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 Summer Scholars of 2011
America's Industrial Revolution at **The Henry Ford**

2011 Summer Scholars for *America's Industrial Revolution* at The Henry Ford

July Workshop Summer Scholars

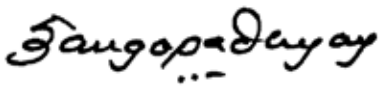
August Workshop Summer Scholars

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 weeklong teacher workshops supported by the National Endowment for the Humanities.

Workshop participants spent mornings discussing their passion for American history with distinguished university professors; middays 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
Chief Learning Officer, The Henry Ford
Project Director, NEH Teacher Workshop

These lesson plans have been created by the 2011 NEH Landmarks of American History and Culture Workshop at The Henry Ford Summer Scholars. Some of the images and resources used and cited in these lesson plans are not from the collections of The Henry Ford nor are they affiliated with The Henry Ford in any way.

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Lesson Plans Developed by the 2011 *America's Industrial Revolution* at The Henry Ford Summer Scholars

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Workshop Staff

America's Greatest History Attraction

Jennifer Drotar, Coyote Ridge Elementary, Broomfield, CO
Nancy Larkin, Cotton Creek Elementary, Westminster, CO

Title of the Lesson/Activity: What Makes a Tall Tale Tall?

Grade Level: 3rd grade

Overview: We use an approach to teaching built around historical or social-scientific problems to drive learning. Students begin with these questions, gather and analyze evidence, interpret other people's explanations (including teachers and textbooks) and then create their own explanations or answers to the questions or problems. This is a simple but useful format plan for designing lessons or activities using this approach.

While booktalking Tall Tales, the librarian will share actual primary documents/photographs so that students can delineate between fiction and nonfiction. They will have more in-depth background knowledge as well.

Central Question/Problem: What events in history can be tied to Tall Tales?

Learning Objectives:

-Create engaging audio recording of story that demonstrates fluid reading at an understandable pace. Add visual displays when appropriate to emphasize or enhance certain facts or details.
-Engage effectively in a range of collaborative discussions.
-Analyze multiple accounts of the same event, noting important similarities and differences in the point of view.
-Draw information from multiple print or digital sources.
-Conduct short research project that builds knowledge about a topic.

Assessment Tools: Rubric for creating an online audio recording

Key Concepts:

-Coal Mining
-Role of Women in the Industrial Revolution
-Agriculture
-Changing the Use of Natural Resources
-Westward Expansion

Evidence/Sources: The evidence and resources that students will use in analyzing Tall Tales include photographs, primary sources located on the Library of Congress Primary Sources website and The Henry Ford website.

Duration: This unit can be taught in a 1-week period.

Instructional Sequence

1. Introduce Tall Tales by providing students with many Tall Tales to read and determine the characteristics of Tall Tales. Students will discover the following characteristics:
    -The main character accomplishes great feats using strength, skill and wit.
    -The main character often has a powerful animal or object that helps him/her.
    -The author uses exaggeration and humor. (Details describe things as greater than they really are)
    -The story explains how some familiar things began or some geographical formations came to be.
    -The hero has a colorful way of speaking.
    -The main character represents a specific job of someone living in the time period the story is set.
    -The hero does not like what others call progress.
    -Often the hero dies or disappears

2. Librarian presents the following titles (or any other Tall Tales) to the students:
    -*Cut from the Same Cloth, American Women of Myth…* by Yolen et al.
    -*McBroom's Wonderful One-Acre Farm* by Fleischman
    -*Roy Makes a Car* by Lyons
    -*Railroad John and the Redrock Run* by Krunk
    -*Stormalong* by Metaxas
    -*Swamp Angel* by Isaacs
    -*Kissimmee Pete and the Hurricane* by Day
    -Books authored by Steven Kellogg
    -Tall Tale Characters:
    Paul Bunyan, Pecos Bill, Mike Fink, Johnny Appleseed, John Henry, Sally Ann Thunder, Jim Bridger, Davy Crocket, Casey at the Bat, Casey Jones, Slimfoot Sue, Daniel Boone, Calamity Jane, Joe Magarac

3. Groups of 3 students select a Tall Tale to read and record the 8 elements of a Tall Tale found in their book.

4. Introduce students to primary source documents/websites predetermined for their character.

5. Groups record historical events on a graphic organizer based on information from primary source documents/websites.

6. Students compare and contrast, forming several conclusions about the inaccuracies/exaggerations in the Tall Tale and share with the class.

7. Groups select a topic from the Industrial Revolution (limited resources and unlimited wants and needs, American expansion) and write their own Tall Tale to share in a digital format.

Student Project Ideas: Podcasting, digital storytelling, VoiceThread

Anticipated Student Conceptions or Challenges to Understanding: Access to high-speed internet, a computer lab and experience with digital tools and a school librarian may not be available. Events of the Industrial Revolution can be rather sophisticated to understand; therefore the teacher will need to assess student's understanding. Group dynamics can be challenging.

Curriculum Links:

-Use a variety of sources to distinguish fact from fiction.
-Describe the history, interaction and contribution of various peoples and cultures that have lived in or migrated to a community or region.
-Observe and describe the physical characteristics and the cultural and human features of a region.
-Employ drama and theater skills and articulate the aesthetics of a variety of characters and roles.

Stephanie Eau Claire, Lincoln Academy, Pleasant Grove, UT

Title of the Lesson/Activity: Industrial Revolution in the West

Grade Level: 4th Grade

Overview: This lesson will explore how Utah pioneers experienced the Industrial Revolution. This will be taught as part of a larger unit on Utah pioneers, who they were, why they came to Utah and what their life was like. This lesson will mostly fit with what the pioneer life was like.

Central Question/Problem: How did the Industrial Revolution affect those who moved west?

Learning Objectives: Students will know what improvements/ changes were made to pioneers' lives because of industrialization.

Assessment Tools: A written assessment and student's journal prompts will allow students to answer questions about how the way of life was changing during the 1840s to 1890.

Key Concepts:

-Pioneer household tools changed.
-The transcontinental railroad and its implications.

Evidence/Sources:

- PowerPoints and personal photos from Industrial Revolution workshop and Scholars.
- Household – how homes used to self-sustain and transitioned to women at home, men away from home working at jobs.
- Steam power – how trains and steamboats transformed life – in Utah, when the train came through, mining took off, because now it could be transported. Also goods came through what was before a desolate, rugged place.
- Primary source pioneer journals – online resource.
- Field Trips to Daughters of Utah Pioneers, This Is the Place State Heritage Site, Wasatch Mountain Sate Park Huber Family Homestead – all of these places have resources and relics from the 1840s to 1890 showing what pioneer life was like, including the home, work, and farming.

Duration: 4 weeks via an existing Utah Pioneers Social Studies Unit

Instructional Sequence:
Introduce the concept of "technology."

After introducing Mormon pioneers and their trek west with handcarts, discuss what technologies we use today to travel long distances. This should lead to a discussion about cars, trains, airplanes and boats. Make a list, or keep track in some way, how students travel today. Transition the discussion into how other things are achieved today vs. in the 1840s. This should bring up things like communication, entertainment and work. Use worksheet Now and Then to compare.

Using PowerPoints on women's work, and Farm tools, show students how home life changed from 1840 to 1890. Discuss the impact of the improvements. Discuss how easy/difficult it may have been to keep up with new technologies.

Using PowerPoint on steam technologies, show students how farming and transportation were affected by industrialization. Show photos of farm equipment from Industrial Revolution workshop. Assignment: Write a letter (as if it was 1870) telling a relative how the railroad has affected your life in Utah.

Look at today's modern technology. Ask students to think about how quickly they jump on the bandwagon. Do they buy new devices immediately or wait for the bugs to get worked out? How many tools do they still use that have not been improved (kitchen tools, yard tools…)? If Pioneers had come 20 years later, would they still have used handcarts? Ask students to predict what new technologies will be invented or improved. Share their answers with a buddy, then discuss as a class.

Student Project Ideas: At home, students could try to give up one or more pieces of modern technology for a day. This could be anything from an iPod or TV to lights. Write about the experience for extra credit.

Curriculum Links:
Utah Social Studies Grade 4 Objective 2 ; strands a and b:

a. Identify key events and trends in Utah history and their significance (e.g. American Indian settlement, European exploration, Mormon settlement, westward expansion, American Indian relocation, statehood, development of industry, World War I and II).

b. Compare the experiences faced by today's immigrants with those faced by immigrants in Utah's history.

Name _____

Now and Then

Write what tools/devices you think may have been used in the 1840s vs. what tools you would use today for each task.

1840s	NOW
Making bread	
Writing a letter	
Cleaning the house	
Moving to a new house	

America's Greatest History Attraction

Resa Mai, Truscott Elementary School, Loveland, CO

Title of the Lesson/Activity: Understanding How Machines Evolved to Help People

Origins: Simple machines

Grade Level: 2nd grade core knowledge

Overview: Building on the concept of simple machines, we will study and learn how tools evolved from simple machines into complex machines used today. Using photographs, tool examples and video clips, the students will be exposed to various tools and machines through history.

Central Question/Problem: How do tools help us do things? Why did people change the tools they use?

Learning Objectives: Students will understand how tools make work easier, how tools have changed over the years and how tools make work more efficient.

Assessment Tools: Students will be assessed based on their ability to identify simple machines (lever, wheel and axle, wedge, pulley) and discuss uses in current tools

Key Concepts: Students will know how to identify and discuss uses of lever, wheel and axle, wedge and pulley in everyday use. Students will be able to discuss origins of current tools.

Evidence/Sources: Students will be able to identify examples of tools in everyday use at home, school and around town.

Duration: 2 weeks with 1 session each week

Instructional Sequence:

Day one

5 minutes – Introduction of process
10 minutes – Review of simple machines
10 minutes – Examination of new and complex machines
5 minutes – Closing discussion

Day two

5 minutes – Review

10 minutes – Student assignment to identify simple machines and tools around their home or school.

10 minutes – Discussion of tools found and how they have evolved from simple machines.

5 minutes – Close and reflect back on "How tools help us do things and why people change the tools they use."

Student Project Ideas: Take photos of machines and find photos of early machines.

Anticipated Students Conceptions or Challenges to Understanding: Students who are aware of the simple machines and tools in their lives will be asked to identify timelines of tools through history, while students who are still working to grasp the concept of simple machines will be given visual clues through photographs and media presentations.

America's Greatest History Attraction

Lisa Mertz, Chief Shikellamy Elementary School, Sunbury, PA

Title of the Lesson/Activity: Who Is Henry Ford?

Grade Level: 2nd/3rd Grade

Overview: Students complete a KWL chart along with the book *Let's Drive, Henry Ford!* After learning what a museum is, they watch the DVD *The Henry Ford* and each completes one wall of Build an Exhibit to be printed and turned into a class booklet.

Central Question/Problem: Who is Henry Ford? What is The Henry Ford?

Learning Objectives:

-Students will be able to retell about Henry Ford's life and some of his accomplishments.
-Students will be able to define "museum."
-Students will each complete a wall of Build an Exhibit to create a class book.

Assessment Tools: KWL chart, wall of Build an Exhibit, final class booklet

Key Concepts: Henry Ford, assembly lines, America's change from farm (rural) life to factory (urban) life, introduction of affordable automobiles to Americans

Evidence/Sources:

-*Let's Drive, Henry Ford!* by Peter and Connie Roop (GR level N)
-*The Henry Ford* DVD from the Great Museums series
-Teacher's personal photos
-Build an Exhibit on www.thehenryford.com

Duration: 4-6 classes

Instructional Sequence:

Start with a picture of the cover of *Let's Drive, Henry Ford!* After the students look at it, have them fill out the K (What I Know about Henry Ford) portion of a KWL chart. Younger children can do this as a whole group activity with the teacher modeling. More advanced students could copy onto their own charts or complete their own and share their responses.

Students then generate questions for the W (What I Want to Know about Henry Ford) portion of the chart. The book is then presented. It can be read to younger children.

More capable children can read it on their own. The book has 10 short chapters and can be divided into different lessons depending on the students' ability. During the reading, depending on the children's background knowledge, discussion and examples can be added to the topics of the Industrial Revolution and the assembly line. At this point, the students fill in the L (What I Learned about Henry Ford) portion of the chart. Point out Dearborn, Michigan, on a map and tell about The Henry Ford, one of Ford's great achievements. Define a museum.

Show the DVD *The Henry Ford*. Review the definition of a museum. Have a discussion about what artifacts the students would choose to place in a museum. Then go to www.thehenryford.com and demonstrate how to Build an Exhibit. Each child will then choose three artifacts to complete one wall of the exhibit. These will then be printed out, and they will complete a form: The three artifacts I chose are:_____. I chose these artifacts because:_____. All of this will then be compiled into a group book.

The book can be copied so students can have personal copies to share with their families.

Alice Nishimoto, Rice Elementary School, Rosemead, CA

Title of the Lesson/Activity: Transportation in the 19th Century and Its Evolution

Grade Level:5th grade

Overview: Students will examine transportation in the 19th century by brainstorming and learning why and how transportation evolved in America. Students will view a PowerPoint presentation with emphasis on the train and the first automobile.

Central Question/Problem: What are the different forms of transportation used in America during the 19th century, and what are the causes for the changes?

Learning Objectives: Students will learn about the various transportation systems used in the colonies during the late 1700s to the early 1900s.

-Students will research an inventor and present on a PowerPoint. Included in the report will be a picture, a quote, early life, map and the main accomplishment.

-Students will be able to label on a map the areas that were settled from the 1700s to 1800s.

Assessment Tools: Thinking Maps, PowerPoint presentation, U.S. map with locations and geographical features labeled.

Key Concepts: Transportation evolved from physical labor, horse-drawn power, steam-powered engines to internal combustion for efficiency and profit.

The locations of rivers, goods and availability of resources determined what transportation was used and the development of market towns.

There were people who took risks as well as being innovative.

Changes made people feel uneasy and dehumanized, and there was apprehension with new transportation, even though it brought costs down and made work easier.

Evidence/Sources: (References I used to develop the PowerPoint)

-Reading: Gordon, Sarah H. *Passage to Union: How the Railroads Transformed American Life 1829-1929.*
-Reading: Hounshell, David A. *From the American System to Mass Production 1880-1932*
-Reading: Casey, Robert. *The Model T: A Centennial History*
-Marc Greuther curator notes and guest speakers Marty Hershock and Robert Casey
-Photos from www.collectionsthehenryford.org
-Teacher photos from Greenfield Village and the Henry Ford Museum

Duration: 2 weeks

Instructional Sequence:

1. Brainstorm: What forms of transportation does our society have either today or in the past? Students will brainstorm and answers will be charted.

2. Cooperative Group Discussion: Have students put the transportation ideas in chronological order from early to most recent.

3. PowerPoint: Students will view PowerPoint developed by teacher. The purpose of the PowerPoint is to model a presentation, show how a person is featured in a PowerPoint and to give information about how that person took a risk through innovation.

4. Discussion: What are the reasons why transportation changed?

5. Students will work in cooperative groups. Each student in a group is responsible for taking one of the key concepts:
    a. History of one form of transportation
    b. Map of U.S. with location of rivers, mountains and major towns identified.
    c. Research on a famous person

6. Students will develop and present their PowerPoint presentation on Google docs.

Student Project Ideas: At the same time, students may be asking if they could research an explorer since 5th-graders do study about exploration to the New World. I would allow them to do this as long as they include the information required above.

Anticipated Student Conceptions or Challenges to Understanding:

-Students will need to learn how to access The Henry Ford Collections.
-Students will need instruction on Google Docs or PowerPoint.
-Students will also need to know that using the train as a means of transportation and developing the first automobile were going on at the same time – that it was a process of transition from technology to better technology.
-Students need to understand that changes were not easy, even though work was supposed to be made easier.

-For resources, students will be using school and classroom libraries and computer resources: www.askjeeves.com; www.wikipedia.org; www.yahookids.com

Curriculum Links: California Social Studies Standards
5.8 Students will be able to trace the colonization, immigration, and settlement patterns of the American people from 1789 to the mid-1800s, with emphasis on the role of economic incentives, effects of the physical and political geography, and transportation systems.

-Students will research the waves of immigrants from Europe between 1789 and 1850 and their modes of transportation into the Ohio and Mississippi Valleys and through the Cumberland Gap (e.g., overland wagons, canals, flatboats, steamboats).

-Students will be able to name the states and territories that existed in 1850 and identify their locations and major geographical features (e.g., mountain ranges, principal rivers, dominant plant regions).

-Students will develop PowerPoint presentations on their knowledge of the explorations of the trans-Mississippi West following the Louisiana Purchase (e.g., Meriwether Lewis and William Clark, Zebulon Pike, John Fremont).

Samara Taylor, Parker Elementary Pre-K-8, Detroit, MI

Lesson Plan Title: Cornfield Calculations

Grade Level: Grades 5-8 Mathematics/U.S. History

General Goal(s): Students will be able to make a connection with the farmers of the Industrial Revolution by calculating various agricultural planting fields.

Specific Objectives: Students will multiply and divide fractions. Students will make connections with the beginnings of human society.

Required Materials: Graph paper, calculators, rulers

Anticipatory Set (Lead-In): Students will already have background knowledge of agricultural society through videos, pictures and lecture information. Students will calculate various aspects of the land.

Step-By-Step Procedures: Teacher will model how to complete a problem; students will follow and work in cooperative groups. Example story problem: A farmer will plant 3 varieties of corns in a field; he has 425 acres of land. Use graph paper to model how the farmer should plot the land. Label each section; show all work.

The first variety yields one ear of corn per plant. If the farmer plants 1/3 of his 425 acres, how many bushels will he get from this variety?

The second variety produces two ears. If the farmer plants ½ of his acres in this variety, how many bushels can he expect from this variety?

The third variety produces two ears. If the farmer plants the rest of his acres in this variety, how many bushels can he expect from this variety?

What is the total yield the farmer can expect from his harvest?

How much would the farmer receive from his corn at $2.40 a bushel?

Plan for Independent Practice: Students will be given at least five fraction practice problems.

Closure (Reflect Anticipatory Set): A representative from each group will display their graph and explain how they calculated their answers.

Adaptations (for Students with Learning Disabilities): Students will be given pre-cut pictures to plot the farmer's land and will have simplified problems for the fraction problems.

Extensions (for Gifted Students): Students will be able to represent their data using computer software.

Possible Connections to Other Subjects: American History

Standards Addressed:

Mathematics:

- Number and multiply and divide fractions
- N.FL.06.04 Multiply and divide any two fractions, including mixed numbers, fluently.

History Interdisciplinary connection:

- W1 Beginnings of Human Society

America's Greatest History Attraction

Jeremy Volkmar, Prairie du Rocher Elementary, Prairie du Rocher, IL

Title of the Lesson/Activity: Graph That Yield

Grade Level: 2nd or 3rd Grade

Overview: Students will compare the yields of corn and wheat during the colonial period, the turn of the 20th century and current harvest year. After researching and interviewing to gather the required data, students will then create a bar or line graph.

Central Question/Problem: How has crop production increased or decreased with the adoption of mechanization and modern crop science?

Learning Objectives:

-Students will gather data from the 3 indicated time periods.
-Students will determine the appropriate graph to display their data.
-Students will examine their graph to determine the impact of mechanization and crop science on crop yield.

Assessment Tools: Students will be assessed using informal teacher observations while creating the graph. The teacher will review student data before and after the graph is created. The student's written response to the central question.

Key Concepts: How the impact of mechanization and crop science (both products of the Industrial Revolution) had on crop yields for the past 200 years.

Evidence/Sources:

-The R. Douglas Hurt lecture and publication *Agriculture: A Brief History*
-The United States Department of Agriculture website
-Local Farm Bureau
-Personal interviews conducted by students
-Photos of farm implements and machinery taken during the workshop

Duration: 1 or 2 math classes (45 minutes in length)

Instructional Sequence:

-Introduce/develop the background knowledge/vocabulary: yield, bushel, line graph, bar graph.
-Discuss farming methods of colonial period as compared to today (develop idea of mechanization).
-Divide the students into groups of 4 (can vary with class size).
-Students will examine the Hurt resources to determine the yield of the colonial period.
-Students will then examine the information provided by the local farm bureau to determine crop yield at the turn of the 20th century.
-Students will share the results of their interview about current crop yield with a local farmer.
-Students will discuss which type of graph they will utilize.
-Students will create the graph.
-Students will report their findings to the class.
-Whole-class discussion on why the crop yields have increased or decreased and the role that farm machinery science had on crop yield.

Student Project Ideas:

-Homework–interview with local farmer
-Graph showing crop yield

Anticipated Student Conceptions or Challenges to Understanding:

-Students may have difficulty going through the reading material to find the data.

Curriculum Links:

Common Core Standards Correlation:

-Math: Measurement and Data Standard 10
-English Language Arts and Literacy in History/Social Studies, Science and Technical Subjects:
Reading standard for informational text (Craft and Structure #5)
Writing standard (Research to Build and Present Knowledge #7 and #8)
Speaking and listening standard #1

Extension Activities:

-Have students write paragraph(s) comparing and contrasting early farm implements/machines with those utilized today.

Michele Anderson, John Glenn High School, Westland, MI

Title of the Lesson/Activity: Turn of the Century Automobile Advertising

Grade Level: High school or middle school

Overview: Students will evaluate different automobile advertisements from the early 1900s and work with a partner to identify the reasons why consumers purchased one kind of automobile versus another at the turn of the century. The partners will then select the automobile they would most likely have purchased, basing their decision on the social and economic demographics they were provided with at the beginning of the lesson.

Central Question: What factors caused people at the turn of the century to purchase different types of automobiles?

Learning Objectives: Students will:

- Identify factors that caused people to purchase automobiles.
- Compare and contrast automobiles at the turn of the century.
- Analyze reasons why others may disagree with the student's decision.
- Recognize automobile companies from the turn of the century.

Assessment Tools:

- Copies of two automobile advertisements from the student's given time period
- The completed Double Bubble Thinking Map (Venn diagram)
- A short essay
- Pre- and post-discussions

Key Concepts:

- Economics at the turn of the century
- The role of the automobile in people's lives
- Henry Ford's use of the assembly line in automobile production
- The Model T
- Automobile companies found at the turn of the century

Evidence/Sources:

-PowerPoint presentation on automobiles and Henry Ford at the turn of the century

-Reading in *The Americas* on Henry Ford and the Model T

-Reading in *The Americas* on industrialization at the turn of the century
-Internet research using my exhibit on thehenryford.org ExhibitBuilder
-A & E Biography video on Henry Ford

Curriculum Links:
Michigan Department of Education Social Studies
Content Standards U6- History
- 6.1 Growth of an Industrial and Urban America
- 6.1.1 Factors in the American Industrial Revolution
- 6.1.5 Case Study of American Industrialism
- F2 Foundational Issues Changes in commerce, transportation and communication
- P2 Information Processing
- P2.3 Know how to find and organize information from a variety of sources

Duration: 2 days

Instructional Sequence:
Students will be randomly assigned a partner to work with and then given a slip of paper from the teacher that describes the kind of person(s) the pair is to pretend to be from the turn of the century. The paper will contain the year in which the students are to look for automobile advertisements in order to purchase an automobile. Also included on the paper will be the social and economic demographics of the person(s) buying the automobile.

-In partners, students will browse through turn-of-the-century automobile advertisements and select two automobiles they may want to purchase that were advertised the year in which the students were given to study. Once two are selected the partners must decide which automobile they will purchase based on the economic and social demographics of the pretend people(s) that they were randomly provided with at the beginning of the activity. The students will determine which automobile they will purchase after they print out a copy of both advertisements, create a Double Bubble Thinking Map (Venn diagram), and fill in the comparisons, contrasts and similar characteristics of the two automobiles.

-After meeting these requirements and selecting the automobile, students will write their own short essay describing the reasons they used in selecting the automobile, the factors that contributed to not selecting an alternative automobile and the reasons other people may raise about why the other automobile was not selected. They may use some of the same points in their essays that they discussed while conducting their work together.

-In a packet, each pair of students will turn in the advertisements, their Thinking Map and essays.

-The advertisements of each automobile selected will be put on display throughout the classroom.

Anticipated Challenges: If I am not able to obtain access to a computer lab then I can either print out the advertisements I placed in my online exhibit and hang them in the classroom for students to select from or require students to conduct their own online search for automobiles.

America's Greatest History Attraction

Jason Davids, Eastview Middle School, Bartlett, IL

Title of the Lesson/Activity: Early 19th Century Industrialization in America

Grade Level: 8th Grade

Overview: PowerPoint lesson that looks at the components of the Industrial Revolution and their effect on America, concentrating on the Midwest.

Central Question/Problem: How did the Industrial Revolution change America (political, social and economic)?

Learning Objectives: Illinois State Standards 15C.3, 15.C3a, 15.A.3b, 15.A.3d

Materials: Students will use a combination of their textbook, notes from the PowerPoint and the PBS movie *Chicago City of the Century* in this unit.

Duration: 2 Weeks/10 days

Instructional Sequence:

Days 1-2: Show film to students.

Days 3-4: Have students take notes on PowerPoint presentation.

Day 5: Have students take a quiz on the film. After the quiz, have a class discussion on the effect of the Industrial Revolution in Chicago.

Days 6-7: Finish taking notes on PowerPoint presentation.

Day 8: Have students break into small groups to discuss how the Industrial Revolution caused different changes in the North and South.

Days 9-10: Have students work on museum exhibit using The Henry Ford's ExhibitBuilder to answer the central question of the unit.

Early 19c Industrialization in America: The Market Revolution

Mr. Davids

ESSENTIAL QUESTION:

What were the results of early 19c industrialization in America?

The Transportation Revolution

First Turnpike- 1790 Lancaster, PA

By 1832, nearly 2400 mi. of road connected most major cities.

Cumberland (National Road), 1811

Conestoga Covered Wagons

Conestoga Trail, 1820s

Erie Canal System

Erie Canal, 1820s

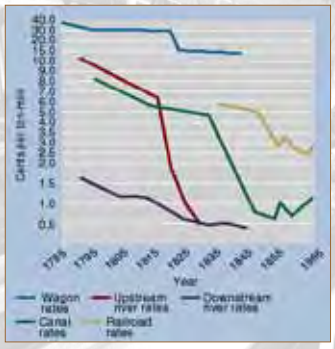
Begun in 1817; completed in 1825

Robert Fulton & the Steamboat

1807: The *Clermont*

Principal Canals in 1840

Inland Freight Rates



Clipper Ships

The "Iron Horse" Wins! (1830)

1830 → 13 miles of track built by Baltimore & Ohio RR
By 1850 → 9000 mi. of RR track [1860 → 31,000 mi.]

The Railroad Revolution, 1850s

- Immigrant labor built the No. RRs.
- Slave labor built the So. RRs.

New Inventions: "Yankee Ingenuity"

Resourcefulness & Experimentation

- Americans were willing to try anything.
- They were first copiers, then innovators.

1800 → 41 patents were approved.
1860 → 4,357 " " "

Eli Whitney's Cotton Gin, 1791

Actually invented by a slave!

Eli Whitney's Gun Factory

Interchangeable Parts Rifle

Oliver Evans

First automated flour mill

First prototype of the locomotive

John Deere & the Steel Plow (1837)

*Illinois

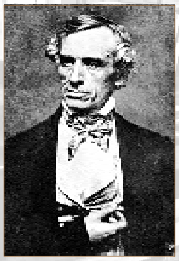
JOHN DEERE Today

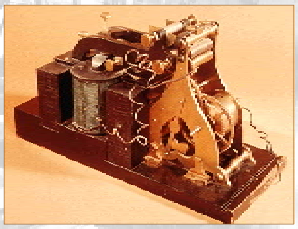
Cyrus McCormick & the Mechanical Reaper: 1831

*Illinois, Chicago

McCormick= IHC

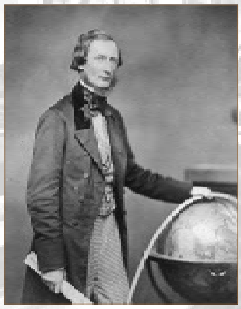
Samuel F. B. Morse





1840 – Telegraph

Cyrus Field & the TransAtlantic Cable, 1858



Elias Howe & Isaac Singer

1840s
Sewing Machine

The "American Dream"

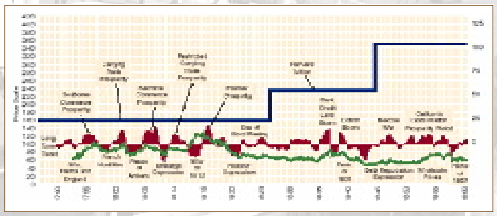
- They all regarded material advance as the natural fruit of American republicanism & proof of the country's virtue and promise.

A German visitor in the 1840s, Friedrich List, observed:

Anything new is quickly introduced here, including all of the latest inventions. There is no clinging to old ways. The moment an American hears the word "invention," he pricks up his ears.

The Northern Industrial "Juggernaut"

Boom/Bust Cycles: 1790-1860

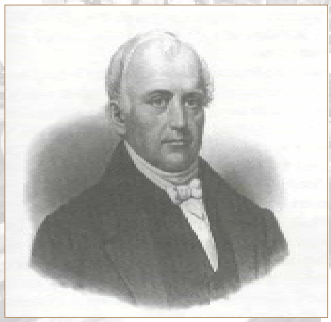


The blue line shows, for comparison, the price of a year's tuition at Harvard College. In 1790 it was $24, but by 1860 had risen to $104.

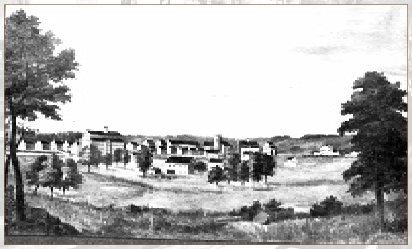
Distribution of Wealth

- $ During the American Revolution, 45% of all wealth was in the hands of top 10% of the population.
- $ 1845 Boston à top 4% owned over 65% of the wealth.
- $ 1860 Philadelphia à top 1% owned over 50% of the wealth.
- $ The gap between rich and poor was widening!

Samuel Slater ("Father of the Factory System")



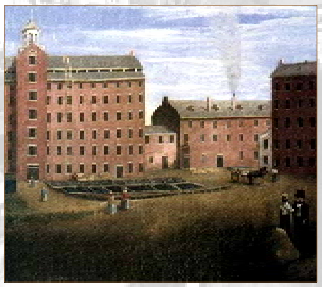
The Lowell/Waltham System: First Dual-Purpose Textile Plant



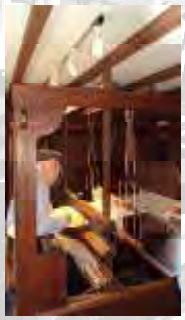
Francis Cabot Lowell's town - 1814

Lowell in 1850

Lowell Mill

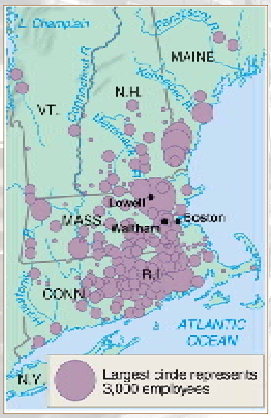


Early Textile Loom



New England Textile Centers:

1830s



New England Dominance in Textiles

Starting for Lowell

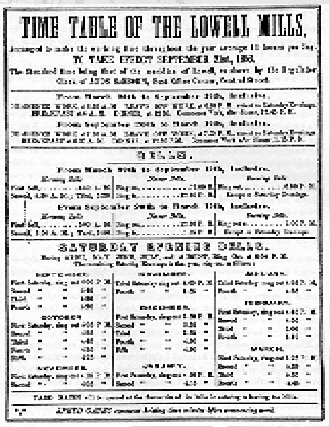
Lowell Girls

What was their typical "profile?"

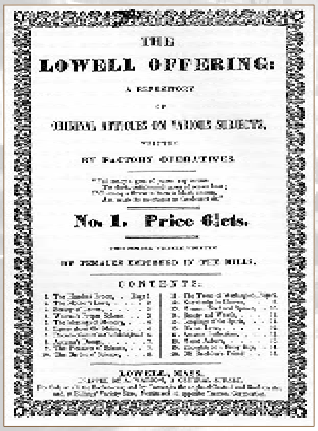
Lowell Boarding Houses

What was boarding house life like?

Lowell Mills Time Table


TIME TABLE OF THE LOWELL MILLS.

Early "Union" Newsletter


THE LOWELL OFFERING:

No. I. Price 6¼cts.

Irish Immigrant Girls at Lowell

What's Happening in America by the 1850s?

Regional Specialization

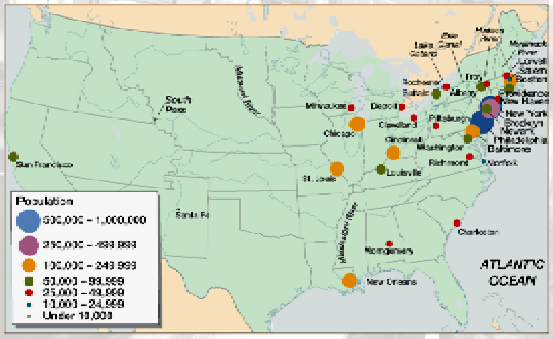
EAST à Industrial

SOUTH à Cotton & Slavery

WEST à The Nation's "Breadbasket"

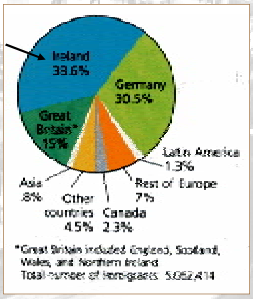
American Population Centers in 1820

American Population Centers in 1860



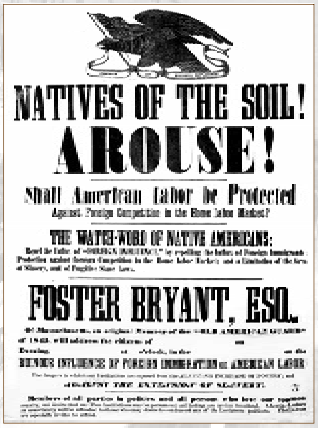
National Origin of Immigrants: 1820 - 1860

Why now?



Know-Nothing Party:

"The Supreme Order of the Star-Spangled Banner"



NATIVES OF THE SOIL!

AROUSE!

Shall American Labor be Protected

THE WATCH-WORD OF NATIVE AMERICANS:

FOSTER BRYANT, ESQ.

Changing Occupation Distributions: 1820 - 1860

	1820	1840	1860
Agriculture	78.8%	63.1%	52.9%
Mining	0.4	0.6	1.6
Construction	—	5.1	4.7
Manufacturing	2.7	8.8	13.8
Trade	—	6.2	8.0
Transport	1.6	1.8	2.0
Service	4.1	5.0	6.4
Other	12.4	9.4	10.6

Source: U.S. Bureau of the Census.

ECONOMIC?

POLITICAL?

The results of early 19c industrialization in America?

SOCIAL?

FUTURE PROBLEMS?

America's Greatest History Attraction

Lonnie W. Lewis, Frankfort Christian Academy, Frankfort, KY

Title of the Lesson/Activity: Immigration During the Early 20th Century

Grade Level: Middle/High School

Overview: The students will have a series of 6 different prints from The Henry Ford concerning immigration during the early 20th century. Several questions can be developed from the pictures. They will respond to a document-based question (DBQ).

Central Question/ Problem: Why was Immigration in the Early 20th Century in the United States viewed as either a very positive or a very negative concept by many Americans?

Learning Objectives: Students will be able to utilize the 6 prints and answer the Central Question in a variety of ways, depending upon the wording and the age/level.

Assessment Tools: This exercise is assessed after the writing exercise during the class utilizing the AP DBQ model, which can be modified for younger students.

Key Concepts: The Industrial Revolution contributed to massive waves of new immigrants during the early 20th century. These immigrants were greeted in a variety of ways. Some Americans welcomed the immigrants with open arms while others wanted to bar the door to them.

Evidence/Sources: http://collections.thehenryford.org/Collection.aspx?collectionid=1244

Duration: The teaching of the lesson would be about 2-3 weeks and the DBQ exercise would be used in class one day or could be modified for a homework assignment.

Instructional Sequence: The teacher would present the 3 chapters or so (roughly 1900-1920) over a period of weeks. In the course of study, immigration would be included as a recurring topic. At the end of the study, the students would be given the 6 prints with a DBQ writing assignment.

Student Project Ideas:

1. Students could be given an additional assignment to find more prints/documents from the period to add to a classroom collection.
2. Students could be given a role to play to include the position of an immigrant, an American who does not want more immigration and an American who welcomes further immigration.

