new raise would affect your life at home? List at least three changes that would occur at home.

1._____

2._____

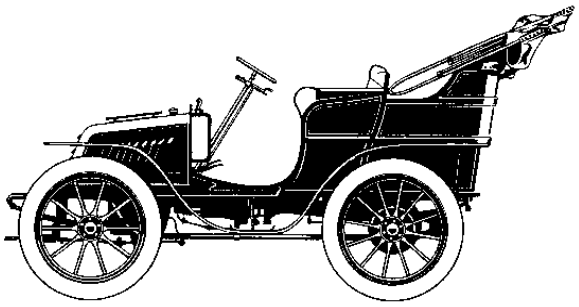
3._____

"The Five Dollar Day"



Essay 1: Study the before and after images of the worker's homes. Study the inspection forms. Explain the ways, positive or negative, that the home inspections changed the lives of the workers. What do you think the workers gave up to be a part of the plan? If you were a Ford factory worker in 1914 would you allow the home inspection? Why or why not?

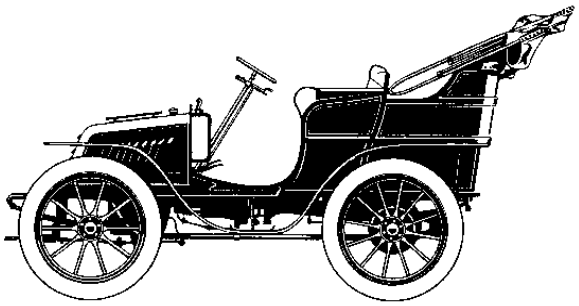
"The Five Dollar Day"



Essay 2: Read the two quotes about the Five Dollar Day. Do you think the results in the factory support Henry Ford's belief that a better home produces a better worker? Why or why not? Do you agree that a worker in 1914 was more likely than today's worker to allow a company inspection of their private home? Explain why or why not?

FORD MOTOR COMPANY

HOME INSPECTION FORM



Design your own inspection form to be used by the Sociological Department of Ford Motor Company in 1915.

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High School Lesson Plan 23

Mary Catherine Monroe, Venture Alternative High School, Arlington, TX

Title of the Lesson: Changing the Economic Equation for Workers or Controlling Their Lives

Grade Level: 11

Overview: Students will explore the origin and implementation of Henry Ford's Five Dollar a Day wage structure and its impact on the Ford workers.

Central Question: How successful was the Five Dollar a Day Plan and was it worth it to the workers in the long run?

Learning Objectives: Students will read background on Henry Ford, the manufacture of the Model T, the continuing problems of employee turnover, the creation of the Five Dollar a Day Wage Plan, and both positive and negative comments about the plan in order to assess its impact on Ford Motor Co. workers.

Assessment Tools: Students will write a 500 word essay reflecting on (1) what they see as the positives and negatives of the Five Dollar a Day Plan and (2)whether they would be willing to participate in a similar plan today.

Key Concepts: Changes in manufacturing that impacted the labor force. Problems in society which impacted the productivity of the labor force.

Evidence Sources: Students will read background information on Henry Ford, thechanges in manufacturing that accompanied the production of the Model T, and the social problems in the early days of the 20th century from their U.S. History textbooks and from **The Henry Ford** web site. They will read and analyze several documents from **The Henry Ford** website. They will also discuss these sources with their instructor. Excerpts from THE FIVE DOLLAR DAY by Stephen Meyer will also be used. See pages 103, 118-121.

Time Frame: This assignment should take 2-3 class periods.

Instructional Sequence: A packet of material* will be provided including instructions on accessing **The Henry Ford** website. The student will work through the material and answer questions based on the the items included. Before writing the essay, students will consult with the instructor for an informal assessment.
*see attached list of materials

Anticipated Challenges: Individualized packet instruction is difficult for students who have limited reading and vocabulary skills.

Curriculum Links: TEKS (Texas Essential Knowledge and Skills)
Student Expectations include

Objective 1-U.S. 5B: the student will demonstrate an understanding of issues and events in U.S. History including analyzing the impact of significant individuals such as Henry Ford.