Anticipated Student Conceptions or Challenges to Understanding:

1. If students lack writing expertise, using DBQ exercises over the course of the year will help them improve.
2. Students may have trouble relating to the topic, but remind them that today in the United States, the same issue has arisen with Hispanic immigration.
3. Students who are behind or have language issues—the assignment can be modified.

Carolyn Martin, State Correctional Institute of Chester, Chester, PA

Title: The Innovation of Famous Inventors of the Industrial Revolution

Grade Level: multilevel

Overview: Students will be able to identify innovation in the lives of famous inventors. They will describe the inventions of the American Industrial Revolution and determine how they contributed to the development of American life during the 19th century. Students will discuss how innovation impacted the inventors' ability to solve problems and design tools and machinery that helped society. Students will analyze how the inventions created job opportunities that benefited communities and changed the culture. Students will explore how those inventions contributed to the industrial era as we know it today and how innovation is a key factor in the ongoing development of industry and inventions.

Central Question/Problem: What is innovation and how can it contribute to one's reaching a goal and solving problems?

Discussion Questions: What does innovation look like in action? How are innovative people different from people who are not innovative? What generates innovation and who is likely to be innovative? Do gender, race, nationality or geographical aspects influence innovation? What are the risks of being innovative? Does innovation ensure success? How does failure contribute to innovation? What are blockages to innovation?

Learning Objectives: Students will be able to identify some problems that could be solved with innovation. Students will experience the process of innovation in steps, in the form of strategies such as questioning, brainstorming, predicting, working backwards, looking for patterns, journaling, charting, etc.

Assessment Tools: Have students identify a problem that needs to be solved, and explain how they would use innovation to solve the problem. Give them the option to present a speech, design a PowerPoint presentation, write an essay, develop a drama, draw a picture or any other means by which they can share with the class how they would solve their problem. They could work in teams or by themselves. Establish a criteria of the steps to be included in the presentation, and provide them with a rubric. Allow the students to grade themselves and each other using
the rubric.

Steps to Innovation:
Generate ideas – discuss blockages to ideas – self-doubt, can't be done, never been done before
Capture ideas – brainstorm – think outside the box, break the parameters
Begin innovation – explore the ideas – do they meet the goal, whom would they benefit, will it be profitable
Develop a strategy – think about costs, financial backing, legal issues

Evidence/Sources:
Innovation process from online article *Vision to Reality: The Innovation Process* by Michael Stanleigh
www.michaelstanleigh.com/about-michael.html
This author has a large selection of articles on the topic of innovation.

Curriculum Links:
www.inc.com/magazine/20021001/24702.html
www.technewsdaily.com/section/future-tech
http://inventorspot.com/
http://science.howstuffworks.com/innovation

Duration: 1-2 weeks of classes, depending upon engagement of students and extent of activities

Instructional Sequence: Introduce some inventions and inventors, and talk about how their inventions originated. As an icebreaker, have the class divided in two teams with half of each team having 25 inventors and the other half having the 25 inventions. You will need two sets of inventors and inventions. Give two minutes for the class to find their pairs, and see which group can do it first.

Student Project Ideas: Have students think about a problem that needs to be solved. Have students research inventors on the Internet, and have them interview them via email or Facebook.

Anticipated Student Conceptions or Challenges to Understanding:
Some students may have limited background knowledge. Do some pair-and-share times to introduce some common inventors such as Henry Ford, Alexander Graham Bell, Thomas Edison, etc.

America's Greatest History Attraction

Donovan Pruett, La Joya Middle School, Visalia, CA

Title of the Lesson/Activity: "Name That Product"

Grade Level: 8th Grade U.S. History

Overview: Students will be shown a series of video clips filmed at The Henry Ford that have something to do with the Industrial Revolution. Using the videos as clues, students will be able to correctly guess how the video relates to a modern-day product. They have to correctly guess a modern-day product that goes with the respective video.

Central Question/Problem: What products that we take for granted today were originally dreamed up during the Industrial Revolution? What stages did these products do through over the past 200 years?

Learning Objectives: California Standard 8.12.9
Students will name the significant inventors and their inventions and identify how they improved the quality of life (e.g., Thomas Edison).

Assessment Tools: Teacher walks around and monitors while students in groups of four will decide what product today goes best with the respective video clip. Students need to work together as a team to provide an answer. PowerPoint, laptop, projector and video clips taken at The Henry Ford will be used.

Key Concepts: Industrial Revolution background, relating students interests (e.g., MP3 players vs. original recording device) to historical background.

Evidence/Sources: Video taken at The Henry Ford

Duration: 35 minutes

Instructional Sequence:
Step 1, 5 minutes – Teacher begins by explaining the lesson. Students will be broken into groups of four at square tables. One sheet of binder paper will provided for each group.

Step 2, 5 minutes – Teacher plays the first video clip (steam engine operating) Once clip is over, students begin a timed 30-second brainstorming session to determine what modern-day product/invention is related to the video clip the best. (In the case of the steam engine, acceptable answers are lights, light switch, power plant, etc.) They have to write down their answers on the sheet of paper before the time limit. Groups who are correct are given praise and earn points (if applicable).

Step 3, 20 minutes – A repeat of step 2. Students are shown successive videos and earn praise or points for correct answers.

Step 4, 5 minutes – After the final video, teacher brings the class back together for quick review on how the products we use today (e.g., lights, internal combustion engines, MP3 players, cars, etc.) all got their start during the Industrial Revolution. Q and A session given, followed by wrap up.

Anticipated Student Conceptions or Challenges to Understanding: Some students might have difficulty relating a modern-day product with the respective video or not understanding what exactly they are looking at in the video. Working in groups will help in this regard.

America's Greatest History Attraction

Donovan Pruett, La Joya Middle School, Visalia, CA

Title of the Lesson/Activity: Timeline of the Industrial Revolution with Emphasis on Thomas Edison and Collage on the Life of Thomas Edison

Grade Level: 8th Grade U.S. History

Overview: Students individually will make a collage poster on the significant contributions of Thomas Edison. The collage must include pictures, captions and be in chronological order.

Central Question/Problem: What significant events aided the dawn of the Industrial Revolution? What inventions were critical for this to be a revolution? Who were the people involved? What were the places?

Learning Objectives: California Standard 8.12.9)
Students will name the significant inventors and their inventions and identify how they improved the quality of life (e.g., Thomas Edison).

Assessment Tools: Teacher walks around and monitors while students individually work on their timelines. Final assessment will be done with a rubric with grades for accuracy, content, correct number of events and pictures and creativity.

Key Concepts: Industrial Revolution (e.g., steam engines, locomotives, electricity, farming equipment, railroads and inventors)

Evidence/Sources: Class textbook, picture sources at collections.thehenryford.org, Internet search

Duration: 48-minute class period for research and rough drafts, another class period (the following day) for final drafts, 96 minutes total. Additional time can be taken at home.

Instructional Sequence:

Step 1, 10 minutes – Teacher begins by explaining the assignment in depth. Topics discussed are: events to be included and number; captions, with pictures or paragraphs without; miscellaneous; where to find content in the textbook and online; and title (see direction sheet).

Step 2, 35 minutes – Work on rough drafts (see direction sheet). Students must show the teacher their completed rough draft before moving on to the final draft.

Step 3, 3 minutes – Cleanup for Day 1. Students may work on it as homework.

Step 4, 5 minutes – Recap the assignment from previous day. Model for the students a completed final draft from years past.

Step 5, 40 minutes – Final class time to complete everything on the direction sheet. Timeline is due at the end of class during cleanup.

Step 6, 3 minutes – Cleanup and recap.

Anticipated Student Conceptions or Challenges to Understanding: Students might find it challenging to locate correct inventions, people and other events to put in their timeline. They may get ideas from others at their table as long as the work they turn in is genuinely theirs and not a group project.

America's Greatest History Attraction

Thomas Edison/Industrial Revolution Timeline

Due Date: _____

Background: The Industrial Revolution was one of the most significant collective advancements of technology ever recorded in human history. Steam engines, railroads and locomotives, farming equipment, the light bulb, and the inventors of these things all played a large role. Your mission is to create a timeline that celebrates the best events of the Industrial Revolution and why it was so significant.

Checklist: [√]

[ ] Eight or more detailed historical facts about inventions with a colored picture included.

Inventions that must be mentioned (find the correct order)

[ ] Light bulb
[ ] McCormick Reaper
[ ] Steam-powered trains
[ ] Textile loom
[ ] Cotton gin
[ ] Three more of your choice

[ ] Name, date, period on back

[ ] Uses correct punctuation, spelling and grammar

[ ] Writing is neatly handwritten or typed

Rubric:

4 (above grade level) = More than 8 detailed historical facts of events in the Industrial Revolution are present with colored pictures. Excellent punctuation/spelling/grammar, very few or no errors. Neatly handwritten or typed.

3 (grade level) = 8 detailed historical facts of events in the Industrial Revolution are present with colored pictures. Good use of punctuation/spelling/grammar, a few minor errors might have been made. Neatly handwritten or typed.

2 (below grade level) = Fewer than 8 detailed historical facts of events in the Industrial Revolution are present and/or pictures are not colored. Good punctuation/spelling/grammar is missing. Handwriting is too hard to read.

America's Greatest History Attraction

Donovan Pruett, La Joya Middle School, Visalia, CA

Title of the Lesson/Activity: Create Your Own Invention.

Grade Level: 8th Grade U.S. History

Overview: Students will be able to create and design their own invention in hopes of bettering mankind. Using Thomas Edison as a role model, students must sketch their invention, describe how it works, what materials are needed to build it and why is it worthwhile.

Central Question/Problem: How hard is it to invent something? How hard would it have been for Edison to do the same thing in the late 19th century?

Learning Objectives: California Standard 8.12.9
Students will name the significant inventors and their inventions and identify how they improved the quality of life (e.g., Thomas Edison).

Assessment Tools: Teacher monitors student's progress during the rough draft stage. Then all students must show the teacher their rough drafts before being allowed to move on to the final draft. Final assessment will be given when the final draft is graded and entered into the grade book.

Key Concepts: How famous inventors chose to risk nearly everything to conceive and create the inventions that transformed life of the late 19th century and beyond.

Evidence/Sources: Classroom textbook, miscellaneous work sheets and supplemental teacher materials, thehenryford.org

Duration: 2 class periods, 96 minutes total

Instructional Sequence:

Step 1, 10-15 minutes – Teacher explains the lesson of the day. Using their prior knowledge of inventors like Edison for support and evidence, students are to first brainstorm on a separate sheet of binder paper what inventions the world needs today.

Step 2, 20 minutes – Prepare a rough draft. The rough draft needs to have a sketch and a brief paragraph on why their invention is needed and how it works. Rough drafts must be shown to the teacher in order to move on to the final draft.

Step 3, 60 minutes – Prepare the final draft. Students go to the next level by coloring and adding detail to their invention on quality construction paper. The paragraph must also answer the questions of why/how/how much/ etc. It must be at least 4 sentences.

Step 4, 5-6 minutes – Cleanup.

Anticipated Student Conceptions or Challenges to Understanding: The biggest challenge for students is to think of something to invent. The fact that it is make-believe and examples will help, but some students will struggle. The other challenge is the paragraph on how it functions. The teacher reserves the right to nitpick if the student doesn't do a satisfactory job on the rough draft as far as describing its function.

Developing an Invention:

Directions: Pretend it's 1880 and you're an inventor like Thomas Edison. Develop an invention that would revolutionize the world in some way. It can be make-believe, but you have to give directions on how it works. Your invention can be something totally new or an improvement on something already existing.

Rough draft must include:

1) Pencil sketch of your invention on binder paper
2) Paragraph response on how it works

Once the rough draft is approved, the final draft must include:

1) Colored sketch of your invention on construction paper
2) Paragraph response on how it works (this means what exactly is needed to make your invention function…power source? Materials? Why is it needed?)

Here are some ideas…

- remote-controlled car
- car/plane
- television remote
- radio
- shoes that make you play sports better
- rocket-powered skateboard
- pillow fluffer machine
- machine that spikes hair
- power door locks/keyless entry for houses

America's Greatest History Attraction

Donovan Pruett, La Joya Middle School, Visalia, CA

Title of the Lesson/Activity: Thomas Edison and the Industrial Age *Jeopardy* PowerPoint Review

Grade Level: 8th Grade U.S. History

Overview: Students will be able to answer review questions about Thomas Edison and his contributions to the Industrial Age based on previous lesson plans in a *Jeopardy*-type question-and-answer format. This marks the culmination of a mini (3-day) unit on Thomas Edison.

Central Question/Problem: Will the *Jeopardy*-type format (with sounds and graphics) provide a fun and stimulating way for students to review material on Thomas Edison in advance of the quiz?

Learning Objectives: California Standard 8.12.9
Students will name the significant inventors and their inventions and identify how they improved the quality of life (e.g., Thomas Edison).

Assessment Tools: Teacher walks around monitoring while students in groups of four will compete against each other for the most points in *Jeopardy*. Each student needs to work together as a team to provide an answer. The most points wins (see attached PowerPoint slides) PowerPoint, laptop and projector will be used to show the material.

Key Concepts: *Jeopardy* will be a review game that covers the basic points of the previous lessons on Thomas Edison and the Industrial Revolution. The categories are: Background, Biography/Inventions, Other Inventors and Miscellaneous.

Evidence/Sources: Classroom textbook, miscellaneous work sheets and supplemental teacher materials, thehenryford.org

Duration: 30 minutes

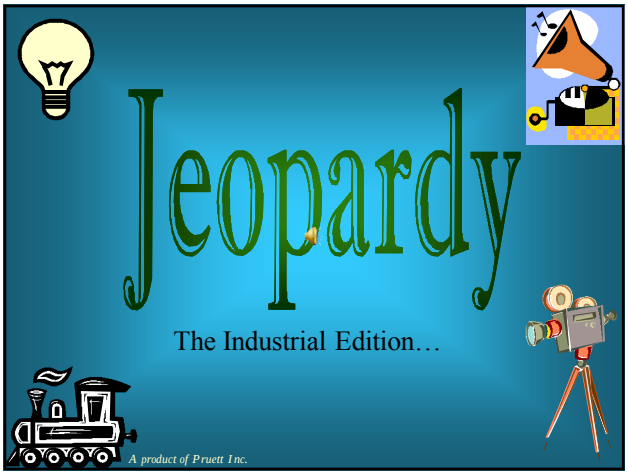
Instructional Sequence:
Step 1, 5 minutes – Students complete the warm-up activity of the day.

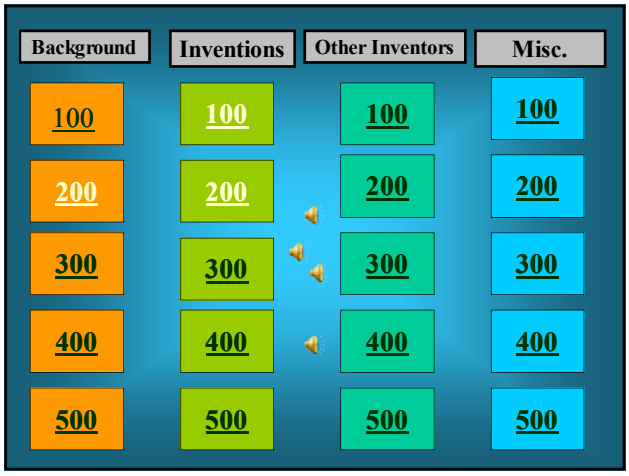
Step 2, 5 minutes – With students already in groups, teacher explains the basic steps of *Jeopardy*. Each question is worth anywhere from $100 to $500, with increasing difficulty the more the question is worth. Bonus questions worth double and triple the dollar value are hidden somewhere on the board. A "fastest hand" question will determine which group goes first. That group gets to choose where to start and can start anywhere on the board. They may keep the board for up to three correct answers in a row, and no student can answer more than one question back to back. Once three correct answers in a row have been given, another fastest hand question is given to determine which group gets the board next (the group previously in control of the board may participate in the fastest hand question again).

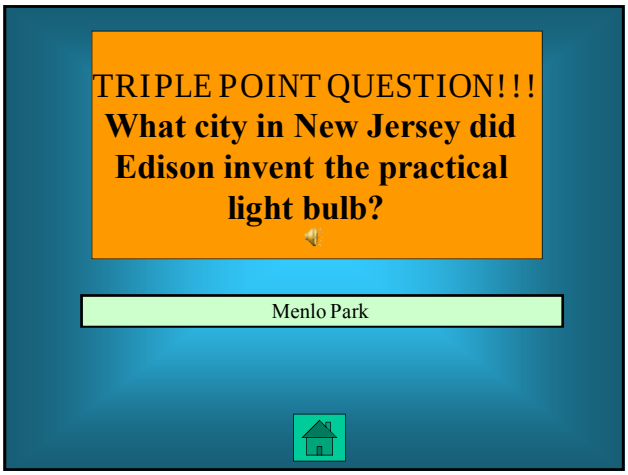
Step 3, 30 minutes – Begin playing *Jeopardy* by determining who's fastest in the fastest hand question. That team keeps the board, winning dollars/points until three consecutive questions have been answered. The game then cycles until all questions are complete or 30 minutes are up.

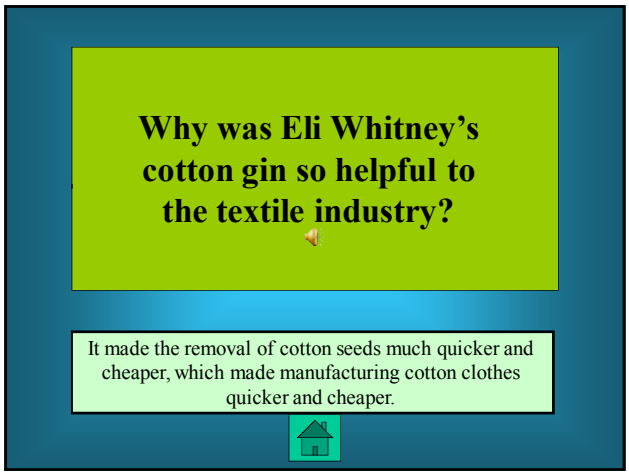
Step 4, 5 minutes – Final *Jeopardy*. All teams with dollars/points are allowed to play final *Jeopardy*. First, as a group, students must write down a wager on a separate sheet of paper. The group wager can be any number up to the total number of points they have. Correct answers will add the points wagered; incorrect answers will lose those points. This will determine which team is the ultimate winner.

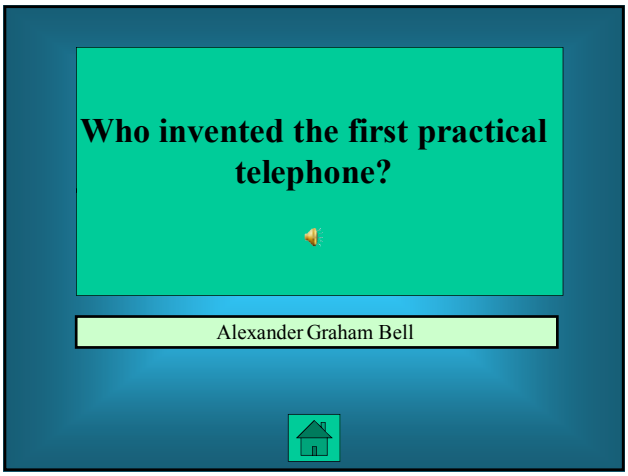
Anticipated Student Conceptions or Challenges to Understanding: *Jeopardy* is for review purposes. Only significant challenge is if students are unfamiliar with the basic rules of the TV show. This challenge is rare. Group members will be able to inform any student who is unsure, since they have to work together as a team to win properly.

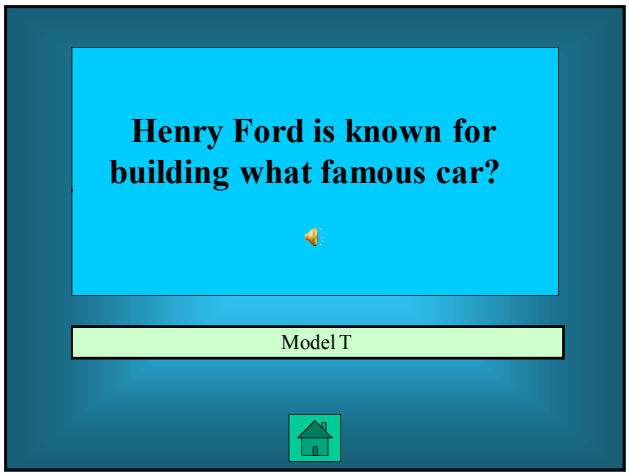












Name a reason why steam power has advantages in the early 1800's:

Don't have to be next to water, portable, can make traction engines, leads to new discoveries in internal-combustion engines, etc. etc.

What did Cyrus McCormick Invent?

The Reaper

Who invented one of America's first automobiles?

The Duryea brothers

What is a nickname for the late 19th century in America?

The Gilded Age, (or Victorian Age)

Which country did the Industrial Revolution start in?

England

What did John Deere first invent?

New type of steel plow.

Who was responsible for the first practical sewing machine?

Issac Singer

Was Henry Ford successful in his first attempt at manufacturing cars?

No, Ford Motor Company was his third attempt, the first two failed.

What form of transportation started using steam power in the 1830's?

Locomotives

What Edison invention was popular before the light bulb?

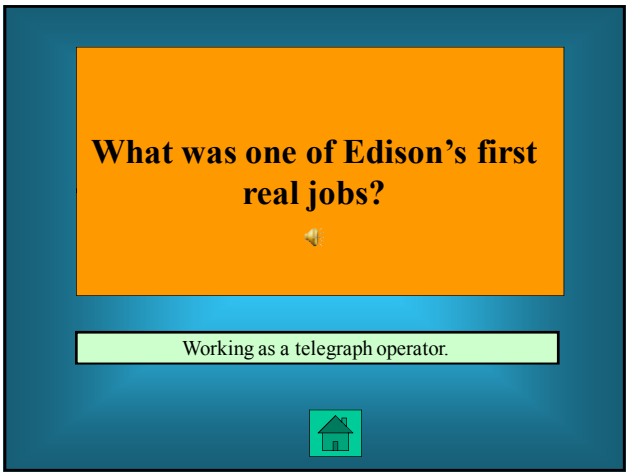
The phonograph

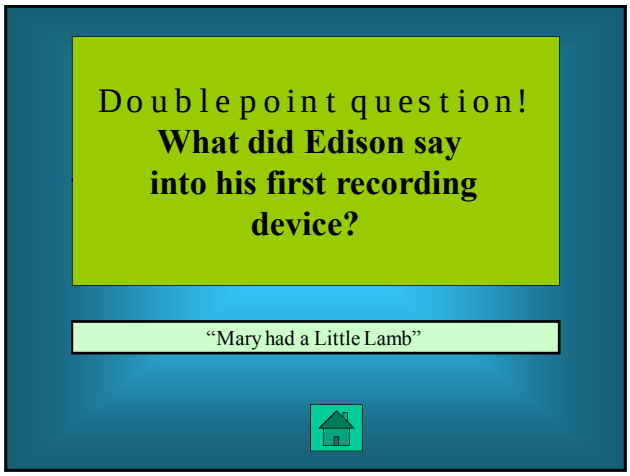
Henry Ford did not invent the car, but is more famous for inventing what?

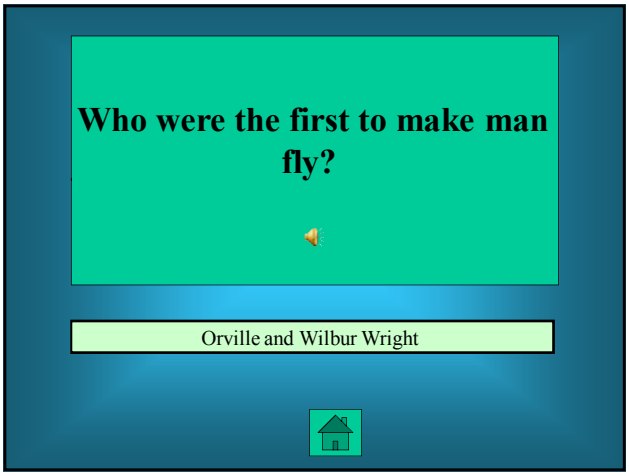
The modern day assembly line.

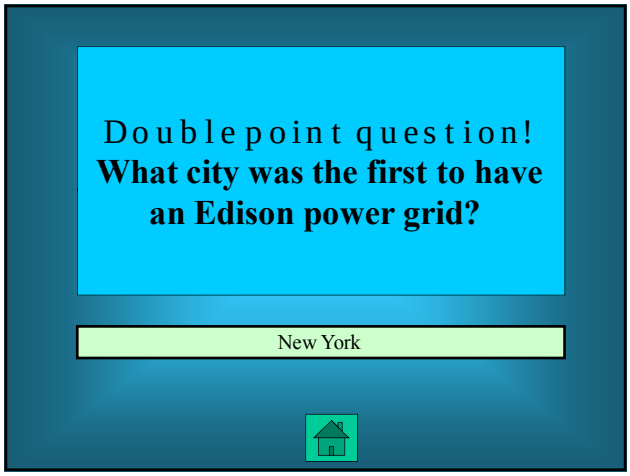
Name another invention of Edison's besides the light bulb, phonograph, and motion picture camera:

Etc. Etc. Etc. hundreds…









Ellen Roggenbuck, Harbor Beach Middle School, Harbor Beach, MI

Title of the Lesson/Activity: Is the Grass Always Greener? The Negative Side of Progress

Grade Level: 8th Grade United States History

Overview: After studying all of the advances made during the Industrial Revolution and beyond, students will analyze major changes in communication, transportation, demography and urban centers, including the location and growth of cities linked by industry and trade, from the first half through the last half of the 19th century. Students will then provide three examples of how technological progress had a negative effect on society using the ExhibitBuilder feature on The Henry Ford website.

Central Question/Problem: Is progress always positive? Does technology always help mankind? How did advancements in the Industrial Revolution cause some people to struggle in life? How is that same struggle alive today?

Learning Objectives: Students will analyze changes in lifestyles for people in the late 19th century, concentrating on the struggle Americans endured when technological advances upset their way of life. Students will compare similar situations in the 19th and 20th centuries (e.g., robots replacing production workers in the auto industry).

Assessment Tools: Students will demonstrate their knowledge of the subject through their ExhibitBuilder projects, which will prove their understanding of the complexities of the effects of change on society. Three walls will be used for separate examples of technological advances that caused hardships for American workers in the late 19th century. One wall will be used for an example of a modern-day hardship caused by technological advances.

Key Concepts:

- Railroads (taking of private land)
- End of cottage industry/beginning of factory life (Lowell System)
- Improvement of cotton gin by Eli Whitney (which allowed for the Cotton Belt to expand, thereby increasing the need for slaves)
- Students may add to this list during the class discussion

Evidence/Sources:

- U.S. History textbook *Call to Freedom*, chapters 6 through 21
- The Henry Ford website, thehenryford.org
- ExhibitBuilder on thehenryford.org
- CD of America's Industrial Revolution, Landmarks of American History Teacher Workshop 2011 (PowerPoints and images)
- Additional online resources

Duration: Half a class period to lead a discussion and explain the project, half a class period to explain ExhibitBuilder, two class periods to complete the project, one class period for presentations of projects = four class periods in total

Instructional Sequence:

Day 1: In classroom, lead a discussion about the effects of the advancements made during the Industrial Revolution, including railroads (taking of private land), the end of cottage industry and the beginning of factory life (Lowell System), and the improvement of the cotton gin by Eli Whitney (which allowed for the Cotton Belt to expand, thereby increasing the need for slaves). Use this list as a starting point, accepting reasonable additions by students.

Using a projector with the teachers computer, demonstrate the workings of the ExhibitBuilder on thehenryford.org. Distribute rubrics (below) before Day 2.

Students will need to determine the topics for their four walls in preparation for Day 2.

Day 2: In computer lab, assist students in getting started with ExhibitBuilder, using the maximum space for captions and explanations.

Day 3: In computer lab, students will finish projects and prepare for an oral presentation.

Day 4: In classroom on teacher's computer with a projector or in computer lab, students will present their ExhibitBuilder.

Student Project Ideas: Using the ExhibitBuilder on thehenryford.org, students will create a final assessment to demonstrate their understanding of the major changes in communication, transportation, demography and urban centers, including the location and growth of cities linked by industry and trade, from the first half through the last half of the 19th century.

Anticipated Student Conceptions or Challenges to Understanding: Students will not be familiar with ExhibitBuilder, so a walk-through demonstration will be necessary. The teacher will need to direct a discussion guiding students to find the key concepts (given above) that have been introduced throughout the year.

Curriculum Links: U6.1 America in the Last Half of the 19th Century: Analyze the major changes in communication, transportation, demography and urban centers, including the location and growth of cities linked by industry and trade, in last half of the 19th century. The purpose of this section is to introduce some of the major changes in American society and the economy in the last part of the 19th Century. This era will be addressed in-depth and with greater intellectual sophistication in the high school United History and Geography content expectations.

8 – U6.1.1 America at Century's End – Compare and contrast the United States in 1800 with the United States in 1898 focusing on similarities and differences in territory, including the size of the United States and land, systems of transportation (canals and railroads, including the Transcontinental Railroad) and their impact on the economy and society (E1.4, 3.2) (National Geography Standard 11, p. 164)

ExhibitBuilder Project : The Negative Side of Progress

Student Name: _____

CATEGORY	4	3	2	1
Originality	Presentation shows considerable originality and inventiveness. The content and ideas are presented in a unique and interesting way.	Presentation shows some originality and inventiveness. The content and ideas are presented in an interesting way.	Presentation shows an attempt at originality and inventiveness on 1-2 cards.	Presentation is a rehash of other people's ideas and/or graphics and shows very little attempt at original thought.
Content-Accuracy	All content throughout the presentation is accurate. There are no factual errors.	Most of the content is accurate, but there is one piece of information that might be inaccurate.	The content is generally accurate, but one piece of information is clearly flawed or inaccurate.	Content is typically confusing or contains more than one factual error.
Sequencing of Information	Information is organized in a clear, logical way. It is easy to anticipate the type of material that might be on the next card.	Most information is organized in a clear, logical way. One card or item of information seems out of place.	Some information is logically sequenced. An occasional card or item of information seems out of place.	There is no clear plan for the organization of information.
Effectiveness	Project includes all material needed to gain a comfortable understanding of the topic. It is a highly effective explanation.	Project includes most material needed to gain a comfortable understanding of the material but is lacking one or two key elements. It is an adequate explanation.	Project is missing more than two key elements. It would make an incomplete explanation.	Project is lacking several key elements and has inaccuracies that make it a poor explanation.

America's Greatest History Attraction

Lilliam Rosado, Academia San Jorge, Santurce, PR

Title of the Lesson/Activity: Slavery in the Industrial Age: The Caribbean vs. the South

Grade Level: Middle and High School/U.S. History (adaptable for World History)

Overview: Compare/contrast slavery in the Caribbean to slavery in the American South. Recognize the modern form of slavery in our era.

Central Question/Problem: Did all the slaves live in the same conditions? Did they do the same work? Did the slavery industry in the Caribbean use some sort of technology at all? Identify the differences between these regions and their ways of production.

Learning Objectives:

Students will:

- Compare and contrast the given information about the two groups of slaves
- Associate vocabulary and concepts in each case
- Identify technology devices used by slaves in both regions
- Evaluate slavery in the Caribbean
- Think critically
- Interpret information and produce conclusions
- Learn about human rights and the struggle to eradicate modern forms of slavery.

Assessment Tools:

- Vocabulary activity
- Venn diagram organizational assessment
- Conclusions presented at The Henry Ford ExhibitBuilder application

Key Concepts:

Central passage, triangular trade, cimarrones (fugitive slaves), regional sublevations (insurecctions), sugar cane and coffee industry, agricultural technology, human rights, modern slavery

Evidence/Sources:

- PowerPoint slide show
- America's slavery video on http://www.youtube.com/watch?v=Jc1RbUxQv4E
- Puerto Rico's slavery video on http://www.youtube.com/watch?v=dh-2E1KReBY
- Hermitage Slave Quarters at The Henry Ford
http://www.thehenryford.org/exhibits/smartfun/hermitage/open.html
- *The Story of Human Rights* film (10 minutes) http://www.humanrights.com/what-are-human-rights.html
- English-Spanish dictionary

Duration: 3 days

Instructional Sequence:

Day 1:

1. Ask students what they know about slavery. Include the central questions as a launching point.
2. Show the PowerPoint presentation. Let students observe the maps, videos and images carefully.
3. The following short videos are included in the PowerPoint slide show:
   Hermitage Slave Quarters at The Henry Ford video:
   http://www.thehenryford.org/exhibits/smartfun/hermitage/open.html (15 minutes)
   America's slavery video on http://www.youtube.com/watch?v=Jc1RbUxQv4E (9:55 minutes)
   Puerto Rico's slavery video on http://www.youtube.com/watch?v=dh-2E1KReBY (3:07minutes)

Day 2:

1. Bring the Slavery activity #1.
2. Discuss the questions.
3. Hand out Venn diagram, activity #2.
4. Show *The Story of Human Rights* film on http://www.humanrights.com/what-are-human-rights.html (10 minutes)

Day 3:

1. Ask students to prepare a graphic conclusion using digital images on The Henry Ford page or on the Internet.
2. Let them show their results through the ExhibitBuilder application to see their findings.
3. Discuss the results.

Student Project Ideas:

1. Students could research about the abolition movement in the Caribbean.
2. Students could write about age/gender roles in both areas.
3. Students could create a timeline about the abolition of slavery in the world.
4. Students could create museum displays of their findings and essays about the topic.

Anticipated Student Conceptions or Challenges to Understanding:

Understand the Caribbean geography. Assimilate some Spanish concepts. If they wanted to continue with the investigation, some primary resources are in Spanish.

Curriculum Links:

-U.S. Historical Thinking Standard 3 - Draw comparisons across eras and regions. Analyze the forced relocation of Africans in North America and in the Caribbean.

-U.S. Historical Content Standard 2.3 – Colonization and settlement (1585-1763)

-How to apply geography to interpret the past - Geography Standard 17

-Puerto Rican Social Studies Standards:

Change and continuity

People, places and environment

Production, distribution and consumption

Global conscience

Slavery (activity 1)

Name:_____
Date:_____
Class:_____
Teacher:_____

Some of the words at right might help you to fill the Venn diagram on activity 2. Answer the questions based on the PowerPoint information.

http://www.wordle.net/thumb/wrdl/4053444/slavery

1. When did slavery begin in the Caribbean? _____

2. When did slavery begin in the colonies? _____

3. What country claimed the majority of the Greater Antilles in the Caribbean (including Puerto Rico)?
_____

4. What was the name of Puerto Rico's natives? _____

5. What was the name of the slave houses in P.R.? How do you compare these houses with the Hermitage Plantation slave quarters?
_____
_____
_____

6. What kinds of products did the Caribbean slaves produce? What were their tools?
_____
_____

7. What was the name of the runaway slaves in the Caribbean?
_____

8. Which was the slavery abolition year in the Caribbean? _____

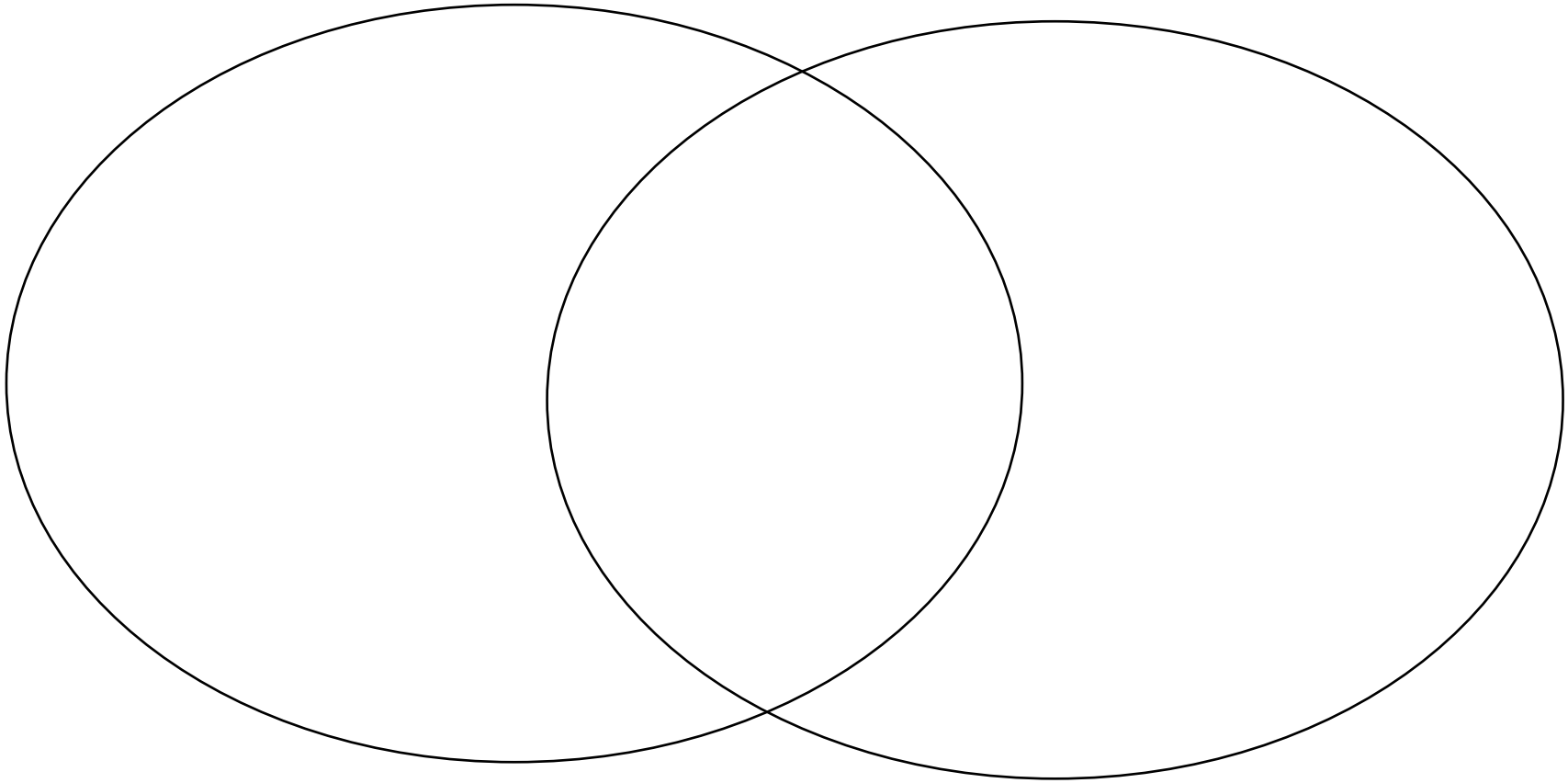
9. When did slavery finish in the USA? _____

Name: _____

Slavery (activity #2)

Venn diagram about Caribbean and North American slaves

Instructions: Identify at least 8 differences and 8 similarities between the two groups.
Use only concepts or phrases, not sentences.



Caribbean Slaves

North American Slaves

Caribbean Slavery: the Puerto Rican case

By: Lilliam Rosado
History Teacher
Academia San Jorge, S.J., P.R.

This is where Puerto Rico is.

The beginning

Slavery in the Caribbean started at 1517-1518 when Spain decided to adopt this ancient practice to increase the island's labor force. Until then native indians **Tainos** had worked in an economic system called **Encomiendas**.

http://www.youtube.com/watch?v=Jc1RbUxQv4E

Indians at work

An image of an Encomienda. What elements do you see?

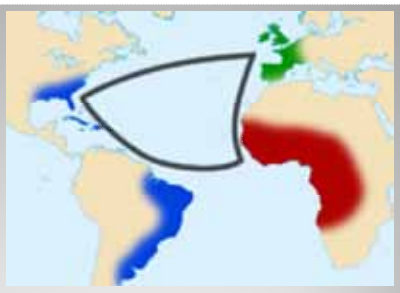
Epidemics and severe working conditions diminished this labor force.

Slaves and Tainos were both baptized by the Catholic church.

Slaves arrival to the Caribbean

All slaves shared the same roots: the African continent. But as you should know, slaves came from different parts of Africa. It means, their languages, beliefs, religions, skills and physical characteristics were not the same.

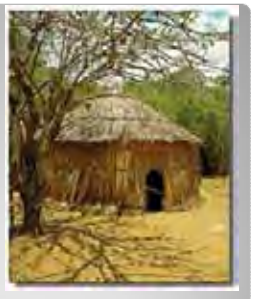
Slaves in the New World shared the same experience: the survival of the Middle Pass



The traveling route was called the **Middle Pass**. The business name was the **Triangle Trade**.

Some slaves were exchanged for goods in this business.

What does this image presents?



Caribbean slaves lived in shelters or homes named **bohios**, the same ones of the Tainos natives.

A bohio during the early nineteen century.

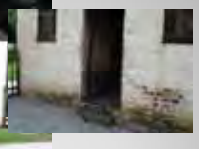
Interior of a bohio. Notice the artifacts.

Some aspects of their culture

Their diet was composed of plantains and jams.

http://www.youtube.com/watch?v=dh-2E1KReBY

The Hermitage Plantation

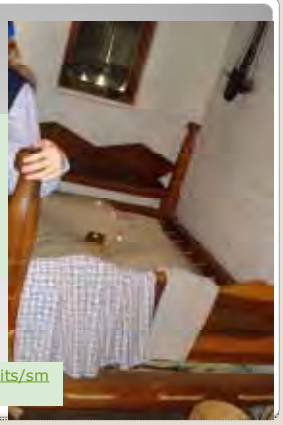


A slave quarter from Georgia (ca 1850)

Wooden recipients to store water

Utensils and artifacts.

Slave bed in a quarter



http://www.thehenryford.org/exhibits/smartfun/hermitage/open.html

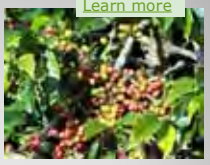
A slave dish during the Reconstruction Era

Despite the fact of the strong repression, rebellions and conspirations in Puerto Rico were common. Fugitive slaves were called **cimarrones**.

Slaves and their basic tools for agriculture in Puerto Rico.

Other slaves worked on mines, extracting gold and other precious metals.

Learn more



Corn mill at Hacienda Buena Vista en Ponce, P.R.
(Late 19th century)

Slavery in Puerto Rico was abolished in 1873.

What does this map show about slavery in all over America?

Now you are able to do:

Slavery Activity #1
Slavery Activity #2

Priscilla Zenn, Allen Park High School, Allen Park, MI

Title of the Lesson/Activity: People v. Industrial Revolution. Simulation: This is a mock trial activity. The Industrial Revolution is being charged with destroying American traditions and culture.

Grade Level: Middle to High School

Overview: In this lesson, students will analyze how the Industrial Revolution changed life in the United States, positively or negatively. The Industrial Revolution is being charged with destroying American traditions and culture. Students will research key people involved in the Industrial Revolution and participate in a mock trial.

Central Question/Problem: Was the Industrial Revolution a positive or negative event for Americans?

Learning Objectives: After completing the lessons in this unit, students will be able to:
-Cite examples of change in the lives of Americans during the era of the Industrial Revolution
-Discuss positive and negative effects of industrialization on the lives of Americans
-Take a stand as to whether the period of industrialization should be considered a positive or negative era based on evidence from firsthand accounts as portrayed by the witnesses.

Duration: 4-5 days

Instructional Sequence:
Pre-trial: Determine who will play each role as follows:
Attorneys (4)
Prosecution attorneys (2): P

Team captains of the prosecution. Will try to convince jurors that the evidence supports the indictment. Will study the evidence and organize the case. Must write opening and closing statements. This should be at least one page typed.

Defense attorneys (2): D

Team captains of the defense. Will try to convince jurors that the evidence does not support the indictment. Will study the evidence and organize the case. Must write opening statements. This should be at least one page typed.

On the first day of the trial, both teams must give copies of their direct examination questions to the judge (instructor).

Defendant (1)

Industrial Revolution: D

Will testify at the trial. Will research and write a 1½-2 page paper on this topic: The Industrial Revolution was a positive event for all Americans. Paper will be typed (no larger than 12pt.) and double-spaced.

Jurors (5-6)

Will listen to each side make its presentation of evidence and finally issue a verdict. Will compile a daily written journal of the proceedings (due to instructor after each day of the trial). Will prepare a formal essay explaining the reasons for your own individual verdict, due the next school day after the trial. Will prepare a 1-2 page paper typed no larger than 12pt., double-spaced, on one of these topics: Was there an Industrial Revolution? How the Industrial Revolution changed the lives of all Americans.

Witnesses (choose from the list or instructor include additional witnesses)

Will testify at the trial. Will prepare a 1-2 page witness sheet (typed no larger than 12pt. double-spaced). Will compile a daily written journal of the proceedings after each day of the trial.

1. Henry Ford: **D**
2. Thomas A. Edison: **D**
3. John Kay: **D**
4. Eli Whitney: **D**
5. Alexander Graham Bell: **D**
6. George Westinghouse: **D**
7. Bessie Coleman: **D**
8. Madame C.J. Walker: **D**
9. George Washington Carver: **D**
10. Theodore Roosevelt: **P**
11. Slave owner in South: **P**
12. Isabella Beeton: **P**
13. John Muir: **P**
14. Henry Thoreau: **P**
15. Harriet Beecher Stowe: **P**
16. Worker in cottage industry in New England: **P**

Day 1: Introduce the Industrial Revolution in class; review classroom materials. Assign students a role, a person to research. Locate and bookmark suggested materials and other useful websites. Download and print out selected documents and duplicate copies as necessary for students. Print out daily journal.

Day 2: Students continue research and complete a witness statement.

Day 3: The lawyers for the prosecution and defense and the defendant review the witness statements in advance. They will use the information to write their direct examination questions for the trial and their opening statements.

Days 4-5: The trial begins.

Procedures

-The judge reads the indictment. The defendant enters his plea.
-Opening statements by prosecution and defense attorneys. (1-2 min.)
-Direct examination: Prosecution calls witnesses, including defendant. (max. 12 questions)
-Defense cross-examines each witness. (max. 12 questions)
-Direct examination: Defense calls witnesses. (max. 12 questions)
-Prosecution cross-examines each witness. (max. 12 questions)
-Closing statements by prosecution and defense attorneys. (1-2 min.)
-Jury deliberation and verdict (to be read in court on first school day after the trial).

Student Assessment Ideas: Students write an argumentative essay (persuasive essay) taking a side.

Skills:

-Gathering, classifying and interpreting written, oral and visual information
-Critical analysis, critical thinking
-Historical analysis
-Interpretation
-Interview/survey skills
-Making inferences and drawing conclusions
-Using primary sources

Name_____

Hour _____

People v. Industrial Revolution

Daily Written Journal

Prosecution Witnesses

1. Name _____

2. Name _____

3. Name: _____

4. Name: _____

5. Name: _____

6. Name: _____

7. Name: _____

8. Name: _____

9. Name: _____

Defense Witnesses

1. Name: _____

2. Name: _____

3. Name: _____

4. Name: _____

5. Name: _____

6. Name: _____

7. Name: _____

8. Name: _____

9. Name: _____

Defendant-: _____

America's Greatest History Attraction

Melissa Becker and Marshall Wymore, Theodore Roosevelt High School, Wyandotte, MI

Title of the Lesson/Activity: Edison vs. Ford – Approaches to Innovation

Grade Level: 10th grade American History

Overview: Henry Ford considered Thomas Edison to be a pioneer and hero, and yet they approached innovation in very different ways. Edison surrounded himself with an intimate group of learned professionals, master craftsmen and esteemed colleagues whom he collaborated with in a creative environment on various projects. Henry Ford, however, expected his workers to conform to his ideas of how a car should be built. Every movement was calculated, each motion controlled by the mass-production assembly line machine. No latitude was given to Ford's employees, whereas Edison cared little for how his men happened upon the end product so long as they got there. Ford's Model T was built according to a specific recipe and formula down to the very movements his workers made. Both men, though markedly different in their approach to innovation, were wildly successful in their varying visions.

Central Question/Problem: Considering the quality and quantity of product, as well as worker satisfaction, which approach to innovation – Edison's or Ford's – was the most effective?

Learning Objectives: Students will understand the different philosophies toward innovation embraced by Edison and Ford and how these diverging management paradigms resulted in widely differing employer/worker relationships.

Assessment Tools: Participation during group activities, post-activity self-reflection, creative writing piece

Key Concepts: Innovation, mass production, collaborative problem-solving, research and development, sociology, labor relations

Evidence/Sources: Benson Ford Research Center, Items from FMC, Sociological Department and Teaching American History Binder

Duration: Approximately 1 week/5 school days

Instructional Sequence:

1. Instructor begins with PowerPoint overview of Thomas Edison and Henry Ford background information.

2. Students in groups will consider primary source documents, including photographs of the Menlo Park Laboratory and Highland Park factory, testimonials of workers and families, and a telegram from Henry Ford.

3. In groups, students will complete two separate tasks. One will have little structure or guidelines, leaving students to creatively work together to work toward a solution to a problem. (The Edison Experiment) The other will be heavily regimented, with specific roles and tasks for each member of the group. Groups will be supervised, timed and coached to improve productivity in their task. (The Ford Experiment)

4. Students will reflect upon their group experiences and the challenges each presented. In an open-ended question format, students will discuss the positive and negative attributes of each approach to innovation and, ultimately, decide whom they would have rather worked for – Thomas Edison or Henry Ford.

5. Students will complete a creative writing piece in which they write from the perspective of an Edison craftsman or a Ford factory worker's point of view.

Student Project Ideas: Students can research popular companies in the Fortune 500 list "Best Places to Work" to discern patterns in types of companies, treatment of workers, employment amenities or perks offered, as well as health care and other benefits.

Anticipated Student Conceptions or Challenges to Understanding: Some students may get frustrated by the lack of or too much direction given in the group activity. Instructors should incorporate groups with students of varying abilities, motivation and learning types.

Curriculum Links: Standard I.3 - Analyzing and Interpreting the Past
Standard I.4 - Judging Decisions from the Past

Evaluating Primary Sources

As a group, study the packet of primary sources and discuss the questions below.

1. Study the photograph of Edison's Menlo Park Laboratory. How would you describe this workplace? Describe the dress and condition of the men. How would you describe the feel of this workplace?

2. Study the photograph of Ford's Highland Park Plant. How would you describe this workplace? Describe the dress and condition of the men. How would you describe the feel of this workplace? How does this compare with Edison's Menlo Park Laboratory?

3. Study the Western Union telegram sent by Henry Ford to the Edison Pioneers. The Edison Pioneers were the group of men that first worked with Edison at his Menlo Park Laboratory. What is the purpose of the telegram? What does the telegram tell you about the relationship Thomas Edison had with his employees? What does this say about his relationship with Henry Ford?

4. Study the picture of Thomas Edison and Henry Ford together. How are the two innovation pioneers pictured? Judging from their body language, what can you tell about the relationship of these two men? Why do you think their approaches to productivity and innovation are so drastically different?

5. Study the document from the Ford Sociological Department entitled "Qualifications for Profit Sharing." What kind of employee was Ford trying to promote for his company? Do you feel this is fair? How much privacy are you willing to give up to earn more money? How much influence should your employer have in your personal life?

6. Study Mr. Renwick's letter to Henry Ford. What conditions does he speak of regarding production in the company? Is Mr. Ford justified in monitoring how his workers spend their pay?

7. Look at the chart listing employee pay by religion. Why do you think Henry Ford would be interested in this kind of information? What purpose did it serve?

8. Read the letter to Henry Ford dated 1/23/1914. Why does this woman call Mr. Ford a "slave driver"? Does she feel her husband's work is worth the $5/day? Do you?

9. What working conditions does Mrs. Jennie Calamia complain of in her letter to Henry Ford? Does productivity and profitability of the company as a whole justify these conditions?

10. Look at the Ford Sociological Department Record of Investigation. What did the report find? Does an employer have the right to deny benefits to someone based upon personal non-work-related behavior?

11. Looking at the diploma from the Ford English School, consider the following: Should employees be require to assimilate into our culture in order to work here? According to Henry Ford, do you think he felt being "American" constituted success?

The Henry Ford Experiment

Much like Henry Ford and the construction of his famous Model T, your group will use the mass-production mind-set and assembly line process to produce a product that is useful, cheap and of superior quality. You will be completing a very specific and organized task – the production of blank-paper books (the kind that we use for projects in class). You will be evaluated as a team by how many of these books you can produce in a given period. Only quality products will be acceptable.

You will each be assigned a particular role within your group, and it is important to your overall successfulness that you complete your specific task completely and precisely. Each group will have members assuming the following roles:

- Foreman – responsible for overseeing the group
- Clerk – responsible for materials, quality control and inventory
- 6 Workers – each with a specific job description

Further information will be supplied to you on an employee time card that details your specific role and responsibilities.

~~~~~~

The Thomas Edison Experiment

Much like Thomas Edison and his colleagues of the Menlo Park Laboratory, your group will work cooperatively to solve a problem. You must draw upon your creativity and individual strengths to work out the solution to a particular quandary – how to keep an egg from breaking after a 10-foot fall. Your group will be evaluated based upon your successful completion of this task. You may go about a solution to this problem however you choose, but your group must work together. Your teacher is available only for basic questions – the creativity and final solution must be your own. You may use any of the supplied materials found in your group shoebox or you may provide your own.

~~~~~~

Name____ Hour_____ Date___________Group #_____

Individual Reflection (circle which experiment) Henry Ford Thomas Edison

1. What did you like about the group activity? Explain why.

2. What did you dislike? Explain why.

3. How productive or successful do you feel your group was? Why?

4. How did you feel treated in your group? Did you like your role?

5. Could you do this job for 8 hours a day, 5 days a week? Explain your answer.

6. Do you feel that this was an effective way to organize workers toward obtaining a final product? Explain.

Innovation - Essay Writing

Drawing upon your experiences with the Henry Ford and Thomas Edison experiments, as well as what you've learned in class about each of these industrialists' approaches to innovation and productivity, explain in a well-planned and carefully constructed essay for whom you would have rather worked – Henry Ford or Thomas Edison?

Innovation - Creative Writing

Draw upon your experiences with the Henry Ford and Thomas Edison experiments, as well as what you have learned in class about each of these industrialists' approaches to innovation and productivity, as you write a week-long journal from the perspective of either a Highland Park or Menlo Park Laboratory employee.

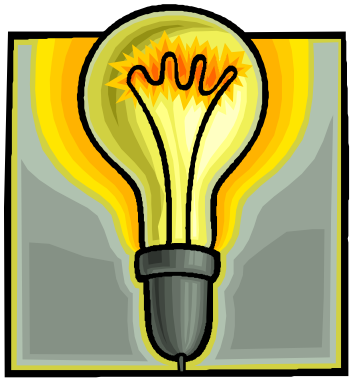
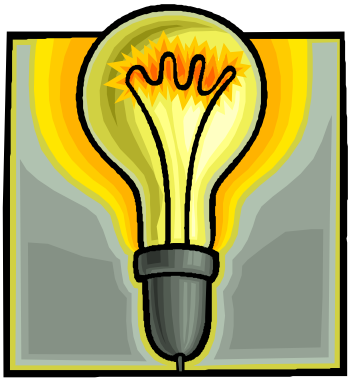
Your journal should include 5 entries written from a, first-person point of view. Your entries should detail the working conditions, mental toll experienced on the job, satisfaction gained from your work, as well as the amount of recognition and/or respect you receive for the work that you do.

Student Groups

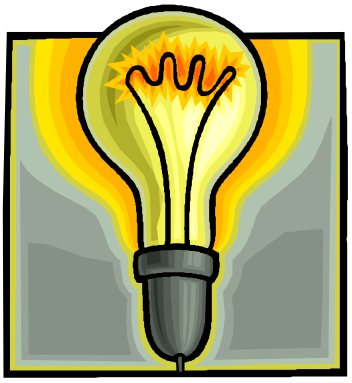
To divide students into groups, laminate and cut out the following images and shuffle. Each student draws an image – sight unseen – and must find other classmates that have drawn the same image. This will constitute one group.

The following contains enough images to have 7 groups of 7 (for 49 students). For fewer students, simply remove extra images from each group set before distribution.



Group #1

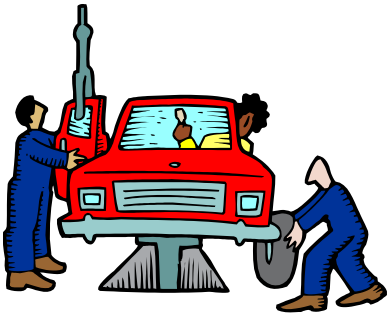
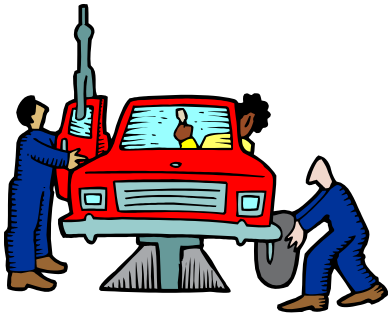
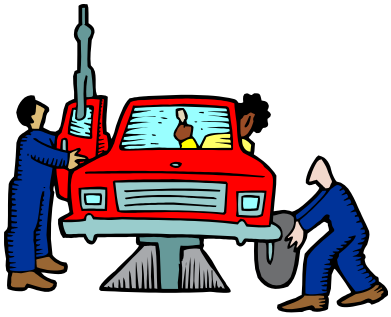
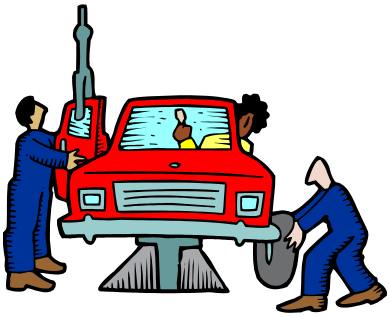
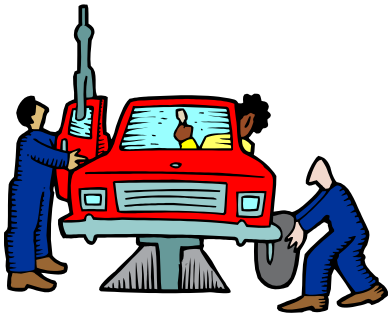





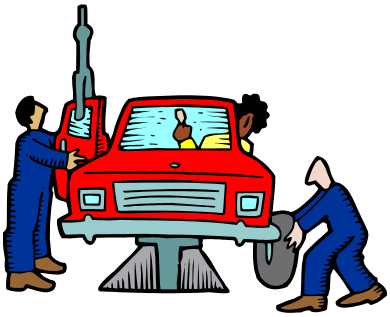
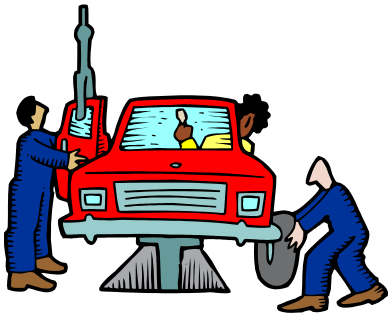


Group #2


Group #3

Group #4





Group #5






Group #6


Group #7

Clerk

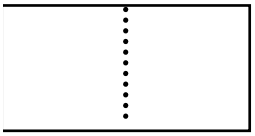
Your job duties include: counting the number of books produced and the amount of paper used to make the books. You will also keep a separate tally of paper (waste) and books that do not meet quality standards. You will monitor the book output to ensure quality books are produced. You will also watch your group's stock of materials and replenish supplies as needed.

Foreman

Your job duties include: observing the workers as they assemble the books. After allowing several minutes of practice, you will time these workers to determine how long it takes each worker to perform a particular task. You should observe each worker's movements to complete a tasks (for example, are they being efficient with their task movements and placement of materials needed?). At the end of the task, you should be able to decide which workers you would keep and which you would fire.

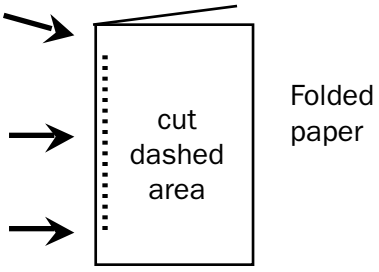
Worker 1

Your job will be to fold four pieces of paper in half "hamburger style".



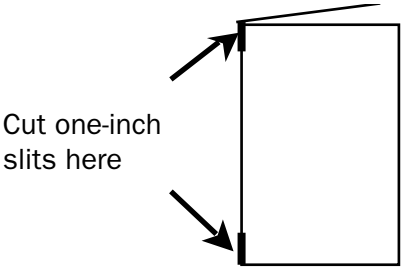
Worker 2

Your duty will be to cut a slit along the folded edge of one piece of paper. (These papers will be provided to you by Worker 1.) You will cut as close as possible to the fold, beginning and ending your cut approximately one inch from the ends.



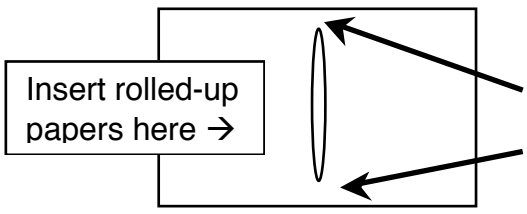
Worker 3

Your duty will be to take three pieces of folded paper (these papers will be provided to you by Worker 1) and cut slits in the ends of these papers. You will cut these one-inch slits on each end of the folded side of the papers.



Workers 4-6

Your job will be to assemble the two parts of the book. You will need the single sheet, with the middle of the folded edge cut out, and three sheets with slits cut into each end. These components will be given to you by Workers 2 and 3. You will roll up the three sheets the long way and insert the rolled sheets into the hole in the other sheet of paper. Then unroll the three sheets so that the slits in the ends match up with the one-inch spine connectors.

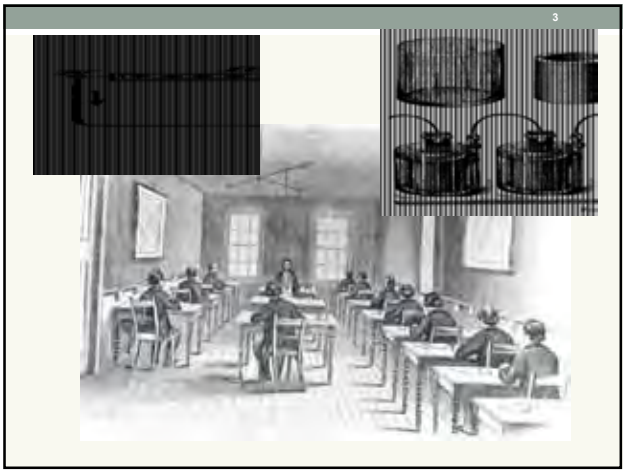


Edison vs. Ford

Approaches to Innovation

Edison's Life

- Born in 1847 in Ohio
- Moved to Port Huron, MI as a child
- Sold newspapers on trains
- Became interested in telegraphy and wanted to improve the telegraph's performance



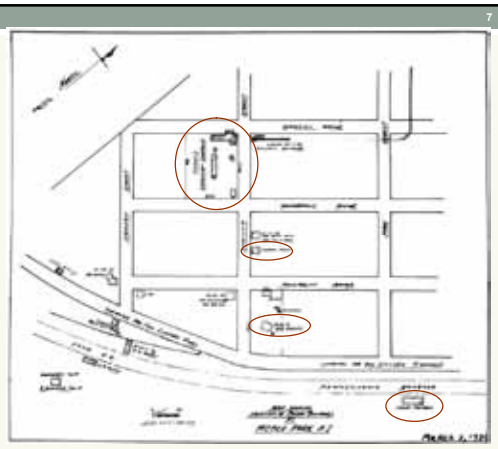
Edison's Telegraph

- Early telegraphs could only send/receive one message at a time (consider a town with one telegraph!)
- Edison came up with duplex (2 msgs @ once) and quadruplex (4 msgs @ once)
  - Result: faster information interchange; more messages with less operators

Edison's Laboratory

- Edison decides to become self-employed and to build a laboratory to fit his needs
- Finds perfect location in New Jersey, just outside New York City

7

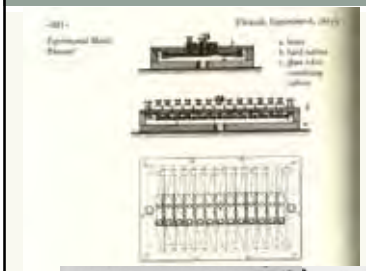


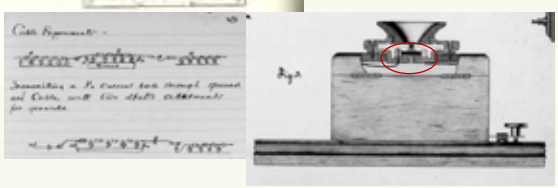
8

- I have now thoroughly completed & stocked my Laboratory at Menlo Park N.J. 26 miles from New York on the Penn. RR. The building is 25 x 100 & 2 stories filled with every kind of apparatus for scientific research.
- My laboratory with machinery & apparatus have cost about $40,000, and if the Co desire to enter into such a contract I suggest that Mr. Prescott be sent to investigate the unusual facilities which I have for perfecting any kind of Telegraphic invention
  - Edison to William Orton
  - December 1876

Even inventors need a break sometimes!

11





Edison uses Menlo Park to improve Bell's version of the telephone

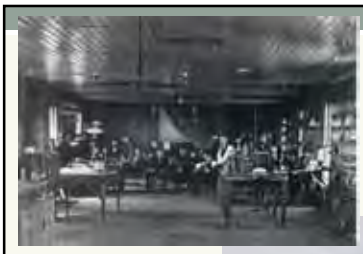
12

Edison's first phonograph

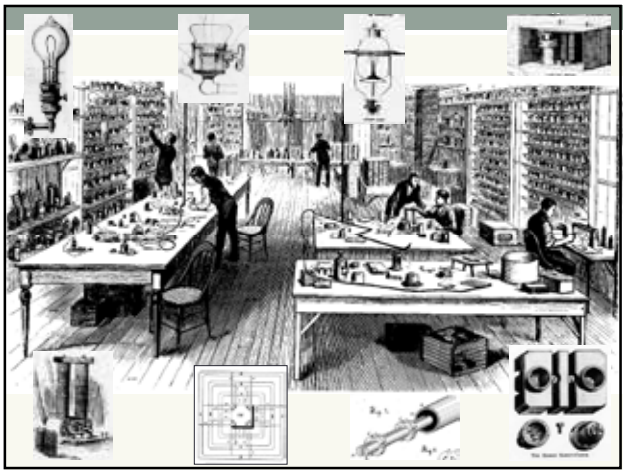
"Wizard of Menlo"

Edison's Big Idea!

- Edison begins work on the electric light
- He assembles a team of workers to experiment with different materials for his light bulb

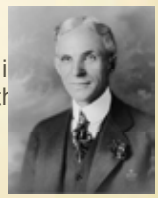


Lab Staff 1880



Henry Ford

- Born July 30, 1863 in Springwells Twp., MI (East Dearborn area today)
- Lived on a farm
- Worked for Detroit Edison Electric i the 1890's while experimenting with gasoline-powered cars
- Built Quadricycle in 1896
- Started his own company in 1900 (failed)



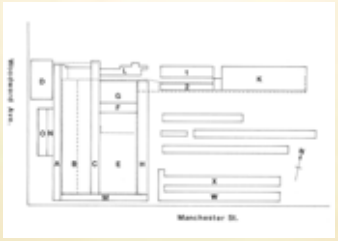
Ford Motor Company

- Ford tried again, started FoMoCo in 1903 on Piquette Avenue, Detroit
- First Model T: 1908
- By 1909, Ford can't produce cars fast enough; begins looking for larger factory site
- Begins building Highland Park plant

Piquette Plant

Ford Highland Park Plant, Building A under construction, 1909

Highland Park Complex



Plan of Ford Highland Park Plant, 1914

- A, M, and H are four story factory buildings
- B and E are one story machine shops
- C and F are glass-roofed craneways
- K, 1, and 2 are foundry buildings
- Dotted line is the monorail conveyor system

Matthew Boesen, Woodberry Forest School, Woodberry Forest, VA

Title of the Lesson/Activity: Advertising, Psychology and Mass Consumption in the 1920s

Grade Level: 11-12

Overview: American history textbooks often portray Henry Ford's pioneering manufacturing innovation of 1913 – the moving assembly line – as nothing less than a watershed moment in the history of American industry. [1] Emphasizing the moving assembly line highlights Ford's revolutionary impact on the history of mass production, but these same textbooks generally overlook Ford's significant role in the rise of mass consumption in early 20th-century America. This lesson is designed to fill that gap. Using two short documents and four advertisements drawn from the archives at the Benson Ford Research Center, students in this lesson will consider the connections between Ford's Model T, the rapidly changing advertising industry in the early 20th century, contemporary changes in the field of psychology and the rise of mass consumption.

The documents and images in this lesson (attached at the end of this document) could be adapted for use in several types of high school classrooms. For competent students comfortable with primary documents, this lesson would work well as an open-ended discussion. The documents and images could be given to students either for homework or at the beginning of class, and discussion could begin with the following questions and avenues of inquiry.

Sequence of Instruction:

Questions for the Documents:

1. As the head of sales and marketing for the Ford Motor Company, Norval Hawkins sought to teach his employees the art of salesmanship. How, according to Hawkins, should salesmen approach the task of selling goods to their customers? What assumptions should they make about their customers? How should those assumptions guide the strategies that salesmen employ?

2. According to John B. Watson, what motivates human beings to act? To what extent are human beings driven by their thoughts – their minds? By their feelings – their hearts? Consequently, according to Watson, which principles should guide the science of psychology?

[1] See, for example, Alan Brinkley, *American History: A Survey* (New York, 2007), 645, 647; James Davidson, et. al., *Experience History: Interpreting America's Past* (New York, 2011), 660; Thomas A. Bailey and David M. Kennedy, *The American Pageant* (New York, 1994), 754-755.

3. Toward the end of his career, Watson resigned his position as professor of psychology at Johns Hopkins University and joined a marketing firm in New York City. For Watson, this was not a difficult transition. Explain how the ideas contained in Watson's essay could translate into the world of business. How are Hawkins' business principles about sales and marketing connected to – even dependent upon – Watson's academic ideas about what motivates human beings in general?

Questions for the Images:

1. Explain the appeal made in advertisement #1. According to this advertisement, why should customers consider buying a Model T?

2. Explain the appeal made in advertisements #2-3. According to these advertisements, why should customers consider buying a Model T?

3. In your opinion, which of the appeals is more persuasive? Are these advertisements honest? Deceptive? Manipulative? Which of these advertisements should be more persuasive?

General Discussion Questions – Documents and Images:

1. Explain the connection between the documents and the advertisements. Which advertisements rest on the principles outlined in the documents? In your opinion, which documents could have been designed by Hawkins or Watson? Why?

2. In your opinion, were the innovations in advertising advocated by Hawkins and Watson beneficial? Harmful? Dangerous? Are they the heroes of this story or the villains?

Assessment: In whatever way these documents and images are used, they will require some supplementary reading in a textbook (or other general introduction to the period) to provide relevant context on the rise of mass consumption in early 20th-century America. Most textbooks include a short section on this topic as part of a chapter on the 1920s. Alongside that textbook reading, students could be asked to write a brief essay connecting these documents and images to the general theme of mass consumption: To what extent did Ford advertising in the first few decades in the 20th century demonstrate the rise of mass consumption in America? Or Evaluate the following statement: Ford's advertising in the 1920s illustrates a new era in American's changing attitudes toward consumer goods.

For younger students or for those instructors interested in a more hands-on approach, students could use the different types of advertisements as models for advertisements that they could create themselves: Using the different types of advertisements presented in this lesson, design two advertisements for a current (or fictional) product. This assessment would help ensure that students understand the differences between advertisement #1 and advertisements #2-3 and, in the process, the differences between pre-Hawkins/Watson advertising and post-Hawkins/Watson advertising.

Document #1 – Norval Hawkins, *The Selling Process: A Handbook of Salesmanship Principles*

Norval Hawkins was in charge of sales and marketing for the Ford Motor Company when the Model T was introduced in 1908. After he left the company about a decade later, he wrote a book summarizing his approach to advertising. Consider the following excerpts from that book, *The Selling Process: A Handbook of Salesmanship Principles:*

"A salesman must realize that the appeal must be made primarily to the heart instead of to the mind. A man's emotions, not his thoughts, control his desires…You do not sell goods, but ideas about goods…

Desire means want, and a man wants things, longs for things with his heart. He realizes a lack, and has a heart hunger for something to fill this lack. His mind may oppose his heart, and may hinder his heart from getting what it desires. His mind has no feelings; so it cannot experience hunger…the ache is in his heart, the place where he hungered…The process of persuading and creating Desire…[demands that] the salesman should work to get old feelings (not ideas) to move out of the prospect's heart with longing for the salesman's goods or proposition."