Objective 2- WG23A, WG19A, WG20A: the student will demonstrate an understanding of geographic influences on historical issues and events including giving examples of technological innovations that occurred at different periods in history and describing the changes produced by these discoveries and innovations.

Objective 3-US2B: the student will demonstrate an understanding of economic and social influences on historical issues and events including analyzing economic issues such as industrialization, the growth of railroads, the growth of labor unions, farm issues, and the rise of big business.

MATERIALS INCLUDED IN THE PACKET:

INTRODUCTORY STATEMENT: The packet is designed to expose the student to the importance of Henry Ford, the problems that accompanied industrialization for both the company and the workers, and specifically, the impact of the Five Dollar a Day wage structure plan.

INSTRUCTIONS:

FIRST, read the pages in your textbook concerning Henry Ford and the manufacture of Ford automobiles.

THEN—

1. Go online and read more about Henry Ford and answer the question
http://www.thehenryford.org/exhibits/hf/ WHAT INTERESTS YOU THE MOST ABOUT HENRY FORD?

2. Go online and read the document which is the introduction to the records of the Sociological Department of the Ford Motor Company found in the *Benson Ford Research Center* at **The Henry Ford** in Dearborn, Michigan.

www.thehenryford.org
- click on Exhibits/Collections
- click on The Collection
- click on Online Catalog
- type in Sociological Department for the keyword
- scroll to #13
- click and read the description

3. Go online and read the following documents about the Five Dollar a Day plan and answer the questions below:

http://wwwthehenryford.org/exhibits/smartfun/modelt/highlandpark/fivedollar/fivedollar.html

A. "The Five Dollar Day"—WHAT WAS THE MOTIVE BEHIND THE PLAN?

B. "Ford Again Staggers the World"(newspaper announcement)—WHAT IS THE DIFFERENCE BETWEEN WAGE EARNERS AND SALARIED EMPLOYEES

C. "Ford Factory has a Heart" (newspaper article)—NAME ONE DISADVANTAGE OF THE PLAN ACCORDING TO THIS ARTICLE.

D. "Big Employers Favor and Criticize"…. (newspaper article)— NAME ONE POSITIVE AND ONE NEGATIVE ASPECT OF THE PLAN ACCORDING TO MR. DICKSON.

E. "Ford and Some Questions" (editorial comment)—LIST ONE QUESTION ABOUT THE PLAN RAISED IN THIS EDITORIAL.

F. “Qualifications for Profit Sharing”—HOW LONG DID A WORKER HAVE TO BE EMPLOYED TO BE ELGIBLE FOR THE FIVE DOLLAR A DAY PLAN?

G. “Comparative Financial Statement of Employees” —WHAT DO YOUTHINK IS THE MOST INTERESTING STATISTIC ON THIS CHART?

H. “My Dear Mr. Ford” (letter)—WHAT IS THE “CHAIN SYSTEM” TO WHICH THE AUTHOR OF THE LETTER IS REFERRING?

4. After you have finished all the readings and discussed various points with your instructor, write a 500 word (two double spaced, typewritten pages) essay addressing what you see as both the positive and the negative aspects of the Ford Five Dollar a Day profit sharing plan AND whether you would be willing to participate in a similar plan today.**

**An additional piece of contemporary information: The Lincoln Electric Company in Cleveland, Ohio, has a “no lay-offs” policy. The company promises that it will not lay off employees in tough economic times provided the employee is willing to work overtime when the company is busy and reduce their hours in a time of recession. The company monitors the workers’ speed of production. Workers lose their jobs if they don’t “measure up.” Go online to the Lincoln Electric Company website and read about the company’s policies.
www.lincolnelectric.com/corporate/career/openings.asp—–

America's Greatest History Attraction®

High School Lesson Plan 24

Alexander Bohl, Chalmette High School, Chalmette, LA

Title of Lesson: Cotton, Slavery, and the Constitutional Convention

Grade Level: 10

Overview: The student will take part in growing cotton without the conveniences of modern machinery to understand the desire for forced human labor in Southern agriculture.