Source: Norval A. Hawkins, *The Selling Process: A Handbook of Salesmanship Principles* (Detroit, 1920), 68, 219-221. Quoted in Steven Watts, *A People's Tycoon: Henry Ford and the American Century* (New York, 2005), 131-132.

Document #2 – John B. Watson, *"Psychology as the Behaviorist Views it"*

John B. Watson was a path-breaking psychologist in the early 20th century. Considered the founder of behavioralism, Watson left higher education toward the end of his career and joined an advertising firm. Consider the following brief excerpt from Watson's essay on "Psychology as the Behavioralist Views It" (1913):

"The time seems to have come when psychology must discard all reference to consciousness; when it need no longer delude itself into thinking that it is making mental states the object of observation. We have become so enmeshed in speculative questions concerning the elements of mind…that I, as an experimental student, feel that something is wrong with our premises…I believe we can write a psychology, [and] never use the terms consciousness, mental states, mind…and the like…It can be done in terms of stimulus and response, in terms of habit formation, habit integrations and the like…

"Psychology as the behaviorist views it is a purely objective experimental branch of natural science. Its theoretical goal is the prediction and control of behavior…The psychology which I should attempt to build up would take as a starting point, first, the observable fact that organisms, man and animal alike, do adjust themselves to their environment…secondly, that certain stimuli lead the organisms to make the responses. In a system of psychology completely worked out, given the response the stimuli can be predicted; given the stimuli the response can be predicted. Such a set of statements is crass and raw in the extreme, as all such generalizations must be…My final reason for [studying psychology with these principles] is to learn general and particular methods by which I may control behavior…If psychology would follow the plan I suggest, the educator, the physician, the jurist and the business man could utilize our data in a practical way, as soon as we are able, experimentally, to obtain them…"

Source: First published in *Psychological Review* 20 (1913), 158-177. The full text of this document is in the public domain and is available on dozens of websites. This brief excerpt has been created specifically for this lesson plan.

America's Greatest History Attraction

Alaina Brown, Novi High School, Novi, MI

Title of the Lesson/Activity: Industrial rEvolution?

Please note the Instructional Sequence is a rough overview of how to sequence this lesson, attention has been given to three key pieces in Assessment tools below.

Grade Level: 11th grade World History

Overview: Historians debate whether or not the Industrial Revolution was truly a revolution. When compared to other instances of revolution, it seems rather long and drawn out; does this instead imply that the Industrial Revolution is simply an evolution? If this is the case, then we should see gradual change over the course of time. However, people who lived between the late 19th and early 20th century would have noticed a marked difference in their lifestyles. Students are invited to enter into this debate.

Central Question/Problem: To what extent was the Industrial Revolution in fact a revolution?

Learning Objectives: Students will compare and contrast the process and impact of industrialization in Russia, Japan and one of the following: Britain, Germany, United States or France

Assessment Tools:

Formative Assessment

Class discussion around images of the First and Second Industrial Revolutions

- Textbook reading – determine which information is significant and necessary to respond to the central question
- Lectures and analysis of their meaning in terms of responding to the central question
- Primary source reading and analysis
- Secondary source reading and analysis

Compare and contrast world's fairs, specifically the Crystal Palace Exhibition in 1851 and Chicago World's Fair of 1933: The Century of Progress

Summative Assessment

Debate

-The class will divide into six groups of five. Three groups in support of evolution and three groups in support of revolution.

-Each group creates five points they can make in support of their position, then each group member becomes responsible for one point

-Each group member then uses unit material to create a statement to make and defend during the debate (½ page typed including in-text citations).

-Each group member is responsible for preparing three questions for the opposition based on what they've learned.

-During debate, students are to keep a list of key points made from each side.

-At the conclusion of the debate, students should use material collected across the unit and from the debate to state their true opinion on the Industrial Revolution as a revolution or an evolution.

Key Concepts:

-Proto-industrialization in England
-First industrialization in England
-Transformation of farming equipment
-Introduction of steam power
-Transformation of transportation and communication
-Impact on women
-Impact on children
-Impact on family life overall
-Changing nature of work
-Changing ideas about education/schooling
-Meiji Restoration
-Rising concern for health and pollution
-Transformation of notions of labor – from guild, master craftsmen, small farmers and wealthy landowners of the agricultural age to the emergence of working and middle class and big businesses (both in farms and in the city)
-Innovators like Deere, Watt, Edison and other key figures who made this transformation possible

Evidence/Sources:

-The Henry Ford's Online Collections http://collections.thehenryford.org/
-ExhibitBuilder http://collections.thehenryford.org/ViewExhibit.aspx?exhibitid=1349#
-World History teachers may want to add to this presentation to be sure to include Japan (e.g., http://regentsprep.org/regents/global/themes/imperialism/images/Meiji.gif). Will have to move the pictures to PowerPoint since images cannot be imported into ExhibitBuilder.
-Cowan, Ruth Schwartz. *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1983), pp. 3-75.
-Excerpts from *Good-bye Asia* http://personal.ashland.edu/jmoser1/japan/fukuzawa2.htm
-Crystal Palace Exhibition 1851

-Benson Ford Research Center has a great telescopic piece that served as promotional material.
-The Internet also provides great resources, such as http://www.victorianstation.com/palace.html New York 1933.
-Benson Ford Research Center has several great sources, including guidebooks.
-You can find a great deal online, such as http://www.chicagohs.org/history/index.html.

Duration: 3 weeks on a standard 6-period-day schedule

Instructional Sequence:

Day 1**:** Begin by asking students to define "revolution." Then show ExhibitBuilder/PowerPoint exhibit and discuss questions with the students.

Day 2**:** Lecture on changes in agriculture in England and ideas of ownership in the 18th century. Simulate cottage industry and discuss pros and cons of the system. This should show students need to change the system to make it more efficient.

Day 3: Student textbook reading on changes in agriculture. Students may be assigned a specific agricultural innovation and be asked to convince students to purchase it.

Day 4: Impact of changes in agriculture. Discuss and use as hook into lecture on innovation.

Day 5: Lecture: First Industrial Revolution in England.

Day 6: Lecture: Innovations of the Industrial Revolutions – focus on railroads.

Day 7: Reading: Spread of Industrial Revolution to the United States and Germany. Students compare and contrast First Industrial Revolution in England to the Second Industrial Revolution in the United States in Germany.

Day 8: Impact of the revolutions. Have students draw a role, then explain how the Industrial Revolution changed their lives.

Farm wife	Urban wife
Male farmer	Young boy
Young girl	Wealthy landowner
Wealthy man without land	

For homework, have students read an excerpt from Cowan, then compare and contrast their view to that of Cowan.

You may choose to do more social history at this point, add in labor concerns, farmer resistance, tension between big business and the individual.

Day 9: Lecture on Meiji Restoration, then read Fukuzawa's *Good-bye Asia*. Ask students to identify origin, purpose, value and limitation of the piece in terms of the unit question.

Day 10: Provide students with information about the Crystal Palace Exhibition in 1851 and the Century of Progress in 1933. Students must compare and contrast the two fairs.

Day 11: Students use information collected across the unit to prepare for the debate as described in the Summative Assessment above.

Days 12-13: Debate and student conclusions.

Student Project Ideas: Consider all options: in class, homework, individual, group, online, off-line, throughout the lesson or part of final assessment.

Anticipated Student Conceptions or Challenges to Understanding: Students may find the agricultural aspect of this unit difficult to relate to. Images, video clips and simulations may make this more accessible. Additionally some of the reading assigned may prove challenging for struggling readers. Be sure to shorten and support reading as you see fit. Cowan's 72 pages should not be assigned in total, and students may need some background on the Meiji Restoration to understand the Fukuzawa piece.

Curriculum Links: From the Michigan Grade Level Content Expectation Standards
6.1.4 Changes in Economic and Political Systems
6.1.5 Interpreting Europe's Increasing Global Power
6.2.3 Industrialization – Analyze the origins, characteristics and consequences of industrializing 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

America's Greatest History Attraction

Ann Calhoun, Lincoln High School, Ypsilanti, MI

Title of the Lesson/Activity: Henry Ford

Grade Level: 9th grade U.S. History

Overview: In this lesson, students will identify the contributions of Henry Ford and the assembly line and how they affected a progressing America. The lesson will culminate with a visit to the Ford Rouge Factory.

Central Question/Problem: How did the automobile change American life?

Learning Objectives: The student will be able to:

-Discuss the life of Henry Ford

-Explain the impact of the automobile on American life

Assessment Tools: Student involvement in discussions and participation in activities, timeline and essay.

Key Concepts: Henry Ford and the automobile, Ford's assembly line, Industrial Growth

Evidence/Sources:

-Textbook *America – Pathways to the Present* (Prentice Hall)

-The Henry Ford's websites

-Ford Rouge Factory

Duration: 3 class periods

Instructional Sequence:

Day 1: The teacher will lead a class discussion about Henry Ford, his life and how he changed the assembly line to increase efficiency. Following the discussion, students will work in pairs or small groups to complete these activities:

-List at least 10 changes in American life caused by the automobile.

-Select at least 2 of the changes and note the development of related services, industries and problems that were created by the change and how they were resolved.

-List 3 ways owning a car might have affected a 1920s family that had never owned a car before.
-Imagine being a young person in the mid-1920s. List 3 reasons that might convince your parents that it would be a good idea to purchase an automobile.

Day 2**:** Students will create a timeline showing the advancements of cars. They should include a glimpse into the future by ending their timeline with their view of a car of the future. (Students can use ExhibitBuilder to create their timeline.)

Day 3: Field trip to the Ford Rouge Factory. Students will write a 2-page essay summarizing what they saw and learned on the field trip.

Curriculum Links:

-USHG 6.1.5 A Case Study of American Industrialization – the Impact on Michigan
-USHG 7.1.1 The Twenties
-USHG 9.1.1 Economic Changes

America's Greatest History Attraction

Kristina Carrasco, Pacifica High School, Garden Grove, CA

Title of the Lesson/Activity: The Rise of Industry

Grade Level: 10-11

Overview: As a summative lesson, students will work collaboratively in groups of 3-5. They will organize primary source documents (from the ExhibitBuilder on http://collections.thehenryford.org/ExhibitHome.aspx or teacher provided) that relate to the Industrial Revolution by placing these primary sources into "themes" or "museum exhibit rooms." Students will then complete a gallery walk, then work independently and complete a writing assignment based on their "museum themes/exhibit rooms."

Theme rooms will consist of changes in the home, agriculture, science and technology, mass production. These will be the exhibit rooms students place their primary sources in. Each exhibit room must have a theme and explanation to the theme.

Central Question/Problem: Based on all the primary source documents, what were the main components that led to the rise of industry?

Learning Objectives: Students will be able to support or argue their opinion about the Industrial Revolution by creating "theme rooms" for their museum on their poster.

Assessment Tools: Please see attached rubric for essay grading.

Key Concepts: As a summative assignment, students will reflect on what they have learned during the Industrial Revolution unit.

Evidence/Sources: Primary sources from The Henry Ford ExhibitBuilder and other teacher-provided sources.

Curriculum Links: California Content Standards
10.3- Students analyze the effects of the Industrial Revolution in England, France, Germany, Japan, and the United States.

1. Analyze why England was the first country to industrialize.
2. Examine how scientific and technological changes and new forms of energy brought about massive social, economic, and cultural change (e.g., the inventions and discoveries of James Watt, Eli Whitney, Henry Bessemer, Louis Pasteur, Thomas Edison).

3. Describe the growth of population, rural-to-urban migration and growth of cities associated with the Industrial Revolution.

4. Trace the evolution of work and labor, including the demise of the slave trade and the effects of immigration, mining and manufacturing, division of labor and the union movement.

5. Understand the connections among natural resources, entrepreneurship, labor and capital in an industrial economy.

11.2- Students analyze the relationship among the rise of industrialization, large-scale rural-to-urban migration and massive immigration from Southern and Eastern Europe.

1. Know the effects of industrialization on living and working conditions, including the portrayal of working conditions and food safety in Upton Sinclair's *The Jungle*.

2. Describe the changing landscape, including the growth of cities linked by industry and trade, and the development of cities divided according to race, ethnicity and class.

Duration: After teaching the unit, this will be a summative assignment that will last about 3 instructional days (50-minute class sessions).

Student Project Idea: Students will complete a primary source poster, participate in a gallery walk and write an essay.

Instructional Sequence:

The entire Industrial Revolution unit will be taught, and this lesson will be a summative assignment in which students will display what they have learned throughout the Industrial Revolution unit.

Day 1: Teacher will place students into heterogeneous groups of 3-5 students and explain detailed information on what a theme is, poster expectations and writing assignment. (20 min)

Students will listen attentively and will begin working with their group on reviewing the primary source documents, sorting the documents and creating themes/museum rooms for their poster. (30 min)

Day 2: Students will meet with their groups and finish their museum rooms, making sure that they have an explanation of the connection of the primary source documents in each theme/museum room. Each museum room should have 3-4 sentences explaining the connection between the primary source documents and their given theme. (20 min)

Students will then place their posters around the room and complete a gallery walk. All groups will go around the room and place comments on other groups' posters, agreeing or disagreeing with the connection of the primary source documents (each group will have one colored pen for accountability). (30 min)

Day 3: Students will have about 30 minutes to draft their essay. If time permits, either on this day, or the following day a few groups will be asked to present their museum to the class.

Anticipated Student Conceptions or Challenges to Understanding: Students may disagree with their group on which primary source documents belong in which room. This is fine because it is all historical interpretation as long as students can explain why the document fits in the given room. English learners and Special Education students may find the essay difficult (the rubric will have to be adapted for these students).

Name_____

Period_____

Due Date_____

Rise of Industry Museum

Assignment: As a summative lesson, students will work collaboratively, organizing primary sources dealing with the Industrial Revolution into their own museum, grouping the primary sources into themes. Students will then work independently and complete a writing assignment based on their museum themes.

Criteria:	Points Possible:	Your Score:
Poster: There are a total of 4 rooms to your museum with at least 3 documents in each room; each room has a theme with a 3-4 sentence explanation.	30	
Structure of essay: The essay is typed with 5 paragraphs. There is an introduction, conclusion and 3 body paragraphs present. Each body paragraph represents one of the themes from the museum.	10	
Essay: The essay has a clear thesis that ties all 3 rooms together. Information presented demonstrates a thoughtful, historically accurate interpretation	10	
Essay: Information is well-organized with reference to at least 3 documents in each body paragraph.	10	
Essay: Grammar, spelling, punctuation and format are correct.	10	
Turning this sheet in along with your essay.	5	

Comments:

$$\frac{\text{Your Score}}{\text{Total Score}} = \frac{\qquad}{75}$$

America's Greatest History Attraction

Megan Cliber, Cumberland Perry Area Vocational Technical School, PA

Title of the Lesson/Activity: Car Advertising and Culture in the 1920s

Grade Level: High School (10th grade)

Overview: Students will work in groups to examine automobile advertisements from 1908-1930. They will use the documents to identify ways that the automobile changed life in the United States.

Central Question/Problem: How were the changing desires and attitudes of the U.S. population of the 1920s illustrated by the automobile advertising of the Ford Motor Company?

Assessment Tools:

-Classroom discussion (formative)
-Document activity (summative)
-Venn diagram summary (summative)

Key Concepts: Model T Ford, advertising, New Morality of the 1920s

Evidence/Sources:

-Advertisements from The Henry Ford collections
-ExhibitBuilder application
-*The American Republic* textbook
-*The Model T* by Robert Casey

Duration: Approximately 50-60 minutes

Instructional Sequence:

Activating Strategy: Examine the quote – "You do not sell goods, but ideas about goods" – by Norval Hawkins, creative manager of the Ford Motor Co.

Think/Pair/Share:

-What is the meaning of the quote above?
-What "ideas" do you think the Ford Motor Co. will try to sell to its customers in the early 1900s?

Activity Strategy:

1. Examine a current car advertisement. Students will be asked to list 5 things this advertisement tells us about life today. Discuss student responses.

2. **Review:** Two culture groups of the 1920s (Fundamentalists and the New Morality). Review definition and have students list their values. Should be previous knowledge.

3. **Pair document activity:** Students will examine advertisements for the Model T from 1904-1929 and answer the questions. These questions will target how the advertisements persuade members of both cultural groups to buy their automobiles.

Summary Activity: Students will fill in the Venn diagram separating method of persuasion into the two main cultural groups of the 1920s – Conservative Fundamentalists and the New Morality.

Student Project Ideas: Students could create an advertisement for other products of the 1920s, such as kitchen appliances, cleaning products or prepackaged food.

Anticipated Student Conceptions or Challenges to Understanding: Students must have studied the difference between the Fundamentalists and the New Morality of the 1920s and the consumer culture of the era to fully complete this activity.

Students may have trouble viewing the advertisements online due to bandwidth or have no access to laptops. In that event, document folders could be created for students to use, or documents could be posted around the room for student use.

Curriculum Links:

National Council for the Social Studies Standards:

-Culture: Values and beliefs of societies influence their analysis of challenges and their response.

-Time, Continuity and Change: Research and analyze past periods using primary sources.

Name:_____ Period:_____Date:_____

Car Advertising and Culture of the 1920s

Essential Question: How were the changing desires and attitudes of the U.S. population of the 1920s illustrated by the automobile advertising of the Ford Motor Company?

Do Now: Examine the quote- "You do not sell goods, but ideas about goods"
Creative Manager of the Ford Motor Co, Norval Hawkins.

Think/Pair/Share

1. What is the meaning of the quote above?

2. What "ideas" do you think the Ford Motor Co. will try to sell to its' customers in the early 1900s?

What idea is being sold in this ad?

List 5 things this advertisement tells us about life in the year 2011

Its bold presence is a wakeup call to your senses. Beginning with the unmistakable chrome grill that continues its' linear design around Flex in the form of four distinctive grooves. The all-black greenhouse design with privacy glass seamlessly ties the body together with the roof. Equipped with SYNC's hands free phone, music, ringtones, text messaging, directions, emergency services and more. Then just when you get used to them, you discover there's still a lot more. www. Adamsonford.com

Car Advertising Document Activity

Directions: Work with a partner to use the Documents at the Henry Ford Exhibit: *Ford Advertising* to answer the questions below. Please answer all QUESTIONS in sentence form.
Access through the following link:
http://collections.thehenryford.org/ViewExhibit.aspx?exhibitID=1365#

Document A

Year of Advertisement:
Car Advertised:
What boast is the advertisement making?

Document B

Year of Advertisement:
Car Advertised:
$ of car:
Find the section that says THE BEST PROOF, why do you think this statement is especially important in the early 1900s?

Document C

Year of Advertisement:
Range of cost?
How did this Advertisement support its' claim that the purchase of a car is "Within the Means of Millions"?

Where in the advertisement, can you find evidence of installment plans?

Document D

Year of Advertisement:
Why does the advertisement claim that the Ford Closed Car is good in all weather?

Why do you think this advertisement might appeal to the 1920s woman?

Why do you think the advertisement might appeal to the more conservative people of the 1920s?

Document E
Year of Advertisement:
How does this advertisement convince people of the dependability of the Ford?

How have quality and price changed over the years according to the advertisement?

Document F
Year of Advertisement:
Why might this advertisement appeal to the modern woman of the 1920s? (Include at least 2 examples)

Document G
What is the document advertising?

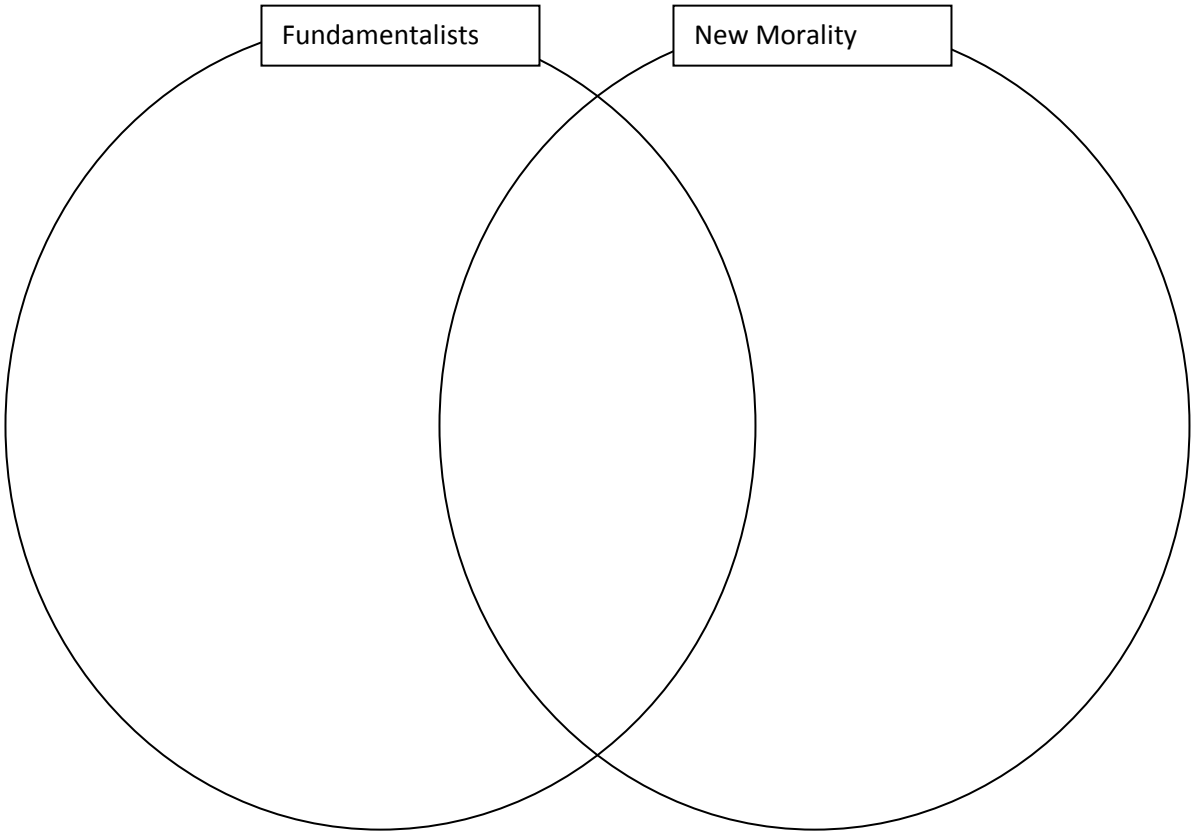
What are some of the biggest reasons to buy a Ford according to the advertisement?

Document H

How does the price of the Cadillac-La Salle compare the price of the Ford in the 1920s?

Why should you buy a Cadillac according to the advertisement?

Summary Organizer: Use the Venn Diagram to below to list ways in which the Ford Motor Company and other advertisers try to appeal to the two main cultural groups of the 1920s; Fundamentalists and the New Mortality. You must have at least 10 items on your diagram.



Created by: Megan Cliber, Cumberland Perry AVTS

EQ: How were the changing desires and attitudes of the U.S. population of the 1920s illustrated by the automobile advertising of the Ford Motor Company?

- Do Now: Examine the quote- "You do not sell goods, but ideas about goods"

Creative Manager of the Ford Motor Co, Norval Hawkins.

- ***Think/Pair/Share***

1. What is the meaning of the quote above?
2. What "ideas" do you think the Ford Motor Co. will try to sell to its' customers in the early 1900s?

What idea is being sold in this ad?

List 5 things this advertisement tells us about life in the year 2011

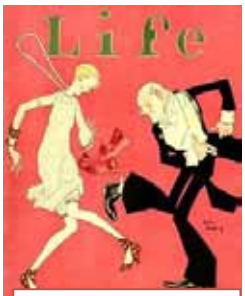
Review Terms

- Fundamentalism: **belief in traditional values**

VALUES: home, family, religion, hard work, dependability

- New Morality: **any cultural idea that doesn't fit into the traditional value system**

VALUES: independence, freedom, youth culture, jazz culture, flapper culture



Cover of *Life*, 2/18/1926 illustration by John Held. How to do the Charleston.

Car Advertising Document Activity

Directions: Work with a partner to use the Documents at the Henry Ford Exhibit: *Ford Advertising* to answer the questions below. Please answer all QUESTIONS in sentence form.

- Access through the following link: http://collections.thehenryford.org/ViewExhibit.aspx?exhibitid=1365

Some of the images and resources used and cited in these lesson plans are not from the collections of The Henry Ford nor are they affiliated with The Henry Ford in any way.

Advertisement for the 1904 Ford Model A, "One Mile in 39-2/5 Seconds, Ford World's Record"

1907 Ford Runabout Advertisement

Advertisement for the 1925 Ford Model T, "Within the Means of Millions"

Description: This advertisement, showing factory workers going home from work in their Ford Model T automobiles, illustrates the democratizing effect this low-priced car had on American society. By pricing the car well under $1000 in 1908, then regularly lowering the price -- to a surprising $290 by 1925 -- Henry Ford had brought the automobile within the reach of ordinary Americans.

Advertisement for the 1924 Ford Model T, "Cancel Distance & Conquer Weather"

Description: Ford Motor Company often relied on advertisements like this one that showed the Model T being used by country doctors and other professionals. This 1925 ad stresses the dependability of the car on rural roads and relies on the values of tradition and trust, at a time when Ford's competitors were offering more comfort and style than the outdated Model T.

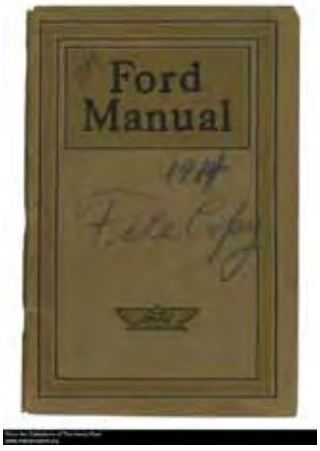
Advertisement for the 1925 Ford Model T, "Dependable as the Doctor Himself"

Advertisement for the 1924 Ford Model T, "Freedom for the Woman Who Owns a Ford"

Description: Early on Ford recognized that women were an important potential market, and designed advertisements that appealed directly to them. This ad also uses the automobile as a symbol of freedom, a theme that still resonates with auto buyers today.

Advertisement for the 1929 Cadillac LaSalle, "The Most Celebrated and Sophisticated Cars on the Streets of the World"

1914 "Ford Manual for Owners and Operators of Ford Cars"



America's Greatest History Attraction

Mark Davison, Iroquois Central High School, Elma, NY

Title of the Lesson/Activity: Transportation and Technology as an Agent for Change

Overview: Information and the exchange of ideas is a key element to making changes. Transportation technology is a significant agent for change because it can extend the reach of ideas and the speed at which they travel. How did developments in all methods of transportation (water, rail, automobile and air) facilitate that exchange? How does technology surround us each day? How do even small changes provoke unintended consequences?

This is a PowerPoint lecture with focus questions for students designed to encourage higher-order thinking. It is designed for use in teaching about the Industrial Revolution at the 11th-grade level but may be modified for middle school students as well.

Learning Objectives:
As a result of this lesson, students will understand that:
- "Every Revolution was first a thought in one man's mind" – Ralph Waldo Emerson

- Everything comes from somewhere, and everything must go somewhere – matter never disappears completely, it only changes form.

- Technological change is a chain reaction; each subject leads to the next.

- Ideas need to be shared in order to give them shape, meaning and the means of being implemented. Without this, they cannot flourish.

- For every cause there is an effect, and that effect will become the next cause … and all of these may at any time produce some unintended consequences, i.e., not all change is good change. (Ripple Effect)

- Material culture is something that surrounds people on a daily basis. Students will understand the meaning of material culture and be able to explain through example how it is currently having an impact on their lives.

- Industry and production of all goods is resource dependent and that dependency will forever link countries as a force for good or ill.

Key Concepts:
Continuity and change over time.

- Change involves the basic alterations in things, events and ideas

- Conflict is a clash of ideas, interests or wills that results from incompatible, opposing forces.

- Choice means the right or power to select from a range of alternatives.

- Culture means the pattern of human behavior that includes ideas, beliefs, values, artifacts and ways of making a living which any society transmits to succeeding generations to meet its fundamental needs.

- Factors of production are human, natural and capital resources which when combined become various goods and services.

- Science and technology means the tools and methods used by people to get what they need and want.

- Refer to New York State Social Studies Standards at
http://www.p12.nysed.gov/ciai/socst/pub/ssovervi.pdf

Assessment: The assessment will be done by examining student's written responses to a series of questions about each element of change. Suggestions for further evaluation are contained within the slide presentation. *Please note that many of these questions are contained in the individual notes section of each slide, and it is recommended that the instructor print these up before presenting the lesson. Printing out note pages to assist the students in following the main ideas is also recommended.*

In addition, students will be introduced to the idea of material culture and be asked to supply personal examples of current artifacts and explain their significance to the class in a brief oral presentation. An excellent work sheet is available for reproduction at the National Archives web page listed below:

http://www.archives.gov/education/lessons/worksheets/artifact.html

Evidence/Sources: Resources used will include this PowerPoint with photos taken at The Henry Ford as well as those from the Ford collection, information from presenter talks and specific readings. For a more advanced class, a good piece is Chapter 2 from *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* by Ruth Schwartz Cowan (March 11, 1985) entitled *Housewifery: Household Work and Household Tools under Pre-Industrial Conditions* (about 30 pages in length). The teacher is encouraged to view any of many YouTube videos related to The Henry Ford. Short videos feature anything from the steam engine as it travels around the village to a close-up of a turret lathe in operation to the Herschell Carousel. These can be tailored to meet the specific needs of the class.

Please note: permission to use the Mike Keefe cartoon was granted by Mike Keefe both to the creator of this lesson as well as to The Henry Ford and NEH if it is published on a web page or compendium of lessons.

Technology as an agent for Change

An inevitable cause and effect relationship that sometimes leads to unintended consequences!

Before We Begin: Some Terms to Know

- **Culture:** The customs, arts, social institutions, and achievements of a particular nation, people, or other social group.
- **Material Culture:** Physical objects and structures from the past. The objects created by human activities, such as tools, art and other artifacts, shelter, clothing, and other technologies.
- **Technology:** The application of scientific knowledge for practical purposes, esp. in industry. Machinery and equipment developed from such scientific knowledge.

"Inside the snow globe on my father's desk, there was a penguin wearing a red-and-white-striped scarf. When I was little my father would pull me into his lap and reach for the snow globe. He would turn it over, letting all the snow collect on the top, then quickly invert it. The two of us watched the snow fall gently around the penguin. The penguin was alone in there, I thought, and I worried for him. When I told my father this, he said, "Don't worry, Susie; he has a nice life. He's trapped in a perfect world."
— Alice Sebold (The Lovely Bones)

Some BIG Ideas

- "We work because **it is a chain reaction, each subject leads to the next**." – Charles Eames - Designer and Furniture Manufacturer
- Everything comes from somewhere and everything must go somewhere – matter never disappears completely, it only changes form.
- So there is an effect for every cause and every cause creates another effect and on and on and on – ripple effect.

The Ripple Effect

- is a shift in perspective that leads to greater connections. Just like stones thrown into a pond, simple actions create ripples in the lives of all the people you touch and sometimes people you have never even met.

The inevitability of change!

- As we examine the ripple effect of technology, lets keep several ideas in mind:
  - The world we live in is not a static place. It is constantly in motion and time is always moving forward.
  - New technologies require a steady stream of new resources and sometimes require vast amounts of a single resource.
  - Profit motive (greed) often drives change i.e. less labor reduces cost which in turn increases profitability. Much of the story of invention is the story of reducing labor (labor saving devices) and the number of people needed to do that work.

Change as Constant

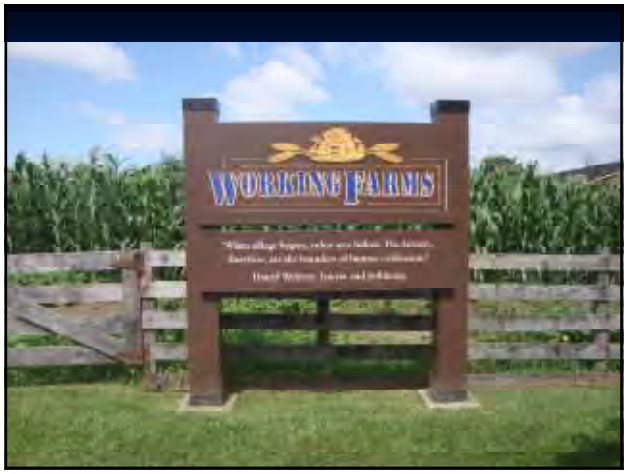
- In spite of what may seem a contradiction in terms "Change is constant". It has been said that the only thing you can know for certain is that things will Change.
- So where does the change come from?
  - From man's creative instinct
  - From a need to improve something that already exists.
  - To meet a new challenge in the world of work or the world of play.
  - Man's belief that change will always make things better.
  - Change and the need to change can come from anywhere.

Some examples of change follow:

- Change in agriculture
- Change in all transportation methods
  - Water
  - Rail
  - Auto
  - Air
- Change in communication

We begin with agricultural change because it is the most important.

- Because it provides us with the "staff of life", bread and cereal grain. Without farming mankind would still be a collection of hunters and gatherers like our prehistoric ancestors.
- Grains are used to feed mankind and the domesticated animals that will become his food.
- Farming has allowed mankind to begin permanent settlement.



Agriculture

- For much of our history, American Farmers faced special challenges, including dense forests, hard prairie soil, labor-intensive work, and a shortage of workers.
- Farmers, mechanics and industrialists tried to address these challenges with practical solutions. Often, improvements were small. **New inventions built on the successes of earlier ones**.
- But occasionally, an invention would have far-reaching impact, revolutionizing how the work was done and how much farmers could produce. These were the great innovations that not only changed farm work but transformed our lives.
  - From a sign in the Ford Museum at THE HENRY FORD

Early Wooden Plow

McCormick Reaper

McCormick Reaper 1 – 4 horsepower

New Holland Harvester = 544 horsepower

Example of unintended consequence.

- Invention of the cotton gin
- Problem - How to separate seeds from the cotton boll in the green-seed or upland cotton, the only kind which could ever be cultivated extensively in the South? Removing the seeds was labor intensive and time consuming.
- If a machine could be created, the plantation owner could plant more cotton and as long as cotton prices remained high, which they did on the English market, he could cultivate even more land and grow very rich.

Enter Eli Whitney and his Cotton Gin

Transportation as an example

Transportation by BOAT

Some Comparisons

- Name: Mayflower
- 1609
- Length: about 93 feet
- Width: 35 -40 feet
- Speed: dependent on the wind speed and direction 65 days heading west to America and 31 days traveling from Plymouth to England heading east
- Capacity: 102 passengers

- Name: Allure of the Seas
- First Voyage 1 Dec. 2010
- Length: 1181 feet
- Width: 176 feet on average
- Speed: 26 mph.
- Capacity: 6300 passengers

Something to think about

- Why did it take so much longer for the ship to sail to America than for it to sail back from America to England?

Transportation by Rail

Some Comparisons

- 1831
- Steam Power
- Maximum speed @ 8 -10 mph.

- 1981
- Electric Power
- Maximum speed 350 mph.
- Average speed 280 mph.

Transcontinental Rail Routes

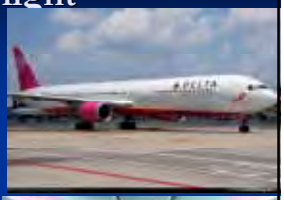
Age of Flight Begins with Wright

Some thoughts on Flying

- When once you have tasted flight, you will forever walk the earth with your eyes turned skyward, for there you have been, and there you will always long to return. ~Leonardo Da Vinci

- The desire to fly is an idea handed down to us by our ancestors who, in their grueling travels across trackless lands in prehistoric times, looked enviously on the birds soaring freely through space, at full speed, above all obstacles, on the infinite highway of the air. ~Wilbur Wright

Age of Flight

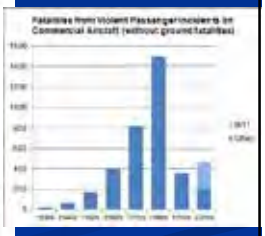


Some Comparisons

- First flight June 11,1926
- Flight crew of 3 with 1 added flight attendant
- Capacity 10 passengers
- Length: 50'3"
- Wingspan: 77'10"
- Maximum speed 150 mph. Cursing speed 90 mph.
- Max altitude – 18,500 ft.

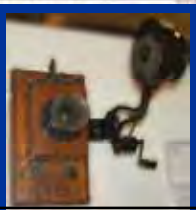
- September 1982
- Flight crew 2 with 6 – 8 flight attendants
- Capacity 924 passengers
- Length 201'4"
- Wingspan 170'4"
- Maximum speed 568 mph
- Cruising speed 530 mph
- Cruising altitude 35,000 ft.

How safe is safe? One negative effect of flight.



- The Wright Brothers created the single greatest cultural force since the invention of writing. The airplane became the first World Wide Web, bringing people, languages, ideas, and values together. ~Bill Gates
- QUESTION FOR YOU – To what extent can the same thing be said about the transcontinental railroad?

Communication from Pony Express rider to computer

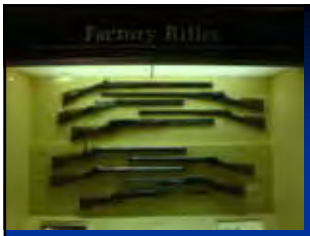


From Telegraph to Tweets

Cartoon copyright: Mike Keefe/Denver Post. Used by permission of the artist.

Good or Bad?

- Because we have the technology to communicate faster and further are we in fact better communicators?
- What are some of the pros and cons of personal communication devices?
- Take a position on one of the following statements:
  - The internet is a necessary evil or
  - The internet does more harm than it does good.



Mass produced factory made rifles and shotguns on display in the Henry Ford Museum.

What will be next?

- Where will the next revolution in technology occur. Will it be in agriculture sufficient to feed a hungry world? Will it be in still faster communications and facial recognition software? Will it be in new weapons of destruction
- What comes next? You predict where the next technological breakthrough will come.

Final Thoughts

- "The rate of change is not going to slow down anytime soon. If anything, competition in most industries will probably speed up even more in the next few decades."
  - — John P. Kotter
    Leading Change
- "Your success in life isn't based on your ability to simply change. It is based on your ability to change faster than your competition, customers and business."
  - — Mark Sanborn
- "The universe is change; our life is what our thoughts make it."
  - — Marcus Aurelius Antoninus

Global Trade = An Interdependent World

Chris DiFranco, Georgetown High School, Georgetown, MA

Title of the Lesson/Activity: How Technology Changes Family Life

Grade Level: U.S. History I/U.S. History II/Advanced Placement U.S. History (adaptable to any U.S. course based on time period/technologies used)

Overview: This lesson will give students the opportunity to explore the impact of various technologies on family life at different times in American history. Through comparisons of census records, work records, oral histories, maps and other pertinent primary sources, students will compare and contrast eras and see the true impact of industrial technology on family life.

Central Question/Problem: How did industrialization transform the American family?

Learning Objectives: Students will compare and contrast multiple aspects of family life from 2-3 distinct time periods and at least 3 different regions in the United States. This can be adapted so that there is a before-and-after effect, or a more long-term approach can be taken.
-Students will explore the relationship between technology, invention, innovation and science with the way people live and work.
-Students will research both primary and secondary sources.
-Students will develop presentation skills.

Assessment Tools: Formative assessment will include research time, comparing and contrasting data in small groups and daily check-ins.
-Summative assessment will include a brief presentation as well as a written essay based off of all individual/group presentations.

Key Concepts: Industrialization fundamentally changed family life as seen through the implementation of a sexual division of labor (or changes in it), separate spheres, gender roles in the household and workplace, child labor, immigration and migration patterns, etc.
-Industrialization had different effects on different regions in different time periods (e.g., American South had a transformation in slavery after the invention of the cotton gin, the West became more open after the advent of the steam engine and the laying of the transcontinental railroad, etc.)

Evidence/Sources:

-Online databases/resources such as The Henry Ford Education Resource Bank for students, ABC-Clio, History Channel, etc.

-Focus on primary sources (photos, oral histories, trade magazines/print advertising) and secondary data (maps, charts, graphs, etc.)

-In-class lecture/discussion

Duration:

1 day in class time for lecture/discussion

2 days in class time for primary/secondary research

1 day class time for interpretation of research

1-2 days class time for presentations

Alternatively, research can be done at home to save class time and/or can be spread out through a larger unit.

Instructional Sequence:

Introduce students to the innovations of the time period chosen (for late 19th century to early 20th century, the Bessemer project, the assembly line, the gasoline-powered automobile, the phonograph, etc.) A PowerPoint presentation with pictures of the technology, their dates of invention and brief descriptions of how they work should suffice.

-Students will discuss in small groups how they think each technology might change family life. (This is brainstorming, so there are no right or wrong suggestions here. It is important to not lead the students in one direction or another, because these ideas will help guide research.)

-Have students actively research primary source material for clues about family life in 3 regions of their choice. They should use similar materials (e.g., family photos, census records) when comparing eras. They should also note important dates of technological innovation.

-Students should interpret their findings. They should be careful of causation/correlations. They can create a simple PowerPoint or other visual aid to help with their presentation.

-Presentations should cover the students' findings. How did technology shape family life over time? Did it vary from region to region?

-An essay test (or DBQ for AP classes) on the role of industrialization in family life will be given as a summative assessment.

Student Project Ideas: As this is a project-based lesson, students will continually be developing a project related around the connection between technology and family life. Depending on the time period(s) chosen, they will research the technologies and look for clues to change over time. The final project will be a presentation to the class on their findings.

Anticipated Student Conceptions or Challenges to Understanding: Students may go for the simplest solution and not dig deeply into the research. Perhaps requiring them to pick 10 technologies to start, with an eye for narrowing down or grouping similar technologies into 3 or 4 final picks, may help. Also students tend to get lost on the Internet, so it would be a good idea to come up with a list of approved sites first, and have them get approval for any other websites they may use.

Curriculum Links: From the Massachusetts Curricular Frameworks:

U.S. History I:

USI.27 Explain the importance of the Transportation Revolution of the 19th century (the building of canals, roads, bridges, turnpikes, steamboats and railroads), including the stimulus it provided to the growth of a market economy. (H, E)

USI.28 Explain the emergence and impact of the textile industry in New England and industrial growth generally throughout antebellum America. (H, E)

A. The technological improvements and inventions that contributed to industrial growth
B. The causes and impact of the wave of immigration from Northern Europe to America in the 1840s and 1850s
C. The rise of a business class of merchants and manufacturers
D. The roles of women in New England textile factories

USI.29 Describe the rapid growth of slavery in the South after 1800, and analyze slave life and resistance on plantations and farms across the South, as well as the impact of the cotton gin on the economics of slavery and Southern agriculture. (H)

U.S. History II:

USII.1 Explain the various causes of the Industrial Revolution. (H, E)

A. The economic impetus provided by the Civil War
B. Important technological and scientific advances
C. The role of business leaders, entrepreneurs and inventors such as Alexander Graham Bell, Andrew Carnegie, Thomas Edison, J.P. Morgan, John D. Rockefeller and Cornelius Vanderbilt

USII.2 Explain the important consequences of the Industrial Revolution. (H, E)

A. The growth of big business
B. Environmental impact
C. The expansion of cities

USII.3 Describe the causes of the immigration of Southern and Eastern Europeans, Chinese, Koreans and Japanese to America in the late 19th and early 20th centuries, and describe the major roles of these immigrants in the industrialization of America. (H)

USII.4 Analyze the causes of the continuing westward expansion of the American people after the Civil War and the impact of this migration on the Indians. (H)

USII.5 Explain the formation and goals of unions as well as the rise of radical political parties during the Industrial era. (H, E)

A. The Knights of Labor
B. The American Federation of Labor headed by Samuel Gompers
C. The Populist Party
D. The Socialist Party headed by Eugene Debs

William Gaul, Hellgate High School, Missoula, MT

Title of the Lesson/Activity: United States Industrialization from the Gilded Age to Present

Grade Level: High School

Overview: Students will relate components of the Industrial Revolution in the United States to such topics as rural society to urban society, natural resources, transportation, communication, immigration and inventors (primarily Ford and Edison).

Central Question/Problem: How was United States society as a whole affected by the many sectors of the Industrial Revolution?

Learning Objectives: Students will be able to:

- Identify and understand the components necessary for a country's industrialization to occur.
- Relate those necessary components to societal changes that took place in the United States from the late 1800s until present day.
- Expand on these societal changes and speculate upon similar effects in underdeveloped countries today.

Assessment Tools: Class discussions, timeline of own family's immigration history, summary outline of Communist Manifesto and Factory Act of 1833, writing assignments on various topics such as Ellis Island, union movement in U.S., inventors' lives and contributions, quizzes, role-playing activities based on background information.

Key Concepts:

- Factors involved in the industrialization of a country, such as transportation, communication, natural re sources, skilled workforce.

- New inventions and ideas as well as the people behind them.

- Changes in society as a whole brought about by the change from an agricultural society to an industrial society, such as the labor unions and a diverse population.

- Industrialization today, especially in underdeveloped countries.

Evidence/Sources: Primary documents, PowerPoint presentations including information from The Henry Ford's online collections and ExhibitBuilder and Greenfield Village sites, guest speakers, films such as "Fist," library resources.
Duration: Approximately 3 weeks, then returned to as class moves further into recent history.

Instructional Sequence: Begin with an overview of Europe's Industrial Revolution and the United States' agricultural beginnings, then highlight the Civil War and all the advantages of the Northern industries. Concentrate on the factors needed for a country to industrialize. In the areas of transportation and communication, teach about the prominent inventors in those areas. From the basic factors needed for industrialization, branch out into the societal effects of industrialization and how those societal effects changed life in the United States and affected the U.S. population.

Student Project Ideas: Family immigration timeline, writing projects on past and current inventors, summaries and outlines of assigned reading, create role-play based on knowledge gained, evaluate films and readings for accuracy and bias.

Anticipated Student Conceptions or Challenges to Understanding: Students who have no background in world history will have less background knowledge. Some students have more difficulty with abstract concepts and relationships between concepts. Students with poor reading and writing skills will need extra attention.

Curriculum Links:
Montana Social Studies standards:

- Content Standard 1—Students access, synthesize and evaluate information to communicate and apply social studies knowledge to real-world situations.
- Content Standard 4—Students demonstrate an understanding of the effects of time, continuity and change on historical and future perspectives and relationships.
- Content Standard 6—Students demonstrate an understanding of the impact of human interaction and cultural diversity on societies.

Genia Harber, Wister High School, Wister, OK

Title of the Lesson/Activity: Rate the Invention

Grade Level: 11th Grade

Overview: The class will be polled to determine what inventions from 1850-1975 had an impact on American society based upon the lecture and discussion of the Industrial Revolution during the course of the year. (This lesson is designed to be taught as a project at the end of the school year.) The class will narrow it down to 15-20 inventions at the MOST. Students will be randomly assigned 5 of those inventions and will rank them as to the top 3 of the 5, awarding Gold, Silver and Bronze awards. The assignment will be completed individually, and research will be primarily outside the purview of the classroom, culminating in a presentation the class will be able to evaluate together.

Central Question/Problem: How did the various inventions during the years 1850-1975 transform American history? What invention had the most impact among those compared and had a longer influence on culture/history?

Learning Objectives: Students will be familiar with the process that resulted in the invention and who was responsible for the invention. They will form a concept of the social impact the various inventions have had on the history of the time period and the lasting effect beyond our country. Students will be able to defend their choice of ranking the inventions and evaluate their fellow students' presentations.

Assessment Tools: Students will be evaluated on their participation in the initial brainstorming to develop a list of inventions to pool from. Students will be required to write a justification of a minimum of ½ page each for their choices of awarding the inventions. Students will be evaluated on their presentation material at the end. Students will then critique 3 other students' presentations as part of their evaluation. Large-group discussion will bring it all together to discuss the long-term effects of this age of Industrialization.

Key Concepts: Students will understand the correlation between cause and effect as relates to the Industrial Revolution regarding economic motivators, social aspects and political influences when applicable. Students will correlate inventions to need as relates to regional and sectional differences before, during and after the Civil War, World War I, the Great Depression and World War II and the effect immigration had on Industrialization.

Evidence/Sources: Primary textbooks to begin invention discussion list; http://collections.thehenryford.org/ExhibitHome.aspx including graphics, From the Curators and ExhibitBuilder, the local and school library for research.

Duration: 7-10 days

Instructional Sequence:

Day 1: Discussion for determining the initial pool of inventions may take 30 minutes. The remainder of the class that day may be spent randomly choosing/drawing the topics (5 per student), or students may come in during lunch to complete.

Research should be done on their own time. Presentations using ExhibitBuilder and the paper (minimum of ½ page per top 3 inventions) due in 7 days. At the end of one week, students will randomly draw 3 students' names to determine which presentations they will critique. This process and discussion may take a few days.

Last day: Wrap up with an overview of the top inventions of each student so that all students are exposed to the choices each one made. Have students share with fellow students one interesting fact about either the invention or the inventor.

Student Project Ideas: Students will develop an exhibit using ExhibitBuilder to reflect their choices. Wall 1: introduction of the 3 inventions they chose (of the 5 assigned). Wall 2: Bronze winner (or 3rd-place invention) with graphics and display to reflect a shortened synopsis of their ½-page article defending/presenting the impact of the invention. Wall 3: Silver winner (or 2nd-place invention) including graphics and justification as mentioned for Wall 2. Wall 4: GOLD winner (or the 1st-place invention) also including graphics and justification for why it has the most impacting of the 5 inventions.

Anticipated Students Conceptions or Challenges to Understanding: Students will need to spend time researching their topics. Availability of Internet and research materials will necessitate them conducting it as homework, restricting help to e-mail or Internet message communication with teacher. Current limitations to the exhibit data bank may necessitate some students not being able to access/utilize this feature due to lack of graphics for various inventions. That being the case, students may use a PowerPoint design to simulate the ExhibitBuilder presentation.

Curriculum Links: Oklahoma Priority Academic Student Skills- U.S. History

Process Standard 1: The student will demonstrate process skills – in social studies.

1. Identify, analyze and interpret primary and secondary sources.

Content Standard 2: The student will analyze the impact of immigration, the settlement of the American West and industrialization on American society.

A. Analyze immigration, including the reasons for immigration, employment, settlement patterns and contributions of various immigrant, cultural and ethnic groups.

C. Analyze changes in the domestic policies of the United States relating to immigration from 1850-1930.

D. Evaluate the significance of immigration on the labor supply and the movement to organize workers.

E. Compare and contrast social attitudes and federal policies toward Native American peoples and actions of the United States Army, missionaries and settlers during the settlement of the American West, 1850-1890.

2. Evaluate the impact of industrialization on American society.

A. Identify the impact of new inventions and industrial production methods, including new technologies in transportation and communication between 1850-1920.

B. Describe the effects of the "muckrakers"and reform movements that resulted in government policies affecting child labor, wages, working conditions, trade, monopolies, taxation and the money supply.

*C. Assess the impact of industrialization, the expansion of international markets, urbanization and immigration on the economy.

D. Evaluate the rise of the Progressive Movement in relation to political changes at the national and state levels.

Content Standard 4: The student will describe the social, cultural, economic and technological ideas and events in the United States in the era between the World Wars.

1. Compare and contrast cultural, economic and social events and trends between the World Wars.

C. Analyze the impact of the automobile, aviation, electrification and urbanization on American society.

D. Describe rising racial tensions and labor unrest common in the era.

3. Analyze the economic, social and political transformation within the United States since World War II.

*C. Examine the technology revolution and its impact on communication, transportation and industry.

Kenneth Honig, Bayside High School, Bayside, NY

Title of Lesson/Activity: Changes in Midwestern and Western Rural/Frontier America Between 1860-1900

Grade Level: 11th Grade (emphasis AP U.S. History)

Overview: The purpose of the lesson-assessment activity is to have students identify, analyze and evaluate the issues and factors that caused changes in rural agricultural life in the Midwest and the Western frontier over the time period between 1860 and 1900. This mastery will aid students in synthesizing and evaluating issues surrounding the urbanization and industrialization of late 19th century America. Moreover, through this process students will be better able to understand the dynamic cause and effect of economic, political and social changes that occurred following the Civil War and shaped the modern United States in terms of both domestic and foreign policy.

Central Question/Problem: Identify and analyze the factors that changed American rural life in the second half of the 19th century, and how those changes contributed to, or were affected by, economic, political and social changes in late 19th-century America in general.

Learning Objectives:

- Identify the reasons for westward migration in the mid-to-late 19th Century
- Identify the geographical issues that impacted Anglo-American migration and development of the Midwest, Great Plains and Far West
- Identify the technological factors that allowed Midwestern and Western farmers to turn from subsistence agriculture to cash crop agriculture over time
- Explain the economic, political and social issues that led to the demand for development of cash crop agriculture
- Discuss the relationship between technology and farm labor requirements and its impacts on rural gender roles, industrialization and urbanization
- Describe how businesses adapted and responded over time to meet the needs of rural families, taking into consideration media, technology and government
- Analyze the economic relationship between farmers, railroads and agricultural suppliers and storage facilities, and how farmers used organized social clubs to address the issues that developed out of those economic relationships
- Explain the development of debt problems for Midwestern and Western farmers.

- Synthesize how the issues of economic problems (including debt, transportation, cash crop development) and gender roles led to political changes in the rural West and Midwest
- Analyze and evaluate the reaction of state and federal governments to the needs of farmers and how business responded to those actions.
- Describe the development of the Populist Party, analyze its party platform and evaluate its success or reasons for failure (including issues of race) and overall impact on reforms and the reform movement.
- How do the Greenback Labor Party and the Populist Party reflect the reasons for development, impact and relative success of political third-parties in general.
- Assess and evaluate how the changes in rural life in the Midwest and West over the last half of the 19th century impacted economic, political and social changes in 19th and 20th century America.

Assessment Tools: Students will select documents to be included in the creation of a document-based question essay to answer the following question: "Identify and analyze the factors that changed American Midwestern and Western rural life in the second half of the 19th century, and discuss how they affected or reflected economic, political and social changes in American life in general during that time period." Additionally, students will have to explain what concepts or issues the selected document represents, its relevancy to the question and what outside information is not represented but is necessary for inclusion in the answer to the essay.

Key Concepts: Westward migration, how government changed its laissez-faire policies to settle the West and develop the nation's economy in the last half of the 19th century; development of the livestock industry and its relationship to the meat-packing and transportation industries; geographical issues surrounding the settlement and development of the Midwest, Great Plains and Far West; technology and its impact on the economics (including farming, and farm labor systems), rural gender roles, politics of the agrarian Midwest and West over time; the development of women's rights, including suffrage, in the rural West; the creation of the rural-free delivery system and the mail-order catalog; the relationship between farmers and livestock ranchers; the development of the transcontinental railroad and the interrelationship between farmers and the railroads; the interrelationship of the Agricultural Revolution of the late 19th century on urbanization and the Second Industrial Revolution; development of the cash crop economy and its relationship to the farmer debt crisis, including the concept of free silver and the Free Silver Movement; the response of farmers to business monopolies and the development of the Grange into a political organization and the passage of Grange laws by local governments; how the branches of the federal government responded to farmers' demands to regulate railroads, business monopolies and currency; the development of the Greenback Labor and Populist political parties (including the role of gender and race); what was the immediate impact of agrarian reform movements in the late 19th century on government, politics, economics and society; the election of 1896 and its overall meaning, including the waning influence of rural America on politics; what was the long-term contribution of agrarian calls for reform on American government, politics, economics and society; what is the role and influence of political third parties on American politics, government, economics and society.

Evidence/Sources: Lecture, readings and archival research from various sources emphasizing the collections of The Henry Ford, the National Archives, Getty Images and other scholarly and state governmental sources.

Duration: 1½ to 2 weeks

Instructional Sequence: This unit follows the unit on the Plains Indians Wars following the Civil War. The unit commences with the introduction and explanation of the assessment piece, then with discussion on westward migration, the Agricultural Revolution of the late 19th century and its impact on gender roles and gender political rights, race, technology, industrialization, economics (including labor systems) over time. Lecture will be supplemented with primary sources, including images and documents about rural and frontier life, and critical-thinking exercises developing cause-and-effect, continuity and change-over-time issues. Class discussions will then address the issues of farmers' economic problems, including the relationship between farmers and business monopolies (especially railroads) and development of the farmer debt crisis. Students will be asked to develop a timeline reflecting development of the Grange, grange laws, calls for currency reform and free silver, rural political organizations, the development of federal regulation of railroads in interstate commerce. Through either a Socratic seminar or modified debate, students will explore who is responsible (causality) for the development of interstate regulation and the debt crisis—the farmer, business corporations or the government—and evaluate the effectiveness of the responses by and upon all three actors. Students will then examine the Populist movement and the election of 1896 through lecture and question-and-answer and class discussion. Overall debate on the success and impact of the late 19th-century agrarian economics, politics and society on modern America will take place, and then students will be asked to submit their individual DBQ projects at the conclusion of the unit. Homework will consist of textbook and primary source readings, research on the DBQ project and development of the project.

Student Project Ideas: See the Assessment Tools above.

Anticipated Student Conceptions or Challenges to Understanding: lack of familiarity with United States geography, especially in the Midwest, Great Plains and the Far West; understanding of engineering and how machines actually work; ignorance of the development of gender and racial equality; lack of familiarity with rural and agrarian life, farming, livestock production in general; development of higher critical-thinking skills on Bloom's Taxonomy (application, analysis, synthesis and evaluation) in general; interrelationship of agriculture and industry; interrelationship of agriculture and urbanization; the conflict between traditionalism and modernization as it applies to 19th-century America; lack of familiarity with politics and government; lack of familiarity with basic economic concepts in general.

Curriculum Links: Social Studies Standards—U.S. History, Geography and Economics.

Standard 1: History of the United States – use a variety of intellectual skills to demonstrate their understanding of major ideas, eras, themes, developments and turning points in the history of the United States.

Standard 1, Key Idea 1

Key Idea 1: The study of New York State and United States history requires an analysis of the development of American culture, its diversity and multicultural context, and the ways people are unified by many values, practices and traditions.

- Analyze the development of American culture, explaining how ideas, values, beliefs and traditions

have changed over time and how they unite all Americans.
- Describe the evolution of American democratic values and beliefs.

Standard 1, Key Idea 2

Key Idea 2: Important ideas, social and cultural values, beliefs and traditions from New York State and United States history illustrate the connections and interactions of people and events across time and from a variety of perspectives. Discuss several schemes for periodizing the history of the United States; develop and test hypotheses about important events, eras or issues in United States history, setting clear and valid criteria for judging the importance and significance of these events, eras or issues; compare and contrast the experiences of different groups in the United States; examine how the Constitution, United States law and the rights of citizenship provide a major unifying factor in bringing together Americans from diverse roots and traditions.

Standard 1, Key Idea 4

Key Idea 4: The skills of historical analysis include the ability to: explain the significance of historical evidence; weigh the importance, reliability and validity of evidence; understand the concept of multiple causation; understand the importance of changing and competing interpretations of different historical developments; analyze historical narratives about key events in United States history to identify the facts and evaluate the authors' perspectives; consider different historians' analyses of the same event or development in United States history to understand how different viewpoints and/or frames of reference influence historical interpretations; evaluate the validity and credibility of historical interpretations of important events or issues in United States history, revising these interpretations as new information is learned and other interpretations are developed.

Standard 3: Geography. Use a variety of intellectual skills to demonstrate their understanding of the geography of the interdependent world in which we live—local, national and global—including the distribution of people, places and environments over the United States.

Standard 3, Key Idea 1

Key Idea 1: Geography can be divided into six essential elements which can be used to analyze important historic, geographic, economic and environmental questions and issues. These six elements include: the world in spatial terms, places and regions, physical settings (including natural resources), human systems, environment and society, and the use of geography.

- Understand how to develop and use maps and other graphic representations to display geographic issues, problems and questions; describe the physical characteristics of the United States and investigate the continual reshaping of the surface by physical processes and human activities.
- Investigate the characteristics, distribution and migration of human populations in the United States; understand the development and interactions of social/cultural, political, economic and religious systems in the United States; analyze how the forces of cooperation and conflict among people influence the division and control of the United States; explain how technological change affects people, places and region.

Standard 3, Key Idea 2

Key Idea 2: Geography requires the development and application of the skills of asking and answering geographic questions; analyzing theories of geography; and acquiring, organizing and analyzing geographic information.

- Locate and gather geographic information from a variety of primary and secondary sources; select and design maps, graphs, tables, charts, diagrams and other graphic representations to present geographic information; analyze geographic information by developing and testing inferences and hypotheses, and formulating conclusions from maps, photographs, computer models and other geographic representations (adapted from National Geography Standards, 1994); develop and test generalizations and conclusions and pose analytical questions based on the results of geographic inquiry.

Standard 4: Economics. Use a variety of intellectual skills to demonstrate their understanding of how the United States and other societies develop economic systems and associated institutions to allocate scarce resources, how major decision-making, units function in the U.S. and other national economies, and how an economy solves the scarcity problem through market and nonmarket mechanisms.

Standard 4, Key Idea 1

Key Idea 1: The study of economics requires an understanding of major economic concepts and systems, the principles of economic decision making, and the interdependence of economies and economic systems throughout the world.

-Analyze the effectiveness of varying ways societies, nations and regions of the world attempt to satisfy their basic needs and wants by utilizing scarce resources.

-Define and apply basic economic concepts such as scarcity, supply/demand, opportunity costs, production, resources, money and banking, economic growth, markets, costs, competition and world economic systems.

-Understand the nature of scarcity and how nations of the world make choices which involve economic and social costs and benefits; describe the ideals, principles, structure, practices, accomplishments and problems related to the United States economic system; understand the roles in the economic system of consumers, producers, workers, investors and voters.

Standard 4, Key Idea 2

Key Idea 2: Economics requires the development and application of the skills needed to make informed and well-reasoned economic decisions in daily and national life.

-Identify, locate and evaluate economic information from standard reference works, newspapers, periodicals, computer databases, monographs, textbooks, government publications and other primary and secondary sources; use economic information by identifying similarities and differences in trends; inferring relationships between various elements of an economy; organizing and arranging information in charts, tables and graphs; extrapolating and making conclusions about economic questions, issues and problems; present economic information and conclusions in different formats, including graphic representations, computer models, research reports and oral presentations.

Standard 5: Civics, Citizenship and Government. Use a variety of intellectual skills to demonstrate their under-

standing of the necessity for establishing governments; the governmental system of the U.S. and other nations; the U.S. Constitution; the basic civic values of American constitutional democracy; and the roles, rights and responsibilities of citizenship, including avenues of participation.

Standard 5, Key Idea 1

Key Idea 1: The study of civics, citizenship and government involves learning about political systems, the purposes of government and civic life, and the differing assumptions held by people across time and place regarding power, authority, governance and law. Analyze how the values of a nation and international organizations affect the guarantee of human rights and make provisions for human needs; consider the nature and evolution of constitutional democracy.

-Identify and analyze advantages and disadvantages of various governmental systems.

Standard 5, Key Idea 2

Key Idea 2: The state and federal governments established by the constitutions of the United States and the several states embody basic civic values (such as justice, honesty, self-discipline, due process, equality, majority rule with respect for minority rights, and respect for self, others and property), principles and practices, and establish a system of shared and limited government.

- Trace the evolution of American values, beliefs and institutions.
- Identify those core civic values inherent in our founding documents that have been forces for unity in American society.
- Understand the dynamic relationship between federalism and state's rights.

Standard 5, Key Idea 3

Key Idea 3: Central to civics and citizenship is an understanding of the roles of the citizen within American constitutional democracy and the scope of a citizen's rights and responsibilities.

- Understand how citizenship includes the exercise of certain personal responsibilities.
- Analyze issues at the local, state and national levels.
- Explore how citizens influence public policy in a representative democracy.

Standard 5, Key Idea 4

Key Idea 4: The study of civics and citizenship requires the ability to probe ideas and assumptions, ask and answer analytical questions, take a skeptical attitude toward questionable arguments, evaluate evidence, formulate rational conclusions, and develop and refine participatory skills.

- Evaluate, take and defend positions on what the fundamental values and principles of American political life are and their importance to the maintenance of constitutional democracy.
- Take, defend and evaluate positions about attitudes that facilitate thoughtful and effective participation in public affairs.
- Explain how democratic principles have been used in resolving an issue or problem.

English and Language Art Standards

Reading Standards for Informational Text *6–12*

1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
2. Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.
3. Analyze a complex set of ideas or sequence of events, and explain how specific individuals, ideas or events interact and develop over the course of the text.
4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text
5. Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing and engaging.
6. Determine an author's point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness or beauty of the text.
7. Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
8. Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, purposes and arguments in works of public advocacy (e.g., The Federalist, presidential addresses).
9. Analyze 17th-, 18th-, and 19th-century foundational U.S. documents of historical and literary significance (including the Declaration of Independence, the Preamble to the Constitution, the Bill of Rights and Lincoln's Second Inaugural Address) for their themes, purposes and rhetorical features.

Writing Standards *6–12*

The following standards for grades 6–12 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Each year in their writing, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas, and they should address increasingly demanding content and sources.

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. Explore and inquire into areas of interest to formulate an argument.
    a. Introduce precise, knowledgeable claim(s); establish the significance of the claim(s); distinguish the claim(s) from alternate or opposing claims; and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence.
    b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values and possible biases.
    c. Use words, phrases and clauses as well as varied syntax to link the major sections of the text, create cohesion and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.

d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

e. Provide a concluding statement or section that follows from and supports the argument presented.

2. Write informative/explanatory texts to examine and convey complex ideas, concepts and information clearly and accurately through the effective selection, organization and analysis of content.

a. Introduce a topic; organize complex ideas, concepts and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables) and multimedia when useful to aiding comprehension.

b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

c. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion and clarify the relationships among complex ideas and concepts.

d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile and analogy to manage the complexity of the topic.

e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

f. Provide a concluding statement or section that follows from and supports the information or explanation presented.

3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details and well-structured event sequences.

a. Engage and orient the reader by setting out a problem, situation or observation and its significance, establishing one or multiple point(s) of view and introducing a narrator and/or characters; create a smooth progression of experiences or events.

b. Use narrative techniques, such as dialogue, pacing, description, reflection and multiple plot lines, to develop experiences, events and/or characters.

c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole and build toward a particular tone and outcome (e.g., a sense of mystery, suspense, growth or resolution).

d. Use precise words and phrases, telling details and sensory language to convey a vivid picture of the experiences, events, setting and/or characters.

e. Provide a conclusion that follows from and reflects on what is experienced, observed or resolved over the course of the narrative.

f. Adapt voice, awareness of audience and use of language to accommodate a variety of cultural contexts.

4. Produce clear and coherent writing in which the development, organization and style are appropriate to task, purpose and audience.

5. Develop and strengthen writing as needed by planning, revising, editing, rewriting or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

6. Use technology, including the Internet, to produce, publish and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

7. Conduct short as well as more sustained research projects to answer a question (including a self-gen-

erated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. Explore topics dealing with different cultures and world viewpoints.

8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

9. Draw evidence from literary or informational texts to support analysis, reflection and research.

10. Apply reading standards to literary nonfiction.

Speaking and Listening Standards *6–12*

1. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups and teacher-led) with diverse partners on grades 11–12 topics, texts and issues, building on others' ideas and expressing their own clearly and persuasively.

   a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.

   b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines and establish individual roles as needed.

   c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify or challenge ideas and conclusions; and promote divergent and creative perspectives.

   d. Respond thoughtfully to diverse perspectives; synthesize comments, claims and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.

   e. Seek to understand other perspectives and cultures, and communicate effectively with audiences or individuals from varied backgrounds.

2. Integrate multiple sources of information presented in diverse formats and media (e.g.,visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

3. Evaluate a speaker's point of view, reasoning and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis and tone used.

4. Present information, findings and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed and the organization, development, substance and style are appropriate to purpose, audience and a range of formal and informal tasks.

Language Standards *6–12*

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

2. Demonstrate command of the conventions of standard English capitalization, punctuation and spelling when writing.

3. Apply knowledge of language to understand how language functions in different contexts, to make effec-

tive choices for meaning or style and to comprehend more fully when reading or listening.

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 11–12 reading and content, choosing flexibly from a range of strategies.

a. Use context (e.g., the overall meaning of a sentence, paragraph or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.

b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., conceive, conception, conceivable).

c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, its etymology or its standard usage.

d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

5. Demonstrate understanding of figurative language, word relationships and nuances in word meanings.

a. Interpret figures of speech (e.g., hyperbole, paradox) in context and analyze their role in the text. Analyze nuances in the meaning of words with similar denotations.

6. Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking and listening at the college and career-readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Reading Standards for Literacy in History/Social Studies *6–12*

1. Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.

2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.

3. Evaluate various explanations for actions or events, and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.

4. Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text.

5. Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs and larger portions of the text contribute to the whole.

6. Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning and evidence.

7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.

8. Evaluate an author's premises, claims and evidence by corroborating or challenging them with other information. Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.

Jawara Jackson, Churchill High School, Livonia, MI

Title of the Lesson/Activity: Invention Tournament

Grade Level: Secondary (grades 9-12)

Overview: Students will study and research key inventions or innovations of the Industrial Revolution. They will construct an argument explaining why their invention was the most influential. Students will present their argument in a series of persuasive presentations.

Central Question/Problem: What is the impact of select inventions of the Industrial Revolution?

Learning Objectives:
1. Research various inventions/innovations of the Industrial Revolution.
2. Analyze the impact of the Industrial Revolution on today's society.
3. Develop persuasive skills in an oral presentation.

Assessment Tools: Students will complete a work sheet that shows their research. Students will complete a persuasive graphic organizer that demonstrates their persuasive ability in a class debate. Students' information on inventions will be evaluated using a presentation rubric and a visual aid rubric.

Presentation Rubric: (Taken from Rubistar – Rubric ID: 1052386)

CATEGORY	4	3	2	1
Preparedness	Student is completely prepared and has obviously rehearsed.	Student seems pretty prepared but might have needed a couple more rehearsals.	The student is somewhat prepared, but it is clear that rehearsal was lacking.	Student does not seem at all prepared to present.
Content	Shows a full understanding of the topic.	Shows a good understanding of the topic.	Shows a good understanding of parts of the topic.	Does not seem to understand the topic very well.
Stance	Takes a clear stand on an issue and fully supports it with appropriate personal or factual information.	Takes a clear stand and gives some support. The information is presented clearly.	Takes a stand but may not have made position very clear.	Did not take a stand on the issue. Presented some information but still is not clear on stance of the issue.

CATEGORY	4	3	2	1
Organization	Has organization that helps to logically develop argument and does not stray off topic.	Has organization that is logical, but it strays a little.	Tried to have an organization but did not do a good job with it and it tends to jump around.	Has no real organization.
Support	Has chosen numerous specific details, illustrations and quotations that more than adequately support stance.	Has chosen enough specific details to support stance.	Tried to support with some details but has not done a very good job. The details may not be the best ones to choose, or they might not even support stance.	Has few or no details.
Time-Limit	Presentation is 3-4 minutes long.	Presentation is 2-3 minutes long.	Presentation is 1-2 minutes long.	Presentation is less than 1 minute OR more than 4 minutes.
Persuasiveness	Makes a dramatic and compelling argument.	Makes a credible effort to persuade the audience.	Shows little evidence of persuasion.	Is not at all persuasive in presentation.

Visual Aid Rubric:

CATEGORY	4	3	2	1
Description	Makes a complete and detailed description of the subject matter and/or elements seen in a work.	Makes a detailed description of most of the subject matter and/or elements seen in a work.	Makes a detailed description of some of the subject matter and/or elements seen in a work.	Descriptions are not detailed or complete.
Creativity	Very carefully constructed, neat, original – 3 illustrations well presented.	Carefully constructed, mostly original and neat – 2 illustrations well presented.	Not much attention to detail – 1 illustrations well presented.	Sloppy work, no illustrations well presented.
Link to Project	Directly links to topic covered, good representation of project	Links to project.	Goes with topic but does not represent it well.	Does not go along with project.

Key Concepts: Influential Inventions

1. Steam Locomotive
2. Telegraph
3. Water Frame
4. Hot Air Balloon
5. Sewing Machine
6. Steamship
7. Bessemer Steel Process
8. (McCormick) Reaper
9. Seed Drill
10. Dynamo
11. Cotton Gin
12. Bicycle
13. Battery
14. Dynamite
15. Flying Shuttle
16. Spinning Jenny

Evidence/Sources: Students will be using the textbook and the Internet to answer key questions about their assigned inventions. Students will also be using select images from The Henry Ford to gather a greater understanding of the Industrial Revolution era. These digital images will be found in The Henry Ford's online collections (http://collections.thehenryford.org/Index.aspx) and the archives of the "pic of the month" (http://www.thehenryford.org/exhibits/pic/archive.asp).