Central Question: How did economic development in the South contribute to the Constitutional protections of slavery during the Constitutional Convention?

Learning Objective: The student will be able to describe the hardships involved in growing cotton, the economic benefits and costs this crop brought to the Deep South, and how technological advancements have increased our overall economic well-being.

Assessment Tools: The student will be assessed via thorough discussions that apply relevant GREs to the activities, completion of hands-on activities, 6 + 1 writing assignments, and a formal unit test.

Key Concepts: How supply and demand affect producers and consumers, factors of production, and compromises in the U.S. Constitution.

Evidence/Sources Tallies kept by teacher during discussions, grown and processed cotton, student writings, and formal assessments.

Time Frame: Four days scattered throughout a semester.

Instructional Sequence: The students will visit the Laura Plantation and will observe a presentation on the Susquehanna Plantation in addition to planting cotton on the school grounds.
Beginning of semester: Plow small field and plant cotton

Second day: Tend to cotton

Third day: Harvest cotton

End of semester: Spin cotton

Student Project Ideas: Students can research the lives in slaves in south Louisiana, abolitionists of the late 18th century, or founding fathers.

Anticipated Challenges: Receiving permission to plant cotton on the school grounds will be difficult as will be finding appropriate tools from the late 18th century.

Curriculum Links: Louisiana Grade-Level Expectations (Free Enterprise)

7. Define *productivity* and characterize the relationship between productivity and standard of living (E-1A-H2)

9. Identify actions or conditions that increase productivity or output of the economy (E- 1A-H2)

13. Compare contemporary and historic economic systems (e.g., ownership and control of production and distribution, determination of wages) (E-1A-H4)

19. Analyze the importance of labor-management relations and the effects of given labor and management practices on productivity or business profitability (E-1A-H6)

21. Explain ways in which businesses have changed to meet rising production costs or to compete more effectively in a global market (E-1A-H6)

27. Explain, analyze, and apply principles of supply and demand, including concepts of price, equilibrium point, incentives, and profit (E-1B-H1)

29. Explain the role of *factors of production* in the economy (E-1B-H2)

48. Define productivity and characterize the relationship between productivity and standard of living (E-1C-H1)

54. Predict the consequences of investment decisions made by individuals, businesses, and government (E-1C-H2)

60. Explain factors contributing to unequal distribution of income in a market economy (E-1C-H3)

Louisiana Grade Level Expectations (Civics)

14. Examine constitutional provisions concerning the relationship between federal and state governments (C-1A-H4)

17. Examine the meaning, implications, or applications of the U.S. Constitution (e.g., the Bill of Rights, Fourteenth Amendment) (C-1A-H5)

26. Explain how European philosophers (e.g., Rousseau, Locke, Montesquieu, Voltaire) helped shape American democratic ideas (C-1B-H1)

27. Analyze central ideas in an American historical document and explain the document's significance in shaping the U.S. Constitution (C-1B-H1)

28. Explain the meaning and importance of principles of U.S. constitutional democracy in American society (C-1B-H1)

29. Assess the importance of the U.S. Constitution as the Supreme Law of the Land, and ways in which U.S. constitutional government has helped shape American society (C-1B-H1)

30. Identify and describe examples of freedoms enjoyed today but denied to earlier Americans (C-1B-H1)

31. Explain issues involved in various compromises or plans leading to the creation of the U.S. Constitution (C-1B-H2)

32. Interpret, analyze, or apply ideas presented in a given excerpt from any political document or material (e.g., speech, essay, editorial, court case) (C-1B-H2)

33. Analyze a given example of American political or social conflict, and state and defend a position on the issue (C-1B-H3)

34. Analyze discrepancies between American ideals and social or political realities of life (e.g., equal protection vs. Jim Crow laws) (C-1B-H4)

51. Analyze an amendment or law concerning the rights of citizens in terms of their effect on public policy or American life (e.g., Nineteenth Amendment, Americans with Disabilities Act) (C-1D-H1)

55. Evaluate current and past political choices that individuals, groups, and nations have made, taking into account historical context (C-1D-H3)