Duration: This lesson will be conducted over 3½ days.

Instructional Sequence: This lesson can be done as an enrichment activity to the Industrial Revolution unit coursework. It can be a pre- or post-activity. Student partnerships will be assigned an invention from the Industrial Revolution era. Students will complete the invention work sheet as they research their invention online. Student groups will complete a persuasive map in preparation for their oral presentation. Students will be using the template found on the readwritethink website (http://www.readwritethink.org/files/resources/interactives/persuasion). This site organizes a persuasive argument around three main ideas supported by the students' researched information. This enables students to put their thoughts into an easy-to-understand graphic organizer. Students will create a visual aid to be used in their presentations. Students will present their information to the class in a debate/presentation format. Students will debate head to head and the class will vote after each round, deciding which invention has the most impact based on the arguments of the students. In round two, students will present their top two arguments within a 1-minute time limit. In round three, students will present their top argument within a 1-minute time limit. In the final round, students will have 5 minutes to present their arguments. The class will vote after each subsequent round.

Presentation Format

Round 1: 1. Steam Locomotive vs. 16. Spinning Jenny
8. (McCormick) Reaper vs. 9. Seed Drill
Round 2: Winner of top group vs. bottom group

Round 1: 4. Hot Air Balloon vs. 13. Battery
5. Sewing Machine vs. 12. Bicycle
Round 2: Winner of top group vs. bottom group

Round 1: 3. Water Frame vs. 14. Dynamite
6. Steamship vs. 11. Cotton Gin
Round 2: Winner of top group vs. bottom group

Round 1: 2. Telegraph vs. 15. Flying Shuttle
7. Bessemer Steel Process vs. 10. Dynamo
Round 2: Winner of top group vs. bottom group

Round 3: Winner of seeds (1,16,8,9) vs. Winner of seeds (4,13,5,12)

Round 3: Winner of seeds (3,14,6,11) vs. Winner of seeds (2,15,7,10)

Round 4: Final two inventions are presented against each other.

Student Project Ideas: In the research phase of the project, students will engage in an extension activity. Students will develop further understanding of their invention and the Industrial Revolution era by analyzing images from The Henry Ford's online collections. This lesson can be adapted by having students study an invention that is highlighted at Henry Ford Museum and Greenfield Village. Students can conduct the research on a field trip to Henry Ford Museum and Greenfield Village.

Anticipated Student Conceptions or Challenges to Understanding: Some students will struggle with the research phase of the activity. Deriving information on the impact of certain inventions can be difficult. Information is not always clearly presented on websites. Students must utilize higher-order thinking to come up with multiple perspective impacts to research. Students may also struggle with the persuasive element of the activity. Deciding on what arguments are compelling may pose a challenge. Likewise, when the class votes for the most influential inventions, it may be difficult for them to judge simply on the arguments presented by the presenters.

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.

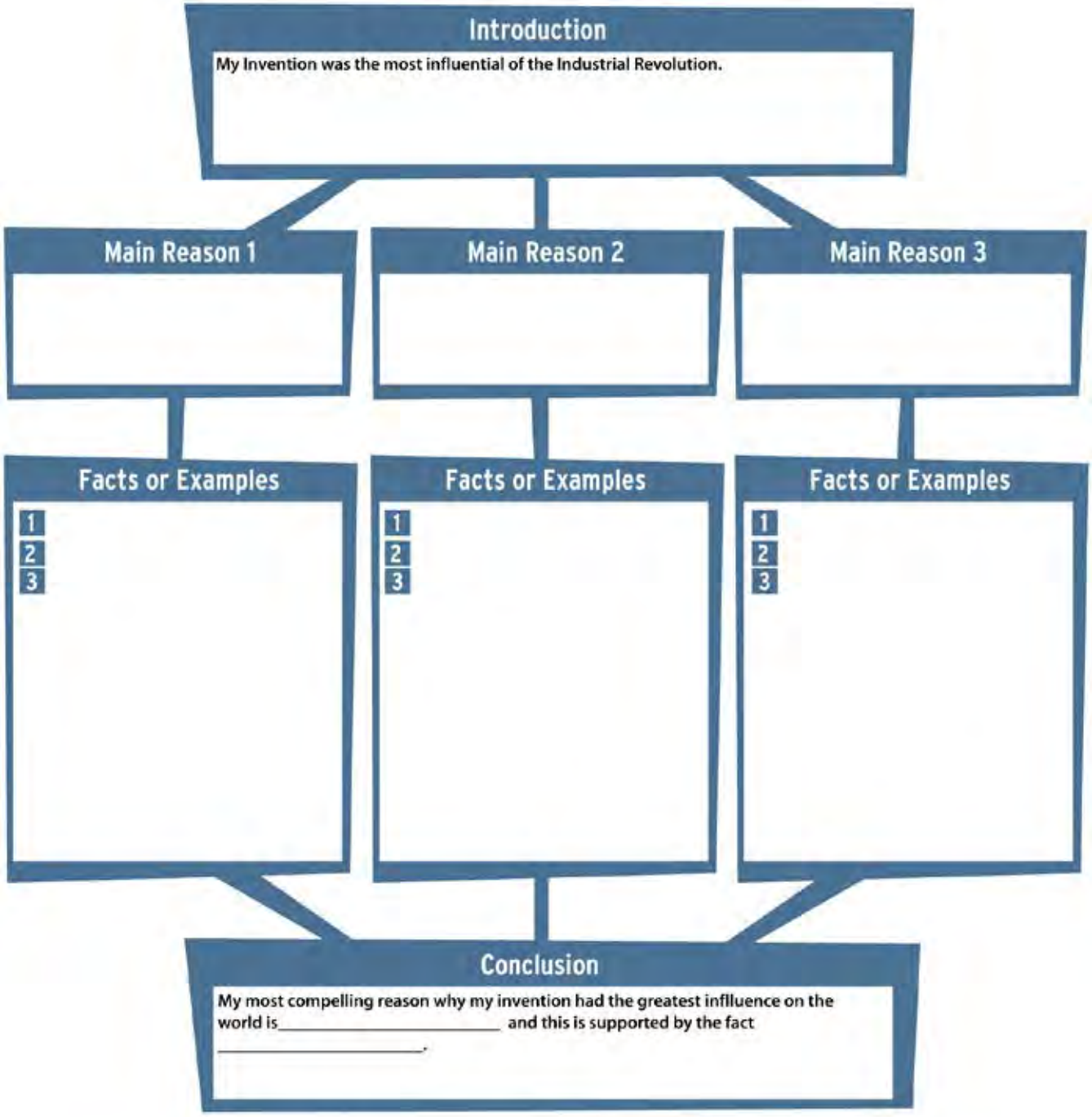
United States History Standards for Grades 5-12: Era 6 (1870-1900)

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

PERSUASION MAP

by: Joe Smith

Steam Locomotive



readwritethink International Reading Association NCTE Thinkfinity verizon foundation

Name_____

Inventions Invitational Tournament Worksheet

You and a partner will be assigned an invention/innovation from the Industrial Revolution of the 1700s-1800s. Your task is to research the invention in order to answer the following questions:

1. Who invented it?
2. When was it invented (year)?
3. What impact did the invention have on life at the time it was invented?
4. What has been the long-term impact of the invention and how did/has it changed the lives of people today? Did it give rise to another invention that has had a greater impact?
5. Connect your invention to the Industrial Revolution digital image.
6. Make a visual aid on a poster or PowerPoint presentation. It must have 3 illustrative images connected to the invention and at least 3 slides/details of your arguments.

Invention:_____

Who:_____

When:_____

Where was it invented?_____

What does it do?_____
_____
_____
_____

Short-term impact:_____
_____
_____
_____
_____
_____

Long term impact:_____ _____
_____
_____
_____
_____
_____
_____
_____

What are 3 arguments for why it was the most important invention of the Industrial Revolution? (You must develop arguments further on the Persuasion Map.)

_____

_____

_____

_____

_____

Answer the extension question that connects the digital image to your invention.

_____

_____

_____

_____

What do you observe in the digital image, and what does the image tell you about the Industrial Revolution?

_____

_____

_____

_____

Extra Credit: Why was your invention created at this particular time in history? What existing invention or process did it replace or improve? _____

_____

_____

_____

Digital Image Extension Question and Location

Location

You will be using select images from The Henry Ford. These digital images will be found in their online collections (http://collections.thehenryford.org/Index.aspx) and the archives of the "Pic of the Month" (http://www.thehenryford.org/exhibits/pic/archive.asp).

Questions

1. Steam Locomotive
   Location: In the online collection search "Allegheny."
   Question: Is the Allegheny typical of steam locomotives of the Industrial Revolution?

2. Telegraph
   Location: In the "picture of the month" archive collection, examine picture for "January 2009." Question: What was the local connection in this picture?

3. Water Frame -
   Location: In the “picture of the month” archive collection, examine picture “August 2000.”
   Question: What was the local connection in this picture?

4. Hot Air Balloon
   Location: In the “picture of the month” archive collection, examine picture for “August 2008.”
   Question: How is your invention connected to the object in the picture?

5. Sewing Machine
   Location: In the “picture of the month” archive collection, examine picture for “February 2004.” Question: How do you think handmade textiles differed from your invention?

6. Steamship
   Location: In the online collection, search “steam ship” and examine boarding passengers image.
   Question: How did your invention relate to migration as seen in the image?

7. Bessemer Steel Process
   Location: In the “picture of the month” archive collection, examine picture for “October 2001.” Question: How did your invention influence buildings such as the one seen in the picture?

8. (McCormick) Reaper
   Location: In the “picture of the month” archive collection, examine picture for “July 2002.” Question: How was your invention similar to the artifact seen in the picture?

9. Seed Drill
   Location: In the online collection, search “thresher” and examine steam thresher.
   Question: How does your invention relate to the image?

10. Dynamo
    Location: In the online collection, search “electricity” and examine gas-steam engine.
    Question: How does your invention relate to the image?

11. Cotton Gin
    Location: In the online collection, search “cotton gin.”
    Question: Describe the people in the image and their interaction with your invention.

12. Bicycle
    Location: In the online collection, search “bicycle” and examine men and women bicyclists.
    Question: What role does the picture tell us about social interactions with your invention?

13. Battery

Location: In the online collection, search “life magazine” and examine advertisement of car.

Question: How does your invention and image of the advertisement purpose to change life?

14. Dynamite

Location: In the online collection, search “war” and examine the B-12 image.

Question: How does your invention relate to the image?

15. Flying Shuttle

Location: In the online collection, search “farm” and examine hay wagon farm scene.

Question: Describe farm work in the picture and how your invention affected farm work.

16. Spinning Jenny

Location: In the “picture of the month” archive collection, examine picture for “March 2001.” Question: How does the use of the artifact in the picture relate to the use of your invention?

America's Greatest History Attraction

Brenda M. Jones, Aisha Shule/W.E.B. DuBois Preparatory Academy, Detroit, MI

Title of Lesson/Activity: African-American Inventors in the Industrial Revolution

Grade Level: 10th

Overview: A lot of attention has been given to Henry Ford and Thomas Edison as industrial innovators; however, many African-Americans did contribute to our evolving industrial development. This lesson will focus on how specific African-American inventors impacted the American Industrial Revolution.

Central Question/Problem: How did African-American inventors influence the American Industrial Revolution?

Learning Objectives:

- Students will understand the contribution of African-American inventors.
- Students will work together effectively in groups.
- Students will use technology for research.

Assessment Tools: Students will create and contribute to the assessment rubrics by determining the criteria for a written informative summary and class oral presentation. Teacher will observe how students gather information and work with others in their group.

Key Concepts: How did the inventions of these African Americans impact your life and the life of other Americans?

Evidence/Sources: Students will need computers with Internet access, paper and pens. Students will be assigned to a group, and each group will research a specific African-American inventor, such as Garrett Morgan, Frederick McKinley Jones, David Crosthwait, Lewis Latimer, Granville Woods and Madame C. J. Walker. Each group will be responsible for writing a short summary, which will include a brief biography and at least 10 facts about the inventor.

At the end of the project, each group will be accountable for an oral presentation, which must include all members, on how this individual influenced their lives and the American Industrial Revolution.

Duration: 7 days

Instructional Sequence:

Day 1: Teacher will discuss Henry Ford and Thomas Edison and how they are known as great visionaries in the Industrial Revolution. Next, the teacher will discuss how many African Americans were also visionaries but were overlooked due to racism and discrimination. Finally, the teacher will model a lesson on Elijah McCoy and discuss how he impacted the Industrial Revolution and answer any questions. The teacher will discuss group assignment and how students will be responsible for creating their own writing and oral presentation rubric. (Provide each student with sample rubric.)

Day 2: Students will create a rubric for written informative summary and oral presentation. Students will be assigned to a group and assigned a specific inventor. Each group will be given a class computer and begin research.

Day 3: Gather information on inventor.

Day 4: Begin to draft and revise summary.

Day 5: Complete summary and submit, and then begin work on presentation.

Day 6: Complete presentation.

Day 7: Present oral presentation to class.

Student Project Ideas: The majority of this work will be done in class, but students must be responsible for editing and proofreading their own work.

Anticipated Student Conception or Challenges to Understanding: The teacher must pay close attention to students who will allow other students to do the work, and they are just along for the grade.

Curriculum Links:

CE 1.3.6 – Participate collaboratively and productively in groups.
CE 1.3.8 – Evaluate own and others' effectiveness in group discussions and formal presentations.
CE 1.4.1 – Identify, explore and refine topics and questions appropriate for research.
CE 1.3.1 – Compose written, spoken and/or multimedia composition in a range of genres.

America's Greatest History Attraction

Jeff Koslowski, Henry Ford Academy, Dearborn, MI

Title of the Lesson/Activity: Reinventing the Industrial Revolution

Grade Level: High School Social Studies: 9-12

Overview: This lesson is intended to put students in the role of the innovator. They will be given a general problem and asked to not only blueprint or prototype an object that would solve that problem but also to research an Industrial Revolution-era object that solved the problem at the time. Student-created inventions and Industrial Revolution inventions should be as different as possible.

Central Question/Problem: What type of traits, technologies, problems and solutions did innovators have to solve major world issues?

Learning Objectives:
SWBAT identify a particular problem within the Industrial Revolution.
SWBAT work cooperatively with another student
SWBAT research an Industrial Revolution-era artifact
SWBAT design a product that solves a problem

Assessment Tools: Diagram with written detail explaining how a product is designed and made.
One-page research essay about a particular artifact that solved the problem during the Industrial Revolution.

Key Concepts:
Identifying a problem
Using available resources
Thinking critically

Evidence/Sources:
Internet research
Field trip to Greenfield Village
Presenter talks at historic buildings

Duration: 1-2 days

Instructional Sequence:

Part 1: Teacher-lead lecture on Industrial Revolution background.
Part 2: Explain basis of assignment.
Part 3: Give examples of general problems and inventions that solved them.
Part 4: Give students general problems.
Part 5: Assist students by walking around and answering individual questions.

Student Project Ideas:

In class and homework
Group (partners)
Online and off-line
Amidst the unit

Anticipated Student Conceptions or Challenges to Understanding:

They don't understand their problem. – Ask the teacher for clarification.
Their solutions are too much like the original solution. – Encourage wild ideas.
Concept drawings contain little to no detail. – Ask how it works and question the design.

Curriculum Links: WHG 6.2.3 – Analyze the origins, characteristics and consequences of industrialization across the world by describing the environmental impacts of industrialization and urbanization.

America's Greatest History Attraction

Marsha A. Lewis, Mumford High School, Detroit, MI

Title of the Lesson/Activity: African-American Contributions to the Industrial Revolution

Grade Level: 9-12

Overview: The Industrial Revolution that occurred in the 19th century was of great importance to the economic development of the United States. Industrialization in America involved three important developments. First, transportation was expanded. Second, electricity was effectively harnessed. Third, improvements were made to industrial processes. These improvements were made possible by the great American inventors.

Central Question/Problem: How was the life of African-Americans affected by the Industrial Revolution?

Learning Objectives:

Objectives/High School Content Expectations (HSCEs):

USHG 6.1.1: Factors in the American Industrial Revolution – Analyze the factors that enabled the United States to become a major industrial power, including: 1) gains from trade; 2) organizational "revolution" (e.g., development of corporations and labor organizations); 3) advantages of physical geography; 4) increase in labor through immigration and migration; 5) economic policies of government and industrial leaders; and 6) technological advances.

USHG 6.1.2: Labor's Response to Industrial Growth – Evaluate the different responses of labor to industrial change, including: 1) development of organized labor, including the Knights of Labor, American Federation of Labor and the United Mine Workers; and 2) Southern and Western farmers' reactions, including the growth of populism and the populist movement.

Assessment Tool: In groups, conduct a class debate on the most important invention that spurred the Industrial Revolution

Key Concepts: Patent, transcontinental railroad, trunk lines, telegraph, Bessemer process, capitalism, free enterprise, communism, social Darwinism, corporation, trust, monopoly, vertical integration, horizontal integration, Sherman Antitrust Act, Knights of Labor, American Federation of Labor, Great Upheaval, Edwin L. Drake, Elijah McCoy, George Westinghouse, Alexander Graham Bell, Thomas Alva Edison, Lewis Latimer, Andrew Carnegie, John D. Rockefeller, Cornelius Vanderbilt, George Pullman.

Evidence/Sources:
Textbook: *American Nation in the Modern Era*, Holt, Rinehart and Winston © 2003, Chapter 6: "The Second Industrial Revolution (1865-1905)", pp. 190-217
Internet access, Go.hrw.com

Duration: 3-5 days

Instructional Sequence: First, show a video clip and conduct a lecture on the Industrial Revolution. Next, discuss West Africans' contributions to the Industrial Revolution: The mortar-and-pestle method, hoeing techniques and cooking techniques. Then, discuss black inventors and innovators of the past and conclude with African American inventors of today.

Student Project ideas: Write a play on the progression of the African-American's role in the Industrial Revolution in collaboration with the ELA teacher, create a "museum in a box" highlighting a black inventor, or create a video or PowerPoint presentation of the Industrial Revolution.

Anticipated Student Conceptions or Challenges to Understanding: Low-reading-level students will work with a partner to accomplish task. Visual learners are encouraged to draw pictorial display of African Americans in the Industrial Revolution

Curriculum Links: USHG 6.1.1: Factors in the American Industrial Revolution; USHG 6.1.2: Labor's Response to Industrial Growth; *OAH Magazine of History* Volume 15, Issue 1 pp. 19-23.

Joe William Trotter Jr.

African Americans and the Industrial Revolution

Until recently, scholarship on industrialization treated Africans and African Americans as peripheral to that process. Industrialization was considered a peculiarly European or Western innovation that owed little to the rest of the world and especially to blacks in the New World. This bias was not simply one of race. It was also one of class. The masses of working-class and poor whites were also excluded from consideration of the key dynamics of technological and social change. Historians of American technology privileged the deeds of famous inventors like Eli Whitney, Samuel F. B. Morse, Thomas Edison, Cyrus McCormick, and Henry Ford. Over the past several decades, however, scholars have gradually revamped our understanding of the industrial revolution from the vantage point of the working class as well as consumers of the products of technological innovations. As such, they have also illuminated the myriad ways that African Americans both influenced and were in turn influenced by the industrial revolution.

Teachers of the industrial revolution are now able to draw upon a growing body of knowledge that treats race, class, and technology as tightly interwoven themes in African American and U.S. history. Accordingly, this essay offers a brief outline of the ways that race and technology shaped the early enslavement of Africans in the New World; the work of bondsmen and women during the antebellum era; and especially the increasing urbanization of the African American population during the industrial age. For classroom purposes, however, teachers should find this essay most useful for organizing discussions around the interplay of class, race, and technology during the late nineteenth and early twentieth centuries.

From the outset of their enslavement, Africans brought a substantial body of technological know-how to the New World. Before the advent of the international slave trade, West African societies had developed diverse trade, manufacturing, and agricultural economies. In colonial America, enslaved Africans not only lived, worked, and fought closely with whites, but shared important knowledge that enabled Europeans to survive and thrive on the southern terrain. Africans entered the low country of colonial South Carolina with knowledge of rice planting, hoeing, processing, and cooking techniques. They planted rice in the spring by creating a hole in the ground with the heel of their foot, planting the seed, and then covering it with their foot. Slaves also influenced the use of the "mortar-and-pestle" method of cleaning and processing the rice. As historian Peter Wood notes: "There was a strikingly close resemblance between the traditional West African means of pounding rice and the process used by slaves in South Carolina. Several Negroes, usually women, cleaned the grain a small amount at a time by putting it in a wooden mortar which was hollowed from the upright trunk of a pine or cypress. It was beaten with long wooden pestles which had a sharp edge at one end for removing the husks and a flat tip at the other for whitening the grains" (1).

While the technological know-how of African Americans was especially prominent in the early creation and settlement of plantations in colonial America, the advent of Eli Whitney's cotton gin during the 1790s transformed the work of bondsmen and women during the antebellum era. Manufacturers had long recognized the value of cotton, but technological obstacles precluded use of the fiber on a massive scale. The difficulty of separating the cotton fiber from its seed made the production of cotton an extremely slow, labor intensive, and costly enterprise. The fibers clung to the seed so firmly that they had to be "cut or torn away" by hand. This was particularly true for short-staple cotton, which grew in the interior, compared to long-staple sea island cotton, which grew in the low lying coastal areas of Georgia and South Carolina. The cotton gin effectively separated the fiber from the seed and fueled demand for increasing numbers of field hands to plant, cultivate, and pick cotton for national and international markets.

Cotton soon emerged at the center of southern and U.S. economic growth and stimulated the spread of the industrial revolution. Production rose from less than 300,000 bales in 1820 to over 700,000 in 1830 to over 2.0 million in 1850 and to nearly 4.5 million in 1860. Cotton dominated the nation's foreign exports, especially to England where revolutionary changes in the textile industry—i.e., new spinning and weaving machines—cheapened the production of cotton fabrics and created huge demand for raw cotton. At the same

Donald McLaughlin, Lake Orion High School, Lake Orion, MI

Title of the Lesson/Activity: Marginal Revenue Product and the Adoption of New Farm Technology

Grade Level: 11-12

Overview: This is primarily a lesson of micro-economic concepts applied to the industrialization of agriculture in the years following the Civil War.

Central Question/Problem: Farmers experienced ever-advancing technology in the years up to and following the Civil War. The question faced by farmers was whether or not to adopt said technology. Will it bring greater efficiency and profits? Are there alternatives?

Learning Objectives: Students will understand and implement the concepts of marginal product, marginal revenue product and maximizing marginal revenue product in an analysis of the agricultural innovations of the Industrial Revolution.

Assessment Tools: Students will be assigned a follow up assignment to evaluate the purchase of a type of technology based on its marginal revenue product and alternatives.

Key Concepts: The economic principles behind adoption of new technology on American farms after the Civil War.

Evidence/Sources: Pictures and information from the presentation of R. Douglas Hurt

Duration: 90-minute class period

Instructional Sequence: In preparation for the lesson the students should have read the section of the textbook and participated in class activities that cover marginal product, average product, as well as various introductory micro-economic concepts that build in preparation for this lesson.

Step 1: After students have entered class and completed a warm-up activity, ask them to stand and move three desks to create a small workspace approximately 2 feet by 5 feet.

Step 2: Inform the students that today they will be making pizzas! Show them how you want them to fold a piece of scrap paper to a square about 1/6 the size of a normal piece of paper. Then show them how you want the solid side colored red (with sauce) and dotted with at least 4 green dots (green peppers). Inform them that although the goal is to make as many pizzas as possible, any imperfect pizzas will not count toward the total.

Step 3: Explain that you are going to need volunteers to work in your pizza place. Select one and time the student for 15 seconds while you count and evaluate the pizzas the student makes. On the board, record how many pizzas were made (marginal product).

Step 4: Add another worker and follow the same procedure as Step 3, making sure you record not only the marginal product but also the average product (total product/# of workers). Continue in this manner until you cannot fit any more workers in the small workspace.

Step 5: At this point, return the class to its normal configuration and examine your results. In all likelihood, you will find that at some point each worker becomes less productive than the previous worker (Law of Diminishing Returns). Also, you will likely find that at some point marginal product becomes negative, and at some point average product falls. Ask questions to try to provoke this discovery by students; discuss and make sure that they understand the concept that reflects your results.

Step 6: Ask the class how much we should charge for our pizzas, and after you come to a consensus, calculate marginal revenue product (change in total revenue/change in resource quantity) for each worker.

Step 7: Ask the class how much we should pay our workers. After you come to a consensus, calculate marginal resource cost (change in resource cost/change in resource quantity) for each worker.

Step 8: Ask the class when we should hire additional workers and when we should lay them off. Make sure they come around to the idea that to maximize profit, a firm should hire additional units of a specific resource as long as each successive unit adds more to the firm's total revenue than it adds to total cost. If MRP is greater than MRC, the firm can profit by hiring more workers. If MRP is less than MRC, the firm is hiring more workers than it needs to (firm can profit by firing workers). Use the data you created as a class to determine how many pizza makers you need and fire the rest. Use the names of the student workers for more fun.

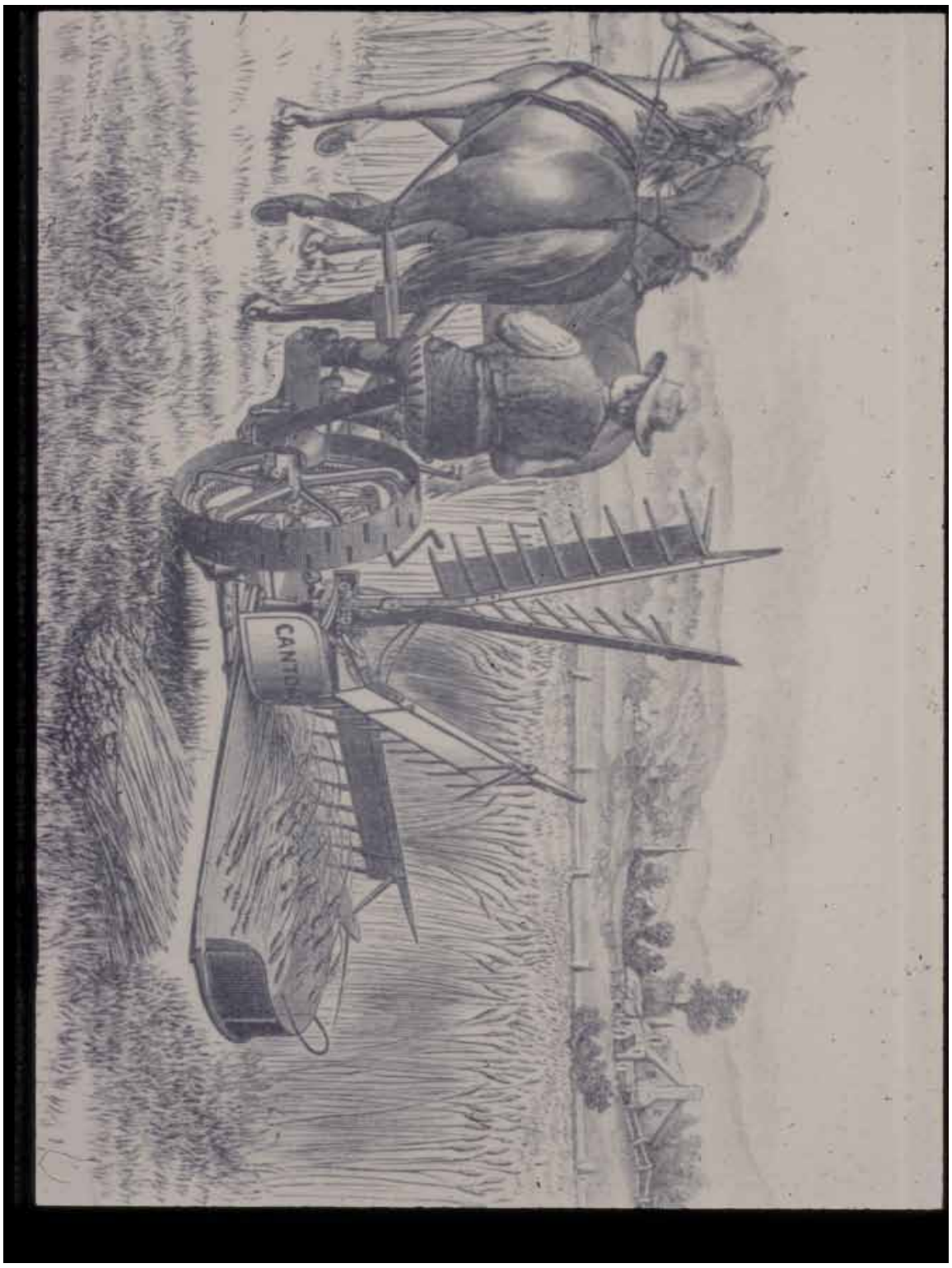
Step 9: Explain that this concept is also true if the resources are capital, such as machines, not just for people.

Step 10: Ask the following question: If the harvester pictured below from the 1870s costs $1,000 and will increase production from 6 bushels per acre to 9 bushels per acre in the short run, is it worth purchasing given that you have 200 acres and wheat costs $1 per bushel? (No.) Is it worth purchasing if wheat costs $2 per bushel? (Yes.) Note that if you think in the long run, the answer to the first question may be yes.

Student Project Ideas: Having taught this concept, I usually assign several problems to cement the concept of maximizing profit through proper use of labor and capital. Follow-up projects are essentially limitless. You could assign any number of research projects focusing on the industrialization or any other time period including the present. I would consider asking a student to research a production technology change and analyze what the technology cost would be as well as the product price to determine if purchase of said technology would be wise.

Anticipated Student Conceptions or Challenges to Understanding: There are many possible pitfalls of this lesson; the better prepared students and teacher are, the easier it will be.

Curriculum Links: This fits well in AP Micro-Economics but is valuable to understand for any advanced social studies student.



America's Greatest History Attraction

Matthew Mutschler, Warren Mott High School, Warren, MI

Title of Lesson/Activity: From Open Hearth to Iron Stove: How Industrial Changes in the Kitchen Advanced the Separation of the Spheres.

Grade Level: 11-12 AP United States History (Suggested)

Overview: An examination of how work roles of men and women in the American home, especially in food preparation, were altered by advances in industrialization.

Central Question/Problem: How did the Industrial Revolution lead to the separation of the man's sphere and the woman's sphere?

Learning Objectives:

- The students will be able to identify and list the domestic roles of men and women as they relate to food preparation in preindustrial and industrial America.
- The students will compare the role of men and women in open-hearth cooking to gender roles after the stove came into common use.
- The students will be able to analyze the role of industrialism in the creation of the "separating spheres" in domestic life.

Assessment Tools: Completion and student presentation of graphic organizer (Venn diagram), written response to focus question and checking for understanding through class discussion.

Key Concepts: Industrialization, standardization, market economy, Cult of Domesticity, Separate Spheres

Evidence/Sources: Excerpts from *More Work for Mother* by Ruth Schwartz Cowan.

Duration: 60-minute period.

Instructional Sequence:

- As an anticipatory set, ask the students what they perceive to be "traditional" jobs for men and women around the home. List them in the appropriate spaces on the first Venn diagram on the chalkboard. Fill in any "shared work" responsibilities they can identify. (8-10 minutes)

- Review the objectives of the lesson, including a review of the focus question and a brief discussion of the meaning of "separate spheres." (2-3 minutes)

- Ask the students to look at the picture of the woman cooking over the open hearth, and ask them to think about the difficulties of preparing food that way. Then, ask the students to read about "Food Preparation in the Pre-industrial Home." Ask them to highlight or underline anything that relates to the work responsibilities of men and women. (8-10 minutes)

- When the students are finished with the reading, discuss with them what they found. How did their preconceived notions of work at this time compare to reality? (5 minutes)

- Similar to Step 2, but discuss the stove with the students and ask them to read "Food Preparation in the Industrial Home" and underline their findings. (8-10 minutes)

- Place the students into groups of three. Ask them to compare notes on each of the readings and complete the Venn diagrams for both the preindustrial and industrial homes. (10 minutes)

- Debriefing: Ask each group to report its findings. (10 minutes)

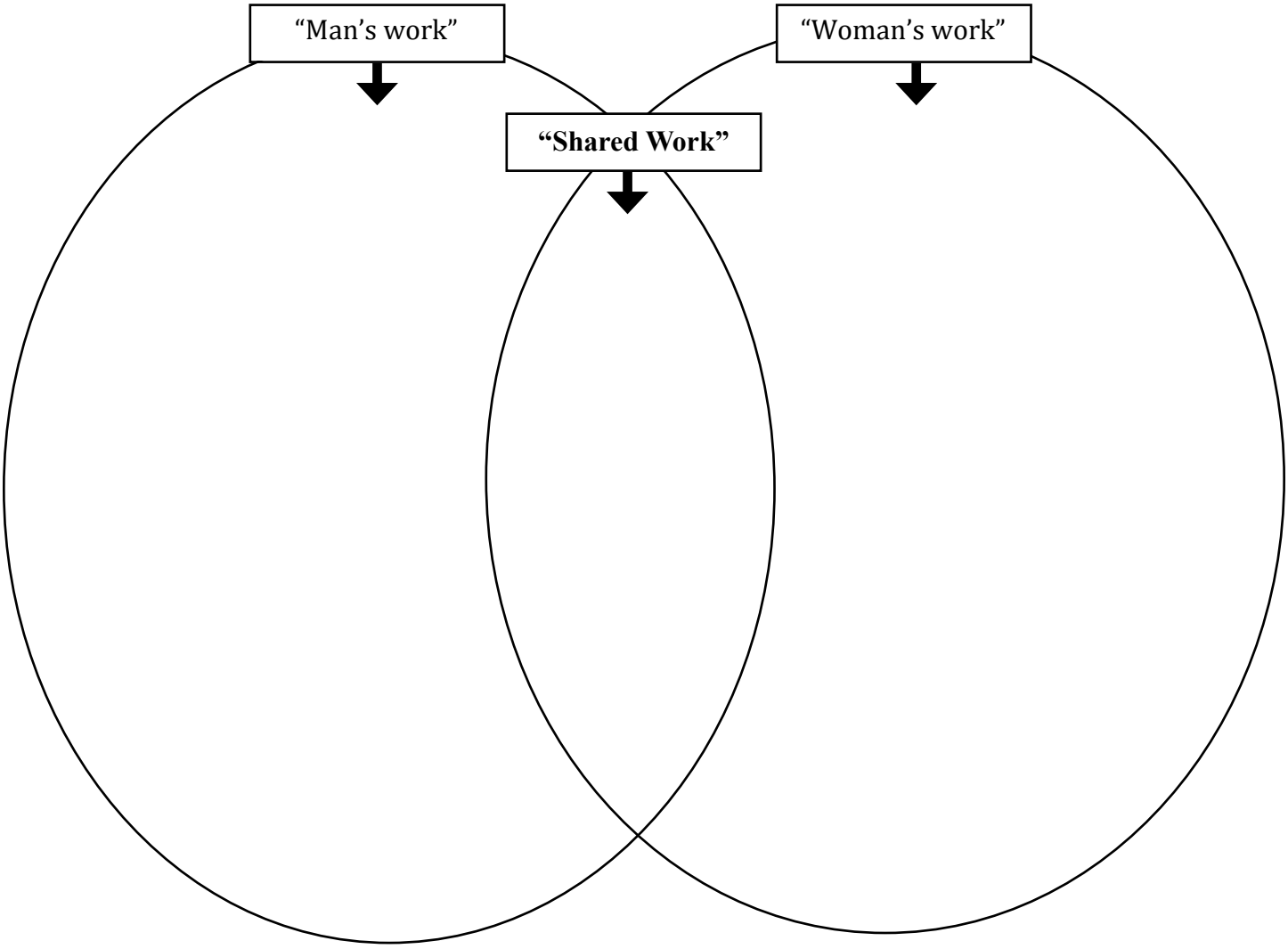
- Review focus question. Ask the students how industrialization affected the roles of men and women. (3-5 minutes)

Student Project Ideas: Using ExhibitBuilder on The Henry Ford website, ask the students to build an exhibit containing artifacts which relate to either "man's work" or "woman's work" in the industrial age.

Anticipated Student Conceptions or Challenges to Understanding: 21st-century students, especially from urban areas, might be unfamiliar with chores common to a rural farm.

Curriculum Links:
Michigan Curriculum Content Standards for Social Studies
USHG Era 6: 6.1.1
USHG Era 6: 6.1.5

Traditional ideas about "man's work" and "woman's work" in the home.



Food Preparation in the Preindustrial Home

"Let us begin by imagining that this particular pottage was being prepared in the home of a young childless couple living on a small farm in Connecticut in the middle of the eighteenth century, a farm that was as yet too small to require hired help in the fields or in the house, but was large enough to supply the basic needs of wife and husband. To butcher the animal from which the meat was to come, the husband would have used a set of knives made of wood and iron. This being Connecticut, the water to be used in preparation and cleaning would likely have come from a nearby stream and would have been carried to the house in a bucket made of wood, although the staves would have been girdled in iron or leather. The housewife would have put the meat and water into a large iron kettle, and this kettle would have been suspended over the fireplace on an iron lugpole (fifty years earlier it might have been made of green wood) inserted into the mortar of the chimney (lacking a lugpole, the housewife could have used a trammel or a crane made of iron, standing on the floor of the hearth.) The fuel for the fire would be hardwood logs, cut, hauled, chopped, and stacked by her husband. The fuel would sit on iron or brass andirons in a fireplace constructed of either bricks or local fieldstones; as masons were not common (or inexpensive), the likelihood is that her husband had constructed the fireplace himself. If the housewife had been following standard practice in these matters, the herbs and vegetables that were added to the stew would have come from a kitchen garden that she had planted and tended herself (although, when plowing in the spring, her husband might have turned over the soil if it was particularly wet and heavy). The grain that went into the stew for thickening might have been corn or wheat – and, unlike the herbs and vegetables, would have been the product of male, rather than female, labor. The husband would have superintended the growing of it as well as its subsequent processing; had it been corn, he would have husked it and scraped the kernels from the ear; if wheat, he would have supervised the cutting, threshing, and winnowing, although the housewife might have helped. If they had a hand mill (made of stone) for either form of grain, he would have pushed it or managed the draft animals doing the pushing; and if the grain was to be taken to a local water mill to be ground (which would have been the most likely choice in Connecticut in this period), he would have hauled it in a cart drawn by the same draft animals. Skimming and stirring were the tasks that the housewife performed with wooden spoons; the spoons themselves had most likely been whittled by the husband during the previous winter when there was little work to be done in the fields. The salt (and other spices, had she had them) would have been purchased, as they could not have been made from locally available materials. Once made, the stew would have been served in wooden trenchers (also whittled by hand), which then would have been wiped clean with a rag (which, at this date, would most likely have come from cloth imported from England, but which could also have been American homespun, although not of this particular housewife's manufacture, since the couple were too early in their life cycle to be able to afford either a loom or the time required for weaving). The last remaining task remaining to the housewife would have been the cleaning of the kettle, accomplished with some water, perhaps some sand, a rag, and a brush that she had made herself, as its name implies from branches and twigs."

From <u>More Work for Mother</u> by Ruth Schwartz Cowan, Basic Books, Inc., Publishers, New York
pages 22-24.

The Man's Role:

The Woman's Role:

Cooking over an open hearth

Preparing dinner at the 18th-century Daggett Farmhouse

Food Preparation in the Industrial Home

"The impact of those stoves on the houses in which they were installed is not difficult to discern: stoves were labor-saving devices, but the labor 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 in cutting, hauling, and splitting wood. The labor involved in cooking, which was the female share of the work, seems barely to have been affected at all; the process of frying bacon on a stove is little different from the process of frying bacon over a hearth. Hearth fires were difficult to maintain at constant or specialized temperatures – but stove fires were not easy either. "Had an offal [sic] time to get breakfast, the fire would not burn. Did not get to school in time for prayers," confided one young woman in her diary in 1868 – and her sentiments were echoed in the pages of domestic manuals that advised women on how to manage the cantankerous grates and dampers of their stoves. Pots and pans and kettles continued to be exceedingly heavy (as they continued to be made from cast iron for most of the century); and although the advent of the stove may have somewhat reduced the amount of stooping that had to be done to tend those implements, the stove did not eliminate the need to move thirty- and forty-pound burdens awkwardly back and forth.

"As with conversion from meal to flour, the conversion from hearth to stove may well have augured 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; the skilled cook needed to know how to regulate the dampers of her stove and how to move her pots various distances from the firebox; but once she had conquered this art, it was possible for her to boil potatoes, simmer a soup, and bake an apple pie for dinner all at the same time; this combination would have been near to impossible on a hearth. The stove, in short, augured 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. The diet of average Americans may well have become more varied during the nineteenth century, but in the process women's activities became less varied as their cooking chores became more complex.

"Furthermore, a stove had to be cleaned. As stoves were made of cast iron, they would rust if left dirty (or undried) for any length of time; once a stove started to rust, it would, if left unattended, eventually wear thin and crack. Thus stoves, unlike fireplaces, had to be cleaned at the end of each day, and stove polish (a black, waxy materiel) applied fairly regularly, in order to ward off the danger of rust. This work was done by woman, since cleaning, like cooking, was one of the jobs that was stereotypically allocated to women, and to women alone."

From <u>More Work for Mother</u> by Ruth Schwartz Cowan, Basic Books, Inc., Publishers, New York
pages 61-62.

The Man's Role:

The Woman's Role:

The late 19th-century iron cooking stove

Coal replaced wood as fuel in these stoves.

America's Greatest History Attraction

Matthew Mutschler, Warren Mott High School, Warren, MI

Title of the Lesson/Activity: Cheese Sandwich Assembly: A Simulation to Demonstrate the Impact of the Assembly Line and Mass Production in American History

Grade Level: 9-10 American History (adaptable to many grade levels)

Overview: This simulation will provide the students with a visual and hands-on demonstration of how the assembly line changed industrial production.

Central Question/Problem: Is it faster, more efficient and more cost effective to hire a few skilled workers to build products one at a time in isolated workstations or to use a large number of unskilled workers to work on an assembly line?

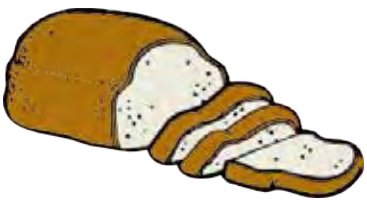
Learning Objectives:

- The students will be able to compare and contrast a static assembly system to an assembly line system.
- The students will be able to assess the strengths and weaknesses of each system.
- The students will evaluate the pros and cons of mass production for both the company, the worker and society at large.

Assessment Tools: Authentic assessment. The students will be able to assess the success of each method for themselves. By timing each method of production and assessing the quality of the sandwiches, the students will be able to judge which method is better.

Key Concepts: Industrialization, manufacturing, skilled labor unskilled labor, and the assembly line

Evidence/Sources: Video clips on assembly line production in the Ford Motor Company's Highland Park Plant. One loaf of sliced bread, a jar of mayonnaise, 10 slices of cheese, 10 paper plates, some plastic gloves and one plastic knife are needed per lesson. A timepiece or stopwatch is required.



Duration: 60-minute period

Instructional Sequence:

- As an anticipatory set, ask the students what prior knowledge, if any, they have about assembly line manufacturing or mass production; list the items on the board. (5-8 minutes)

- Review the objectives of the lesson. Explain that the class will be taking part in a simulation in order to demonstrate production methods. Explain that the objective of the simulation is to build five quality cheese and mayonnaise sandwiches cut into quarters. Show the students the materials and ask for a volunteer. (2 minutes)

- Ask for two volunteers. Explain that one volunteer must make five mayo and cheese sandwiches cut into quarters. All the materials are provided and present, including a plastic knife for cutting the sandwiches and plastic gloves for safe food handling. The volunteer will be timed, and the sandwiches will be assessed for quality (they shouldn't be too sloppy). The second volunteer will use the stopwatch to time the sandwich-making and record the time. (4-5 minutes)

- Ask the students if they can think of any ways to speed up the process. After discussing their ideas, ask for five new volunteers. Explain that the job has now been subdivided. Each of them has a specific task: placing the slices of bread onto a plate, putting mayo on both slices of bread, placing a slice of cheese on each sandwich, closing the sandwich and cutting it into four pieces. The fifth volunteer is the timekeeper. Begin the sandwich making while timing the process. When done, record the time and assess for quality. (4-5 minutes)

- After both demonstrations have been completed, ask the students to compare what they saw. Some questions might include: Which system was faster? Which system is more efficient? Which system is capable of making better sandwiches? Which system is capable of making more sandwiches over the same amount of time? In what ways could the process be improved even further? Is it better to pay one highly-skilled sandwich maker a high wage to make sandwiches or to pay several low-skilled workers a low wage to complete only part of the process? (8-10 minutes)

- Watch videos online that show the workers at Henry Ford's Highland Park plant assembling automobile parts and general assembly for the Model T. Point out the highly repetitive nature of the work. Ask the students how much skill was needed to work one of the jobs on the line. Ask the students to imagine the difficulties of working such a job. (10 minutes)

- Debriefing: After watching the videos, ask the students how these methods would have benefited Ford. How would they have benefited America? How would they benefit the workers? What might Ford have to do in order to keep workers from quitting? Ask if it makes sense to hire a few highly skilled workers at high wages to mass-produce automobiles or if hiring many low-skilled workers at lower wages would be better. (10 minutes)

- Ask for volunteers to eat the sandwiches! Also, you may point out to the students that sliced bread and packaged sliced cheese are also made in factories! (2 minutes)

- Review focus question. Are there similarities between the sandwich simulation and the early assembly line used by Henry Ford? What made Ford's methods so effective? Would you have wanted to work for Ford? (3-5 minutes)

- Clean up! (2 minutes)

Student Project Ideas: Ask the students to come up with a list of household items (food items, utensils, clothing, etc.) that are produced in factories today and that may have been handmade or homemade a century ago.

Anticipated Student Conceptions or Challenges to Understanding: You may have to give definitions and examples of skilled and unskilled labor.

Curriculum Links:
Michigan Curriculum Content Standards for Social Studies
USHG Era 6: 6.1.1
USHG Era 6: 6.1.5

Randy Nissen, Toledo Early College High School, Toledo, OH

Title of the Lesson/Activity: The Assembly Line and Its Consequences

Grade Level: 9th and 10th

Overview: This lesson will introduce students to the concepts of the American System (interchangeable parts, assembly line and mass production) and the social consequences of these changes.

Central Question: How did the assembly line change industrial production, and how did this change affect people's lives?

Learning Objectives:
1. Understand the evolution and importance of the American System (interchangeable parts, assembly line, mass production).

2. Realize that a new technology has social ramifications.

Assessment Tools: Pre-test – not graded. The purpose is to simply get kids thinking about the concepts they are going to learn.

Final project – THF website ExhibitBuilder project and written responses.

Key Concepts:
- -Interchangeable parts
- -Assembly line
- -Mass production
- -Vertical integration
- -Trade-offs

Evidence/Sources:
Textbook
Vocabulary sheet
PowerPoint presentations
The Henry Ford website

Modern Times (DVD) by Charlie Chaplin
À nous la liberté (DVD) by René Clair
Excerpts from *The Flivver King* by Upton Sinclair
Excerpts from Sorensen, Charles, E., *My Forty Years with Ford* (1956)
Five Things We Need to Know About Technological Change by Neil Postman (1998)

Duration: 6 days

Sequence of Instruction:

Day 1:

1. Pre-test (ungraded):
   a. List 5 things in the classroom that are made by machines.
   b. List anything in the room that is handmade.
   c. How would you fix your car if you drove over a curb and destroyed your exhaust system?
2. Show a slide of the Model T, and see what your students know or think they know.
3. Read the section in your textbook that refers to Henry Ford. This will give kids a context or broad framework from which to proceed.
4. Interactive PPT lecture/discussion Assembly line ppt)
5. HW: Create a Venn diagram comparing the American System with making things by hand.

Day 2:

1. Create an exhibit on ExhibitBuilder that tells the story of Henry Ford and the assembly line http://collections.thehenryford.org/ExhibitHome.aspx

Day 3:

1. Introduce the two films with the ppt.
2. View clips from *Modern Times* and *À nous la liberté*.

Modern Times Clips
Show first 6 minutes:
Sheep/workers
Speeding up assembly line

6:02	Automatic feeding machine
8:42–12:52	Chaplin using feeding machine
13:01	Famous gear scene
18:03	Red flag
1:15:50	Chaplin speaks

Homage to Chaplin

I Love Lucy "Job Switching"
http://www.youtube.com/watch?v=8NPzLBSBzPI

Drake and Josh Sushi roll
http://www.youtube.com/watch?v=FfIsD1wEOnw

À nous la liberté Clips

1:30-6:45	Prison/assembly line
15:30-17:42	Assembly line scene

3. Discuss what the films were trying to say.

Day 4:

1. Introduction to the two authors with ppt.
2. Read excerpts from *The Flivver King* by Upton Sinclair and *My Forty Years with Ford* by Charles Sorensen.
3. Complete written questions.
4. Do a T-chart as a class eliciting responses showing the positive and negative consequences of the assembly line.
5. HW: Read *Five Things We Need to Know About Technological Change* by Neil Postman (1998)
   Assignment: Respond to each of Postman's 5 ideas in the context of working on the assembly line as a new form of technology. Did Postman nail it?

Day 6:

1. Discuss Postman's theses in the context of Henry Ford's assembly line.

Student Project Ideas:

-Write responses to the ExhibitBuilder projects as if you were a Ford line worker, an efficiency excerpt, an African-American worker, a master craftsman, i.e, multiple perspectives.
-Investigate the use of the assembly line in other industries. Where do you see evidence of the assembly line and the American System in your daily life?

Curriculum Links:

Revised Ohio Social Studies Content Standards

Topic: Industrialization and Progressivism (1877-1920)

Ignited by post-Civil War demand and fueled by technological advancements, large-scale industrialization began in the United States during the late 1800s. Growing industries enticed foreign immigration, fostered urbanization, gave rise to the American labor movement and developed the infrastructure that facilitated the settling of the West. A period of progressive reform emerged in response to political corruption and practices of big
business.

Content Statements:

5. The rise of corporations, heavy industry, mechanized farming and technological innovations transformed the American economy from an agrarian to an increasingly urban industrial society.

6. The rise of industrialization led to a rapidly expanding workforce. Labor organizations grew amidst unregulated working conditions, laissez-faire policies toward big business and violence toward supporters of organized labor.

7. Immigration, internal migration and urbanization transformed American life.

8. Following Reconstruction, old political and social structures reemerged, and racial discrimination was institutionalized.

9. The Progressive era was an effort to address the ills of American society stemming from industrial capitalism, urbanization and political corruption.

Who is the most recognizable person in the world today?

In the early
20th-century
it was . . .

Charlie
Chaplin
1889-1977

1936

The Great Dictator
1940

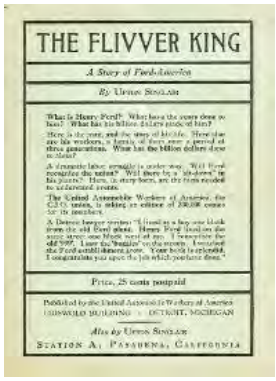
À nous la liberté
"Liberty for Us":

1931

Charles Sorenson
1881-1968

Upton Sinclair
1878-1968

1906


THE FLIVVER KING

A Story of Fresh-Americka

By Upton Sinclair

What is Henry Ford? What have the years done to him? What has his billion dollars made of him?

Here is the man, and the story of his life. Here also are his workers, a family of them over a period of three generations. What has the billion dollars done to them?

A dramatic labor struggle is underway. Will Ford recognize the union? Will there be a "sit-down" in his plants? Here, in story form, are the facts needed to understand events.

The United Automobile Workers of America, the C.I.O. union, is asking an edition of 250,000 copies for its members.

A Detroit lawyer writes: "I would as lief own block from the old Ford plant. Henry Ford lived on the same street one block west of me. I remember the old 999. I saw the 'bugies' on the streets. I watched the Ford establishment grow. Your book is splendid. I congratulate you upon the job which you have done."

Price, 25 cents postpaid

Published by the United Automobile Workers of America
EDSWOLD BUILDING — DETROIT, MICHIGAN

Also by Upton Sinclair

STATION A: PASADENA, CALIFORNIA

1937

Two Readings Related to Henry Ford and the Assembly Line

Birth of the Assembly Line

"What was worked out at Ford was the practice of moving the work from one worker to another until it became a complete unit, then arranging the flow of these units at the right time and the right place to a moving final assembly line from which came a finished product. Regardless of earlier uses of some of these principles, the direct line of succession of mass production and its intensification into automation stems directly from what we worked out at Ford Motor Company between 1908 and 1913...

The idea occurred to me that assembly would be easier, simpler, and faster if we moved the chassis along, beginning at one end of the plant with a frame and adding the axles and the wheels; then moving it past the stockroom, instead of moving the stockroom to the chassis. I had Lewis arrange the materials on the floor so that what was needed at the start of assembly would be at that end of the building and the other parts would be along the line as we moved the chassis along. We spent every Sunday during July planning this. Then one Sunday morning, after the stock was laid out in this fashion, Lewis and I and a couple of helpers put together the first car, I'm sure, that was ever built on a moving line.

We did this simply by putting the frame on skids, hitching a towrope to the front end and pulling the frame along until axles and wheels were put on. Then we rolled the chassis along in notches to prove what could be done. While demonstrating this moving line, we worked on some of the subassemblies, such as completing a radiator with all its hose fittings so that we could place it very quickly on the chassis. We also did this with the dash and mounted the steering gear and the spark coil."

"By August, 1913, all links in the chain of moving assembly lines were complete except the last and most spectacular one - the one we had first experimented with one Sunday morning just five years before. Again a towrope was hitched to a chassis, this time pulled by a capstan. Each part was attached to the moving chassis in order, from axles at the beginning to bodies at the end of the line. Some parts took longer to attach than others; so, to keep an even pull on the towrope, there must be differently spaced intervals between delivery of the parts along the line. This called for patient timing and rearrangement until the flow of parts and the speed and intervals along the assembly line meshed into a perfectly synchronized operation throughout all stages of production. Before the end of the year a power-driven assembly line was in operation, and New Year's saw three more installed. Ford mass production and a new era in industrial history had begun"

References:
Sorensen, Charles, E., *My Forty Years with Ford* (1956)

Questions - Write these on a separate paper. Use complete sentences.

First Reading: Henry Ford Changes the World, 1908

1. How were cars manufactured before the assembly line was invented?

2. Describe the basic idea of an **assembly line**.

3. Look up the word **efficient.** How did the assembly line make the manufacture of cars more efficient?

4. What else would you like to know about Henry Ford or the Model T?

told to go and get his "time". There he was, after twenty-two years of merit and faithful service, deprived of all his honors and emoluments by a miserable straw-boss who had been with the company only a couple of years, and had never had so much as a nod from Henry Ford in his life. When Abner, in horrified protest, mentioned that he knew Mr. Ford, the man laughed in his face and told him to go straight to Henry's home on the River Rouge and complain!

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What Abner had to do was to go to his son, who managed to persuade somebody in the tool-shop to find his old man a place. The only vacancy was tending some grinding-machines; so Abner was on his feet again, feeding pieces of steel, all of uniform size and shape to the ten thousandth part of an inch, into machines which cut a groove in one side of them; Abner had to move from one machine to another, and when he finished at the last one, run back to the first, while the boss shouted: "Get a move on you, Shutt; we can't afford to have them grinders standing idle!"

Abner hadn't worked on his feet for years, and his legs had grown soft and his belly hung down in front. His calves began to hurt, and at night they were so swollen that he could hardly get to sleep. He didn't think he could stand it; but he had to stand it, because it was his living, his only chance. He was forty-eight years of age now, and had a boss who boasted in the magazines of kindness to his aged employees; if there was any other corporation head in America who made such a claim, it hadn't come to Abner's attention, and if he got himself a reputation at Ford's for being a weakling and grumbler, how would he ever complete the payments on his new car?

It was those dreadful devices known as "the speed-up" and "the stretch-out." Every worker had to be strained to the uttermost limit, every one had to be giving the last ounce of energy he had in his carcass. Henry Ford would deny that; of course; he would write so blandly, so convincingly, about the purpose of scientific management being to ascertain exactly what each worker could do without strain, and to give him that much. It was a lie, it was a lie! Henry's workers wanted to scream when they read those articles of his. They were tired when they started in the morning, and when they quit they were grey and staggering with fatigue, they were empty shells out of which the last drop of juice had been squeezed.

It was that way everywhere, not merely at Ford's, but all through the cruel industry. Faster and faster, until the hearts of the men were seething with bitterness. All the motor-plants were in deadly incessant competition; every department in every plant competing with others, and with itself, with its own records in the past, with new "norms" which had been set by the engineers who watched the processes and designed new machines and techniques.

Did Henry Ford know about these conditions? Abner Shutt, faithful devotee, was sure that he couldn't know. Abner could read in the papers what the Flivver King was doing. He was traveling in Europe, inspecting his vast empire, and telling the people over

there how to Americanize themselves. He was in Georgia, experimenting with fifteen thousand acres of goldenrod from which he expected to get rubber. He was on his huge farm in Michigan, growing soybeans, and watching his laboratory people making steering-wheels out of them. He was compiling his dance-book and collecting antiques for his museum. He was studying the thousands of birds for which he had provided air-conditioned homes. He was going everywhere and doing everything except watching the assembly-lines of his huge factory, with two hundred thousand slaves making themselves parts of machines—pick-up, push-in, turn, reverse—pick-up, push-in, turn, reverse, pickuppushinturnreverse, pickuppushinturnreverse—a man would go mad if he stopped to think about it.

Abner Shutt, patient and spavined old nag of industry, trotted back and forth in his treadmill, never daring to lift his eyes for one moment during eight hours, except for the exactly-measured fifteen minutes when the "ptomaine wagon" came along, selling fifteen-cent lunches for those who hadn't brought their own. Abner did his work, and held his tongue; he remembered the copy-book maxims about merit and faithfulness, and his lifetime devotion warred against the everyday facts about him, the bitter sneers he heard from the men—always under their breaths, of course, on account of the spies and stool-pigeons of the "service department".

But one thing Abner couldn't do, not even to oblige his kind boss, and that was to dance old-fashioned square dances after he got home from his work.

Second Reading: **Excerpt from *The Flivver King*, Upton Sinclair, 1937.**

1. What were some ways that Henry Ford tried to get more out of his workers?

2. Why did Abner describe the Ford workers on the assembly line as " slaves making themselves parts of the machines"?

3. Earlier in the short novel Abner is hired by Henry Ford who he idolizes. By the time of this selection Abner has been forced by circumstances to go back to work at the age of 48. Has his perception of Henry Ford changed?

4. Define at least three words from this excerpt that you had to look up.

5. The first reading included passages from a former Ford engineer who worked in an office. The second was from the perspective of a factory line worker. How do their perspectives differ?

Neil Postman: Five Things We Need to Know About Technological Change (1998)

Good morning your Eminences and Excellencies, ladies, and gentlemen.

The theme of this conference, "The New Technologies and the Human Person: Communicating the Faith in the New Millennium," suggests, of course, that you are concerned about what might happen to faith in the new millennium, as well you should be. In addition to our computers, which are close to having a nervous breakdown in anticipation of the year 2000, there is a great deal of frantic talk about the 21st century and how it will pose for us unique problems of which we know very little but for which, nonetheless, we are supposed to carefully prepare. Everyone seems to worry about this–business people, politicians, educators, as well as theologians.

At the risk of sounding patronizing, may I try to put everyone's mind at ease? I doubt that the 21st century will pose for us problems that are more stunning, disorienting or complex than those we faced in this century, or the 19th, 18th, 17th, or for that matter, many of the centuries before that. But for those who are excessively nervous about the new millennium, I can provide, right at the start, some good advice about how to confront it. The advice comes from people whom we can trust, and whose thoughtfulness, it's safe to say, exceeds that of President Clinton, Newt Gingrich, or even Bill Gates. Here is what Henry David Thoreau told us: "All our inventions are but improved means to an unimproved end." Here is what Goethe told us: "One should, each day, try to hear a little song, read a good poem, see a fine picture, and, if possible, speak a few reasonable words." Socrates told us: "The unexamined life is not worth living." Rabbi Hillel told us: "What is hateful to thee, do not do to another." And here is the prophet Micah: "What does the Lord require of thee but to do justly, to love mercy and to walk humbly with thy God." And I could say, if we had the time, (although you know it well enough) what Jesus, Isaiah, Mohammad, Spinoza, and Shakespeare told us. It is all the same: There is no escaping from ourselves. The human dilemma is as it has always been, and it is a delusion to believe that the technological changes of our era have rendered irrelevant the wisdom of the ages and the sages.

Nonetheless, having said this, I know perfectly well that because we do live in a technological age, we have some special problems that Jesus, Hillel, Socrates, and Micah did not and could not speak of. I do not have the wisdom to say what we ought to do about such problems, and so my contribution must confine itself to some things we need to know in order to address the problems. I call my talk Five Things We Need to Know About Technological Change. I base these ideas on my thirty years of studying the history of technological change but I do not think these are academic or esoteric ideas. They are to the sort of things everyone who is concerned with cultural stability and balance should know and I offer them to you in the hope that you will find them useful in thinking about the effects of technology on religious faith.

First Idea

The first idea is that all technological change is a trade-off. I like to call it a Faustian bargain. Technology giveth and technology taketh away. This means that for every advantage a new technology offers, there is always a corresponding disadvantage. The disadvantage may exceed in importance the advantage, or the advantage may well be worth the cost. Now, this may seem to be a rather obvious idea, but you would be surprised at how many people believe that new technologies are unmixed blessings. You need only think of the enthusiasms

with which most people approach their understanding of computers. Ask anyone who knows something about computers to talk about them, and you will find that they will, unabashedly and relentlessly, extol the wonders of computers. You will also find that in most cases they will completely neglect to mention any of the liabilities of computers. This is a dangerous imbalance, since the greater the wonders of a technology, the greater will be its negative consequences.

Think of the automobile, which for all of its obvious advantages, has poisoned our air, choked our cities, and degraded the beauty of our natural landscape. Or you might reflect on the paradox of medical technology which brings wondrous cures but is, at the same time, a demonstrable cause of certain diseases and disabilities, and has played a significant role in reducing the diagnostic skills of physicians. It is also well to recall that for all of the intellectual and social benefits provided by the printing press, its costs were equally monumental. The printing press gave the Western world prose, but it made poetry into an exotic and elitist form of communication. It gave us inductive science, but it reduced religious sensibility to a form of fanciful superstition. Printing gave us the modern conception of nationhood, but in so doing turned patriotism into a sordid if not lethal emotion. We might even say that the printing of the Bible in vernacular languages introduced the impression that God was an Englishman or a German or a Frenchman–that is to say, printing reduced God to the dimensions of a local potentate.

Perhaps the best way I can express this idea is to say that the question, "What will a new technology do?" is no more important than the question, "What will a new technology undo?" Indeed, the latter question is more important, precisely because it is asked so infrequently. One might say, then, that a sophisticated perspective on technological change includes one's being skeptical of Utopian and Messianic visions drawn by those who have no sense of history or of the precarious balances on which culture depends. In fact, if it were up to me, I would forbid anyone from talking about the new information technologies unless the person can demonstrate that he or she knows something about the social and psychic effects of the alphabet, the mechanical clock, the printing press, and telegraphy. In other words, knows something about the costs of great technologies.

Idea Number One, then, is that culture always pays a price for technology.

Second Idea

This leads to the second idea, which is that the advantages and disadvantages of new technologies are never distributed evenly among the population. This means that every new technology benefits some and harms others. There are even some who are not affected at all. Consider again the case of the printing press in the 16th century, of which Martin Luther said it was "God's highest and extremest act of grace, whereby the business of the gospel is driven forward." By placing the word of God on every Christian's kitchen table, the mass-produced book undermined the authority of the church hierarchy, and hastened the breakup of the Holy Roman See. The Protestants of that time cheered this development. The Catholics were enraged and distraught. Since I am a Jew, had I lived at that time, I probably wouldn't have given a damn one way or another, since it would make no difference whether a pogrom was inspired by Martin Luther or Pope Leo X. Some gain, some lose, a few remain as they were.

Let us take as another example, television, although here I should add at once that in the case of television

there are very few indeed who are not affected in one way or another. In America, where television has taken hold more deeply than anywhere else, there are many people who find it a blessing, not least those who have achieved high-paying, gratifying careers in television as executives, technicians, directors, newscasters and entertainers. On the other hand, and in the long run, television may bring an end to the careers of school teachers since school was an invention of the printing press and must stand or fall on the issue of how much importance the printed word will have in the future. There is no chance, of course, that television will go away but school teachers who are enthusiastic about its presence always call to my mind an image of some turn-of-the-century blacksmith who not only is singing the praises of the automobile but who also believes that his business will be enhanced by it. We know now that his business was not enhanced by it; it was rendered obsolete by it, as perhaps an intelligent blacksmith would have known.

The questions, then, that are never far from the mind of a person who is knowledgeable about technological change are these: Who specifically benefits from the development of a new technology? Which groups, what type of person, what kind of industry will be favored? And, of course, which groups of people will thereby be harmed?

These questions should certainly be on our minds when we think about computer technology. There is no doubt that the computer has been and will continue to be advantageous to large-scale organizations like the military or airline companies or banks or tax collecting institutions. And it is equally clear that the computer is now indispensable to high-level researchers in physics and other natural sciences. But to what extent has computer technology been an advantage to the masses of people? To steel workers, vegetable store owners, automobile mechanics, musicians, bakers, bricklayers, dentists, yes, theologians, and most of the rest into whose lives the computer now intrudes? These people have had their private matters made more accessible to powerful institutions. They are more easily tracked and controlled; they are subjected to more examinations, and are increasingly mystified by the decisions made about them. They are more than ever reduced to mere numerical objects. They are being buried by junk mail. They are easy targets for advertising agencies and political institutions.

In a word, these people are losers in the great computer revolution. The winners, which include among others computer companies, multi-national corporations and the nation state, will, of course, encourage the losers to be enthusiastic about computer technology. That is the way of winners, and so in the beginning they told the losers that with personal computers the average person can balance a checkbook more neatly, keep better track of recipes, and make more logical shopping lists. Then they told them that computers will make it possible to vote at home, shop at home, get all the entertainment they wish at home, and thus make community life unnecessary. And now, of course, the winners speak constantly of the Age of Information, always implying that the more information we have, the better we will be in solving significant problems–not only personal ones but large-scale social problems, as well. But how true is this? If there are children starving in the world–and there are–it is not because of insufficient information. We have known for a long time how to produce enough food to feed every child on the planet. How is it that we let so many of them starve? If there is violence on our streets, it is not because we have insufficient information. If women are abused, if divorce and pornography and mental illness are increasing, none of it has anything to do with insufficient information. I dare say it is because something else is missing, and I don't think I have to tell this audience what it is. Who knows? This age of information may turn out to be a curse if we are blinded by it so that we cannot see truly where our problems lie. That is why it is always necessary for us to ask of those who speak enthusiastically of computer technology, why do you do this?

What interests do you represent? To whom are you hoping to give power? From whom will you be withholding power?

I do not mean to attribute unsavory, let alone sinister motives to anyone. I say only that since technology favors some people and harms others, these are questions that must always be asked. And so, that there are always winners and losers in technological change is the second idea.

Third Idea

Here is the third. Embedded in every technology there is a powerful idea, sometimes two or three powerful ideas. These ideas are often hidden from our view because they are of a somewhat abstract nature. But this should not be taken to mean that they do not have practical consequences.

Perhaps you are familiar with the old adage that says: To a man with a hammer, everything looks like a nail. We may extend that truism: To a person with a pencil, everything looks like a sentence. To a person with a TV camera, everything looks like an image. To a person with a computer, everything looks like data. I do not think we need to take these aphorisms literally. But what they call to our attention is that every technology has a prejudice. Like language itself, it predisposes us to favor and value certain perspectives and accomplishments. In a culture without writing, human memory is of the greatest importance, as are the proverbs, sayings and songs which contain the accumulated oral wisdom of centuries. That is why Solomon was thought to be the wisest of men. In Kings I we are told he knew 3,000 proverbs. But in a culture with writing, such feats of memory are considered a waste of time, and proverbs are merely irrelevant fancies. The writing person favors logical organization and systematic analysis, not proverbs. The telegraphic person values speed, not introspection. The television person values immediacy, not history. And computer people, what shall we say of them? Perhaps we can say that the computer person values information, not knowledge, certainly not wisdom. Indeed, in the computer age, the concept of wisdom may vanish altogether.

The third idea, then, is that every technology has a philosophy which is given expression in how the technology makes people use their minds, in what it makes us do with our bodies, in how it codifies the world, in which of our senses it amplifies, in which of our emotional and intellectual tendencies it disregards. This idea is the sum and substance of what the great Catholic prophet, Marshall McLuhan meant when he coined the famous sentence, “The medium is the message.”

Fourth Idea

Here is the fourth idea: Technological change is not additive; it is ecological. I can explain this best by an analogy. What happens if we place a drop of red dye into a beaker of clear water? Do we have clear water plus a spot of red dye? Obviously not. We have a new coloration to every molecule of water. That is what I mean by ecological change. A new medium does not add something; it changes everything. In the year 1500, after the printing press was invented, you did not have old Europe plus the printing press. You had a different Europe. After television, America was not America plus television. Television gave a new coloration to every political campaign, to every home, to every school, to every church, to every industry, and so on.

That is why we must be cautious about technological innovation. The consequences of technological change are always vast, often unpredictable and largely irreversible. That is also why we must be suspicious of capitalists.

Capitalists are by definition not only personal risk takers but, more to the point, cultural risk takers. The most creative and daring of them hope to exploit new technologies to the fullest, and do not much care what traditions are overthrown in the process or whether or not a culture is prepared to function without such traditions. Capitalists are, in a word, radicals. In America, our most significant radicals have always been capitalists–men like Bell, Edison, Ford, Carnegie, Sarnoff, Goldwyn. These men obliterated the 19th century, and created the 20th, which is why it is a mystery to me that capitalists are thought to be conservative. Perhaps it is because they are inclined to wear dark suits and grey ties.

I trust you understand that in saying all this, I am making no argument for socialism. I say only that capitalists need to be carefully watched and disciplined. To be sure, they talk of family, marriage, piety, and honor but if allowed to exploit new technology to its fullest economic potential, they may undo the institutions that make such ideas possible. And here I might just give two examples of this point, taken from the American encounter with technology. The first concerns education. Who, we may ask, has had the greatest impact on American education in this century? If you are thinking of John Dewey or any other education philosopher, I must say you are quite wrong. The greatest impact has been made by quiet men in grey suits in a suburb of New York City called Princeton, New Jersey. There, they developed and promoted the technology known as the standardized test, such as IQ tests, the SATs and the GREs. Their tests redefined what we mean by learning, and have resulted in our reorganizing the curriculum to accommodate the tests.

A second example concerns our politics. It is clear by now that the people who have had the most radical effect on American politics in our time are not political ideologues or student protesters with long hair and copies of Karl Marx under their arms. The radicals who have changed the nature of politics in America are entrepreneurs in dark suits and grey ties who manage the large television industry in America. They did not mean to turn political discourse into a form of entertainment. They did not mean to make it impossible for an overweight person to run for high political office. They did not mean to reduce political campaigning to a 30-second TV commercial. All they were trying to do is to make television into a vast and unsleeping money machine. That they destroyed substantive political discourse in the process does not concern them.

Fifth Idea

I come now to the fifth and final idea, which is that media tend to become mythic. I use this word in the sense in which it was used by the French literary critic, Roland Barthes. He used the word “myth” to refer to a common tendency to think of our technological creations as if they were God-given, as if they were a part of the natural order of things. I have on occasion asked my students if they know when the alphabet was invented. The question astonishes them. It is as if I asked them when clouds and trees were invented. The alphabet, they believe, was not something that was invented. It just is. It is this way with many products of human culture but with none more consistently than technology. Cars, planes, TV, movies, newspapers–they have achieved mythic status because they are perceived as gifts of nature, not as artifacts produced in a specific political and historical context.

When a technology become mythic, it is always dangerous because it is then accepted as it is, and is therefore not easily susceptible to modification or control. If you should propose to the average American that television broadcasting should not begin until 5 PM and should cease at 11 PM, or propose that there should be no televi-

sion commercials, he will think the idea ridiculous. But not because he disagrees with your cultural agenda. He will think it ridiculous because he assumes you are proposing that something in nature be changed; as if you are suggesting that the sun should rise at 10 AM instead of at 6.

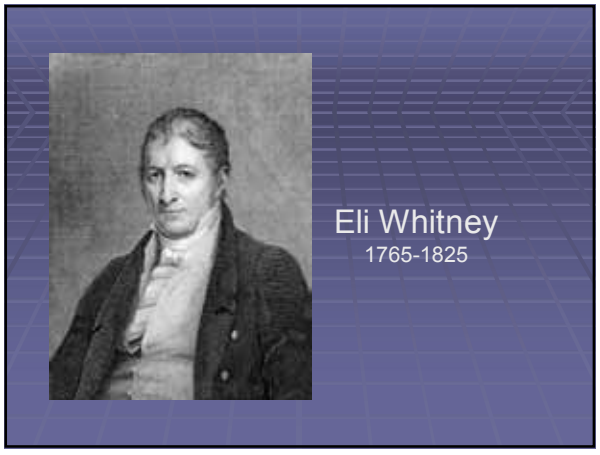
Whenever I think about the capacity of technology to become mythic, I call to mind the remark made by Pope John Paul II. He said, "Science can purify religion from error and superstition. Religion can purify science from idolatry and false absolutes."

What I am saying is that our enthusiasm for technology can turn into a form of idolatry and our belief in its beneficence can be a false absolute. The best way to view technology is as a strange intruder, to remember that technology is not part of God's plan but a product of human creativity and hubris, and that its capacity for good or evil rests entirely on human awareness of what it does for us and to us.

Conclusion

And so, these are my five ideas about technological change. First, that we always pay a price for technology; the greater the technology, the greater the price. Second, that there are always winners and losers, and that the winners always try to persuade the losers that they are really winners. Third, that there is embedded in every great technology an epistemological, political or social prejudice. Sometimes that bias is greatly to our advantage. Sometimes it is not. The printing press annihilated the oral tradition; telegraphy annihilated space; television has humiliated the word; the computer, perhaps, will degrade community life. And so on. Fourth, technological change is not additive; it is ecological, which means, it changes everything and is, therefore, too important to be left entirely in the hands of Bill Gates. And fifth, technology tends to become mythic; that is, perceived as part of the natural order of things, and therefore tends to control more of our lives than is good for us.

If we had more time, I could supply some additional important things about technological change but I will stand by these for the moment, and will close with this thought. In the past, we experienced technological change in the manner of sleep-walkers. Our unspoken slogan has been "technology über alles," and we have been willing to shape our lives to fit the requirements of technology, not the requirements of culture. This is a form of stupidity, especially in an age of vast technological change. We need to proceed with our eyes wide open so that we many use technology rather than be used by it.



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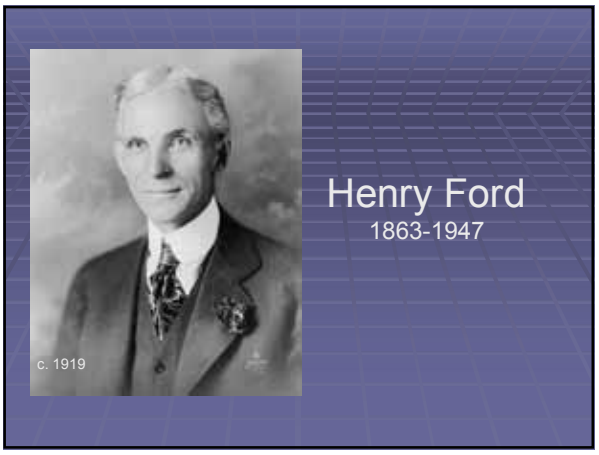
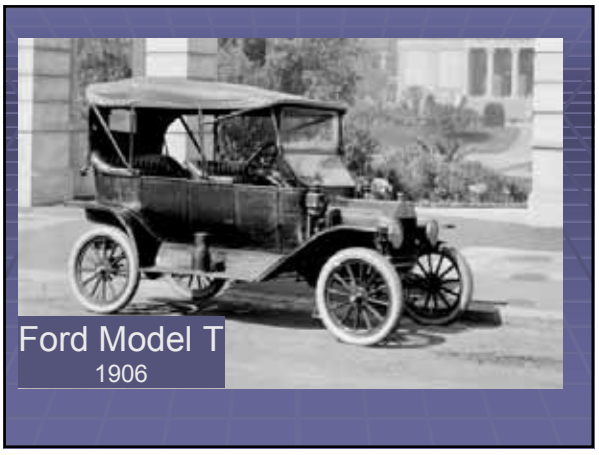
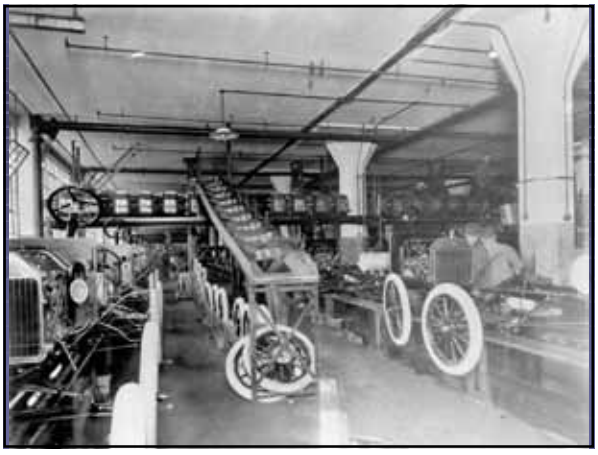
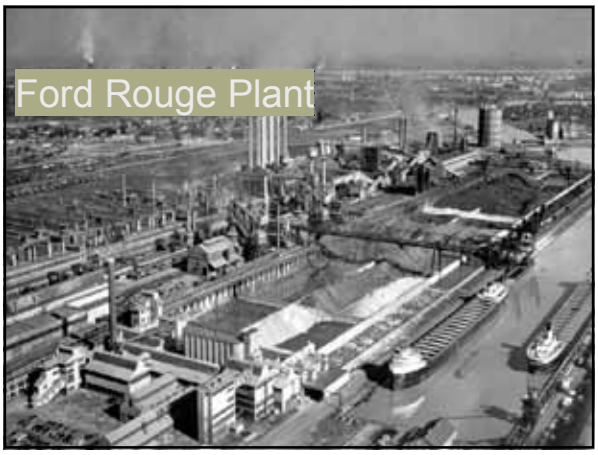
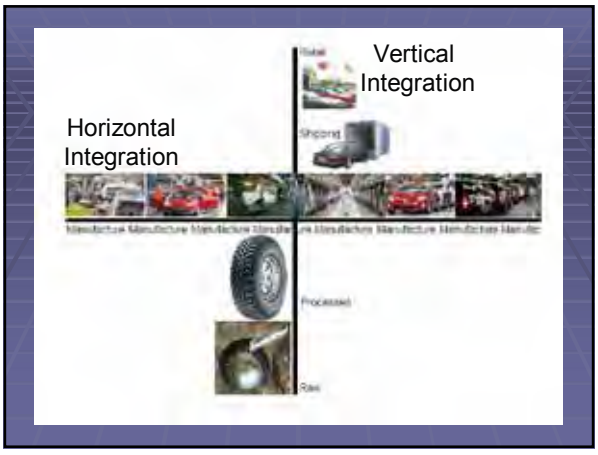
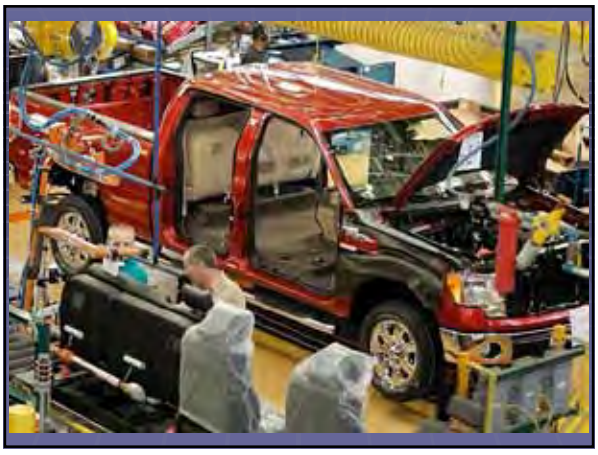












Michele O'Neil, Riverside Academy West, Dearborn, MI

Title of the Lesson/Activity: The Industrial Revolution Has Its Problems

Grade Level: 9th grade

Overview: This lesson continues from previous lessons in which students learned about the positive side effects of the Industrial Revolution. This lesson will focus on the negative effects of the Industrial Revolution. The lesson will focus on the dangers of farm equipment, the use of child labor and the abuse of the working class.

Central Question/Problem: What were the negative effects of the Industrial Revolution and how did they affect the culture of the United States?

Learning Objectives:

- Students will be able to describe the negative and positive consequences of the Industrial Revolution.
- Students will be able to describe the working conditions that factory workers had to endure.

Assessment Tools: Students will write a position paper on iwhether the Industrial Revolution did more good or bad for the United States.

Key Concepts:

- The dangers of new machinery
- The dangers of child labor
- The negative treatment of the working class by the bosses

Evidence/Sources: PowerPoint, song: *1913 Massacre*

Duration: 2-3 days

Instructional Sequence:

Bell work: You are a former farmer who left the farm on a train pulled by a steam engine. You are so excited to be on the train headed to the factories in the city. Describe what you think will happen when you leave your farm behind and work in the factory.

Lecture: By using PowerPoint, I am going to show my students pictures of how the reaper had changed at the

end of the 19th century. With each picture, we will discuss the dangers of each machine. We will then think of other inventions that were being discovered and what potential problems each had.

We will then focus on the negative aspects of child labor. We will first focus on the reasons why children worked. Then I will show pictures of child labor, and the students will analyze each photo. The students will pay attention to the dangers presented in each picture.

Lastly we will focus on how bosses started to mistreat their workers because they wanted the highest profit. I will have students listen to the song *1913 Massacre*. Afterward, we will discuss why workers went on strike and the consequences of this action.

Student Project Ideas: Essay on their stand, Venn diagram to compare the advantages and disadvantages of the Industrial Revolution

Anticipated Student Conceptions or Challenges to Understanding: Some students will have a hard time grasping the idea that even though a machine may make a project easier, it might make other daily life tasks more difficult.

Curriculum Links: 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).

America's Greatest History Attraction

Colleen Parkin, Burley High School, Burley, ID

Title of the Lesson/Activity: Who am I? and Did you know?

Grade Level: 10th grade U.S. History

Overview: Students will research two historical figures of the American Industrial Revolution. Students will develop an understanding of the contribution of these men and how it still affects people of the 21st century. Students will have a better understanding of the factors of industry in Cassia County by researching information at the local Cassia Museum.

Central Question/Problem: How did industry of the two men researched affect your life today? Did these historical figures have any effect on your community?

Learning Objectives:

a) Students will be able to explain the factors that contributed to the rise of industrialization in the 19th century.
b) Students will be able to describe the economic responses to industrialization.
c) Students will be able to describe the development of a consumer economy.
d) Students will be able to see the change of agrarian to industrial society.

Assessment Tools:

Students will be able to complete written assignment and share with class what industry means to them personally.

Evidence/Sources: I will share with students a DVD of all the pictures I took while I was at the Henry Ford (over 100). I will explain the background of the readings we were assigned.

Duration: This unit will be presented during 1 class period. Classes are 90 minutes. However, the research required will be out of classroom time, and students have 2 weeks to complete and be ready to present to class.

Instructional Sequence: I will open this unit by sharing my learning experience at The Henry Ford NEH Teacher Workshop. I will explain the reading assignments, the lectures and the sites that enhanced my learning of the Industrial Revolution of the United States. I will share my museum experience and explain the learning tool of primary sources and exhibits.

Student Project Ideas: Students will complete the handout and share with the class something they learned about this community. Most students have perused our local museum sometime. However, most have not really read the exhibits and information boards. This activity will encourage a more detailed reading of the history of our
community.

Anticipated Student Conceptions or Challenges to Understanding: Students may not take the time to visit the museum. Some will put it off because the museum is going to have to be on their time. This will have to fit in somewhere with their extracurricular activites and part-time jobs that high school students typically are involved with.

Curriculum Links:

Idaho Department of Education content standards

-Progressive Era. Goal 1.4- Analyze the political, social and economic responses to industrialization and technological innovations in the development of the United States.

-3.1.1- describe the emergence of modern corporation from modern industry.

Name _____ Class period _____

1. Who is this man? _____

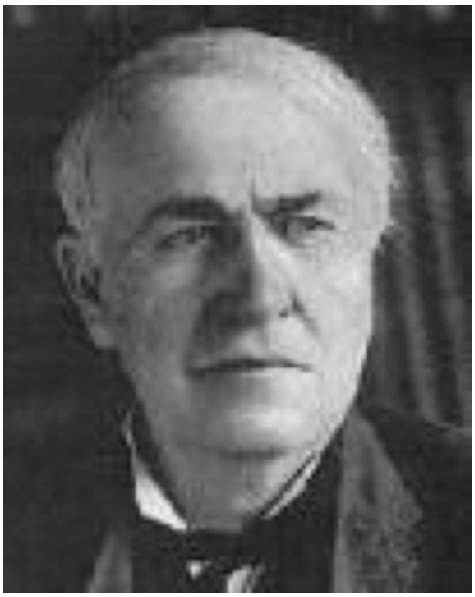
Famous quote: "Whether you think that you can, or that you can't, you are usually right."

Explain how this man has affected your life today. (min of 2 sentences)

_____

_____

_____



2. Who is this man? _____

Famous quote: "Genius is 1 percent inspiration, 99 percent perspiration."

Explain how this man has affected your life today? (min of 2 sentences)

_____

_____

_____

The above two men had a great deal to do with the American Industrial Revolution. You will need to visit the Cassia Museum within the next two weeks to complete this assignment. Remember to have the museum director sign and date your paper. Answer the following questions by searching the museum.

1. What were mattresses stuffed with in the pioneer cabin?

_____

2. Name one rule for an Idaho teacher of 1872.

_____

3. How many acres does Cassia County cover?

_____

4. What was the year of the construction of the Minidoka Dam?

_____

5. Why was the Minidoka Dam important to the area?

_____

6. Name the mine three miles south of Oakley.

_____

7. Name the beginning date of the Burley Sugar Factory.

_____

8. How many horses did it take to pull the McCormick Reaper?

_____

9. What was the name of the boat to be the 1st on the Snake River to pull riders?

_____

10. Name three Indian artifacts found in Burley? a) _____

b) _____ c) _____

11. Name a major industry in Cassia County in the late 1800s.

_____

12. What type of minerals were mined in southern Idaho?

_____

List two individuals who are displayed in this museum, and explain why they were significant to the history of Cassia County.

1. _____ date _____

Because…

_____

_____

_____

2. _____ date _____

Because….

_____

_____

_____

Museum Director signature _____

Date _____

Shannon Pypa, Wayne Memorial High School, Wayne, MI

Title of the Lesson/Activity: The Industrial Revolution and the Rise of the Cult of Domesticity

Grade Level: AP United States History

Overview: In this lesson, students will use scholarly readings as the basis for a whole-class discussion about changing gender roles. The discussion will address the shift from Republican Motherhood to the notion of the Separate Spheres, identify possible exceptions to the ideal of domesticity and encourage students to predict the emergence of the women's suffrage movement.

Central Question/Problem: How did the Industrial Revolution change gender roles in the 19th century?

Learning Objectives:

- Trace the shift from Republican Motherhood to the Separate Spheres
- Explain how changing technologies in the 19th century impacted gender roles
- Compare middle-class women and working-class women of the 19th century
- Assess the impact of the cult of domesticity on women's lives

Assessment Tools: Multiple choice exam and free response question

Key Concepts: The separate spheres, domesticity, out work, Lowell textile mills

Evidence/Sources:

- Excerpts from Ruth Schwartz Cowan's *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (in NEH course pack)
- Excerpt from *Camelot on the Merrimack*, by Stephen Yafa (in Oates & Errico's *Portrait of America: Volume 1 to 1877*, 2010)
- Images and information from Nancy Gabin's presentation "From Home to Factory: Industrialization and the Family in Nineteenth-Century America"
- Catherine Lavender, "The Cult of Domesticity and True Womanhood" http://www.library.csi.cuny.edu/dept/history/lavender/386/truewoman.html

Duration: 1 class period + some introductory time on the previous day

Instructional Sequence:

Prior to teaching the lesson: Take a few moments at the end of a class period to introduce the topic of gender roles using the first two slides of the teacher-created PowerPoint presentation. (This might come at the end of a lecture about technological and transportation innovations of the 19th century and their impact on workers.)

- Post images of 18th and 19th century kitchens (Daggett & Firestone farms). Discuss: Which kitchen would you rather cook in?
- Brainstorm a list of "women's work" and "men's work." Save the list for tomorrow's lesson.
- Assign the scholarly readings from Cowen and Yafa for homework. The teacher should select excerpts from Cowen that address food preparation in the open hearth and the cast-iron stove. The first section of the Yafa reading should be sufficient for this lesson. Students could simply take notes on the reading, but it is recommended that they create graphic organizers related to gender roles in the 18th and 19th centuries.

On the day of the lesson: Use the teacher-created PowerPoint as guideposts for a whole-class discussion about the changing roles of women.

- Review the concept of Republican Motherhood.
- Return to the contemporary list of men's and women's work. Draw circles around the lists to illustrate the idea of "separate spheres."
- Discuss: What would a graphic organizer of 18th-century work look like? Ask students to share the organizers they created as homework.
- Display teacher-created Venn diagram for 18th-century work to illustrate the shared work of men and women. Prior to the Industrial Revolution, both men and women were needed for survival, so while women were dependent upon and subservient to men, there was some reciprocity.
- Ask students how the Industrial Revolution changed this work. Which tasks are eliminated or changed by the mid-19th century?
- Ask students to share graphic organizers for 19th century work. Emphasize that the overlap in the teacher-created Venn diagram is disappearing, creating "separate spheres."
- Display the ideals of domesticity, and explain how these ideals grew as the family lost its function as an economic unit during industrialization.
- 19th century middle-class men did not have to produce what the family needed for survival – men could produce goods/services for others while women maintained the home. By the mid-19th century, work is only done outside the home (in the public sphere) for money.
- Rise of the view that men alone should support the family in the public sphere, while women were protected in the private sphere of the home.
- Four ideals of womanhood: piety, purity, submissiveness and domesticity.
- Display the images about the private sphere.
- Point out that the title of the Beecher sisters' periodical emphasizes that the home is a woman's space (when 50 years earlier home would have been represented by men). Emphasize that the Beecher sisters were trying to ennoble women – they celebrated women's maintenance of the home as a refuge from the public sphere.
- Discuss how the painting on the left depicts the home as a refuge. Ask students to describe aspects of the image that continue to resonate culturally today (i.e., factory far from the home, white picket fence, American Dream).
- Share quote from de Tocqueville, emphasizing the last sentence. Ask students for exceptions to the rule of

the separate spheres.
- Display the pie chart of women's occupations in 1837 in Massachusetts. Define "out work" and explain examples (women sewed leather for boots and shoes; they wove palm leaves into hats for agricultural workers). Explain that while out work was acceptable for a while, it lost favor for the middle class by the mid-19th century (because it involved money).
- Display collage of images about Lowell, MA. Discuss student impressions of Lowell from the Yafa reading. How is it possible that Lowell and the cult of domesticity were happening at the same time?
- Point out that there is a clear distinction between the middle class and the working class by the Civil War.
- Discuss how Francis Cabot Lowell's recruitment strategy coincided with the ideals of the private sphere. (Girls would be taken care of by living in boarding houses; they would continue to participate in hard labor that encouraged purity, etc.).
- This was not a career – most worked for two years.
- Many girls worked to earn money for marriage.
- Share quote from the Lowell Offering and emphasize that Lowell did offer challenges to the cult of domesticity by providing laborers with a new independent sense of themselves (they were not only farmer's daughters, but wage-earners, too).
- Display the final screen of the PowerPoint presentation and discuss.
- Was the cult of domesticity a gain or a loss for women?
- What might be the results of this change in women's roles? (Try to elicit the women's suffrage movement as a prediction.)

Student Project Ideas:
DBQ/FRQ about the changing role of women.
Students could create journal entries from the perspectives of different women in the 18th and 19th centuries.

Anticipated Student Conceptions or Challenges to Understanding:
Students may get locked into contemporary expectations of gender roles, breeding frustration with this topic. This frustration has the potential to be useful in generating student enthusiasm, but could lead some students (boys in particular) to tune out from the lesson. Moreover, because contemporary gender roles are so ingrained, it could be quite difficult for students to put themselves in the shoes of men and women of the 19th century.

Curriculum Links:
AP U.S. History Topic Outline: Topic #8 = Religion, Reform and Renaissance In Antebellum America – Ideals of Domesticity

The Rise of the "Cult of Domesticity"

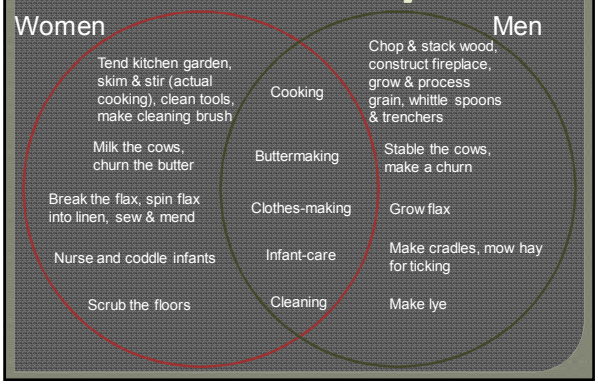
Which kitchen would you rather cook in?

Women's Work	Men's Work

Republican Motherhood

Copley Family Portrait, ca. 1776–1777

18th Century



Ideals of The Private Sphere

- Piety
- Purity
- Submissiveness
- Domesticity

"There is more to be learned about pouring out tea and coffee than most young ladies are willing to believe."

Charles Dana Gibson, *No Time for Politics*, 1910

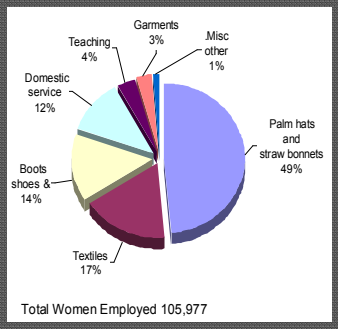
Godey's Lady's Book, 1850

The American Woman's Home: Principles of Domestic Science by Catharine Beecher and Harriet Beecher Stowe, 1869

"In no country has such constant care been taken, as in America, to trace two clearly distinct lines of action for the two sexes, and to make them keep pace one with the other, but in two pathways which are always different. American women never manage the outward concerns of the family, or conduct a business, or take a part in political life; nor are they, on the other hand, ever compelled to perform the rough labor of the fields, or to make any of those laborious exertions, which demand the exertion of physical strength. No families are so poor, as to form an exception to this rule."

~ Alexis de Tocqueville, 1835

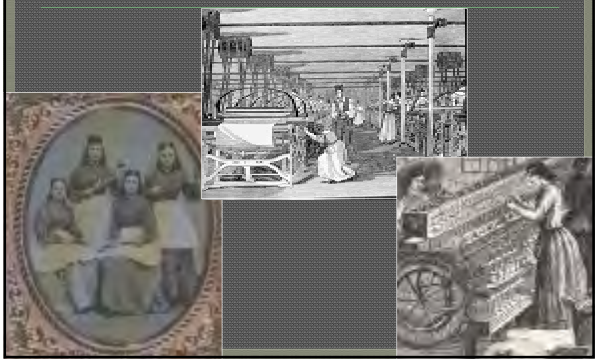
Out Work ("Home Work")



Total Women Employed 105,977

Occupations of women wage earners, Massachusetts 1837

Lowell Textile Mills



"One who sits on my right hand at table is in the factory because she hates her mother-in-law….The next one has a wealthy father but like many of our country farmers, he is very penurious…the next is here because her parents are wicked infidels…the next is here because she has been ill-treated in so many families she has a horror of domestic service…the next has left a good home because her lover, who has gone on a whaling voyage, wishes to be married when he returns, and she would like more money than her father will give her…."

~ The Lowell Offering

Gain or Loss for Women?

Woman's Sphere, 1844

Linda Ratliff, Loyola High School, Detroit, MI

Lesson/Activity: Innovations that Changed Society in the 19th Century

Grade Level: 9th/10th Language Arts/U.S. History

Overview: This cross-curricular assignment can be initiated by either the English/Writing teacher or the U.S. History teacher. The assignment's primary focus is to teach scholarly research and the school's accepted formatting policy of APA or MLA citation, with the side benefit of gaining a grade not only in a language arts class but also one for
history through a culminating electronic presentation project on the topic to their classmates.

- The focus for the language arts teacher would be to teach the school's required format through the writing process, including in the paper an anecdotal story, two quotes, required formatting of paper and bibliography, grading the paper's structure.
- The history teacher's focus is helping students find information, and the completeness and accuracy of the information given, as well as the oral presentation in class of what the student learned about his or her topic from the Industrial Revolution era.
- Therefore, both teachers would work closely together in helping the students find information, revising for content and organization, and editing papers to produce a final product.
- The computer teacher can also be involved in teaching an electronic presentation unit in his or her class.

Central Question/Problem:
How did the selected innovation affect society? Why would it be considered part of the Industrial Revolution? Who was involved in its design and/or improvement? How did the changes for good or bad affect society or the people who used it? What problems did it cause or advantages did it have?

Possible Topics for Paper/Electronic Presentation:

- Interchangeable parts – Eli Whitney
- Mechanical gristmill – Oliver Evans
- Carding/spinning machines – Samuel Slater
- Cotton gin – Eli Whitney
- Power loom/textile mill – Francis Cabot Lowell
- Merino sheep/Berkshire cattle show – Elkanah Watson
- Cast-iron plowshare – Jethro Wood
- Mechanical reaper – Cyrus McCormick

- Rubber – Charles Goodyear
- Steel plow – John Deere
- Railroads
- Telegraph – Samuel F.B. Morse
- Sewing machine – Elias Howe
- Transatlantic cable – Cyrus W. Field
- Lubrication system – Elijah McCoy
- Canning – H.J. Heinz
- Meat packing – Gustavus F. Swift
- Steel process – Henry Bessemer/William Kelly
- Rail cars – George Pullman
- Steam engine technology – Newcomen, Watts and others
- Electric light bulb – Thomas Edison
- Phonograph – Thomas Edison
- Camera/film – George Eastman
- Flight – Wright brothers
- Combustion engine
- Assembly line – Henry Ford

Sources:

http://www.inventors.about.com
http://www.inventors.findthebest.com
http://www.history.com/topics/industrial-revolution
http://www.thehenryford.org

Duration:

2–3 weeks, depending on the time devoted to the writing process of research, rough, revision, edited and published copies.

Instructional Sequence:

What's good research – what's not – introduction to how to do research
Research guide sheet
Rough draft of paper
Teaching APA/MLA format
Revision
Editing
Published copy
Electronic preparation and presentation

Research Guide

Name _____

Topic: _____

Begin with the suggested websites, and then move on to others until you have filled in as much information as possible on the following questions, etc.

Who invented/improved on this innovation? Give some information about this person.

_____

_____

_____

Website where information was found _____

Why did the inventor feel it was necessary to invent/improve this innovation?

_____

_____

_____

Website where information was found _____

What were the advantages/disadvantages of the innovation?

_____

_____

_____

Website where information was found _____

How did it make life easier for the person using it?

_____

_____

_____

Website where information was found _____

How did this innovation affect society as a whole?

_____

_____

_____

Website where information was found _____

Anecdote [short account about life as a result of this innovation]

_____

_____

_____

_____

Website where information was found _____

Any other interesting facts or information found

_____

_____

_____

_____

Website where information was found _____

America's Greatest History Attraction

John W. Rutherford, W.E. Groves High School, Birmingham, MI
Brent Richard, Cheboygan High School, Cheboygan, MI
Mary Helen Diegel, Churchill High School, Livonia, MI

Title of the Lesson/Activity: Postcard Writing Project

Grade Level: 9-12 grade, Language Arts/History/Creative Writing

Overview: Examine how the Industrial Revolution's changes and advancements in transportation impacted the experiences of Americans. How did the improvements in transportation impact the movement of people throughout the U.S.?

Central Question/Problem: How did improvements in transportation during the Industrial Revolution affect the lives of the middle class in America in terms of travel?

Learning Objectives:
The learner will:

- Examine three modes of transportation that altered the life of Americans during the Industrial Revolution: steamboat; steam train; automobile (e.g., Model T)
- Analyze historical images and pictures of Industrial Revolution modes of transportation:
- ExhibitBuilder (http://collections.thehenryford.org/ExhibitHome.aspx)
  Access images/pictures via materials available on The Henry Ford website. (http://collections.thehenryford.org/Index.aspx)
- PowerPoint presentations made available to NEH participants in the 2011 Industrial Revolution experience at The Henry Ford.
- Central Pacific Railroad website. http://cprr.org/Museum/
- Read excerpts from primary sources of travel logs, diaries, letters, etc.
- Read literary references regarding modes of transportation
- Poems, Essays, anecdotes
- Excerpt from Mark Twain's *Huckleberry Finn*
- Excerpts from *Passage to Union: How the Railroad Transformed American Life 1829-1929* by Sarah H. Gordon

Assessment Tools: Informal discussion, initial writing responses, Postcard Writing Project rubric, flow chart showing sequencing of modes of transportation, postcards

Key Concepts: Steamboat, steam train and automobile travel, changes in frequency, cost, opportunities for travel distance of travel.

Evidence/Sources: Information from scholarly presentations, NEH PowerPoint presentations, curator talks, presenter talks and readings as well as images, videos, photos, The Henry Ford exhibits, *A journey to Ohio in 1810 as recorded in the journal of Margaret Van Horn* by Margaret Van Horn Dwight.

Duration: 4-5 class periods

Instructional Sequence:

Day 1:

- Discuss memoir/journal/postcard writing:
  Why did people write? What was its purpose? What is the value? What can we learn from this type of writing?
- Show images of Industrial Revolution travel:
  steamboat, steam train, automobile
  http://collections.thehenryford.org/ExpertGallery.aspx
- Initial writing exercise
- Students are given 5-10 minutes to write about what they see/feel/think when they view the visual image.
- Encourage students to respond with emotional reactions as well as factual information.
- Students share their responses orally with the class.
- Discuss the students' responses/reactions.

Day 2:

- Hand out samples of journal entry written by a traveler during the Industrial Revolution.
- Students should notice the writer's writing style.
- Students should consider language, images, topics, feelings, etc.
- Samples to consider using:
  Excerpt from *Huckleberry Finn* by Mark Twain
  Excerpts from *Passage to Union: How the Railroad Transformed American Life 1829-1929* by Sarah H. Gordon
  Excerpt from Margaret Van Horn Dwight's book
  http://books.google.com/books?id=INI-AAAAYAAJ&pg=PR5&dq=margaret+dwight,+a+journey+to+OHIO+in+1810&hl=en&ei=gb1XTrrgOYvogQfwoOiKDA&sa=X&oi=book_result&ct=result&resnum=1&ved=0CCoQ6AEwAA#v=onepage&q&f=false
- Computer use
  Have students log in to the ExhibitBuilder via The Henry Ford website.
  http://collections.thehenryford.org/ExhibitHome.aspx
  Have student look at images of boats, trains and automobiles.
  Have students read excerpts accompanying the pictures.
  Have students read the "Curator's Reports" that accompany some of the images.
- Have students' select 3-4 images to accompany their postcard project.

- Hand out the Postcard Project writing assignment.

Days 3-4: (Can be shortened or lengthened at teacher's discretion)

- Students will be engaged in writing 3 to 4 postcards for their project.
- Remind students to include realistic information as well as fictional.
- This can be assigned as homework if there is not enough class time for writing in class.
- If time permits have students get with a partner and exchange their writing samples/entries.

Day 5:

- Students will put the pictures they selected on the front of a postcard to provide the visual reference for their entries. (Or Publisher/ExhibitBuilder)
- Students need to create 3-4 postcards and write on the back of the postcard their writing entries.
- When students have completed assembling the postcards, put students into groups of 4-5 writers and have each writer share their favorite entry.
- Have each group select 1 person to share their image and writing sample with the class.
- Discuss with the class what they observed, learned, thought, experienced based on their creation of the postcards.

Student Project Ideas: In-class writing; homework (optional); individual work on the postcard images and writing samples; partner and group work based on the sharing of postcards; online working to find primary sources, images and documents, off-line in terms of assembling the postcards, writing the postcards and reading the postcards

Anticipated Student Conceptions or Challenges to Understanding:

The contradiction between fictional writing and realism. The idea that one person's truth is not every person's truth. The improvements in transportation during the Industrial Revolution made for increase travel and with that came new and interesting experiences for many Americans.

Curriculum Links:

CCC. http://www.corestandards.org/

ALA. http://www.ala.org/ala/mgrps/divs/aasl/guidelinesandstandards/learningstandards/standards.cfm

POSTCARD PROJECT ASSIGNMENT & RUBRIC

Early American Transportation

Score _____/_____

GOAL: Create an informational postcard that demonstrates your understanding of one of the following modes of early American transportation (steamboat, steam train or early automobile). The postcard should promote the form of transportation to the potential reader of your postcard.

Your postcard should be a culmination of your research, classroom discussions and readings based on primary sources and literary references to the mode of transportation you have selected.

POSTCARD CONTENT: Your project must include the following items:

1. Method of early transportation identified (headline or title).
2. Your name and the date your project was submitted.
3. Three advantages of this mode of transportation (as compared to the other forms of transportation).
4. Three or four images that you have collected from your research that represent the mode of transportation you have selected.
5. Estimated cost for one passenger (you should also identify the travel destination – i.e. from Boston, MA, to Detroit, MI).
6. Map of the route (i.e., Google Maps) that you have selected.
7. Estimated length of time that the trip will last based on the route you have selected using your mode of transportation at the time of the Industrial Revolution.
8. Three sites of interest that your passengers will see if they select your form of transportation (i.e., famous landmarks, cities, natural scenery, etc.).

After selecting your specific mode of transportation, select one of the following methods in which you will create your informational postcard. OPTIONAL: include video clip(s) which help to sell this form of transport.

OPTION 1: ExhibitBuilder (http://collections.thehenryford.org/ExhibitHome.aspx)
Create an informational postcard using all four walls of the ExhibitBuilder that includes all postcard content listed above 1-8.

OPTION 2: Microsoft Word/Publisher
Create a 2-page document that includes all postcard content listed above 1-8.

OPTION 3: Handmade Postcard
Create 3-4 actual postcards in the style of a postcard from the late 1880s (size 4x6) that includes all postcard content listed above 1-8.
Save your computer file as "AmericanTransport___your name___"

DUE DATE:_____

Bob Scappini, Central Falls High School, Central Falls, RI

Title of the Lesson/Activity: America on the Go! How Henry Ford and the Model T Got America Moving

Grade Level: 10-12 U.S. History 2

Overview: Students will examine and analyze the dynamic features surrounding the creation and mass production of the Model T and the impact it had on American life.

Central Question/Problem: How did America change as a result of the introduction of a personal transportation system (the Model T)?

Learning Objectives:

1. To become familiar with American cultural lifestyles prior to the introduction of the Model T.
2. To examine benefits and drawbacks of popular modes of transportation prior to the Model T.
3. To examine the impact of the Model T on American family life.
4. To examine how advertising shaped the Americans' viewed the Model T as a method of conveyance, freedom and social status.

Assessment Tools: At the end of the unit, students will create a booklet detailing the major points discussed in class and in the research they have conducted.

Key Concepts:

1. Shaping American attitudes through advertising
2. The perception of status
3. How the automobile changed American lifestyles
4. Offshoot industries: road construction, road maps, motels, dinners, clothing, recreational venues, parking meters

Evidence/Sources:

1. American History textbook reading
2. James J. Link, *The Automobile Age*, 1968
3. Warren Belasco, *Americans on the Road: From Autocamp to Motels 1910-1945*
4. Tad Burness, *Cars of the Early Twenties*, 1968

5. National Archives http://www.archives.gov/
6. http://www.modelt.ca/background.html

Duration: 5 Class Days.

Instructional Sequence:

Introduction: Lecture/visual display of information
Class discussion: Life before the auto
Overview of goals and objectives, research milestones
Student-directed research, session 2 and 3
Pair and share ideas and research
Final assignment troubleshooting

Student Project Ideas: America on the Go! – a student-generated booklet/pamphlet
Rubric: Informative look at the dramatic and subtle ways America changed as a result of the Model T. Final product should be informative, colorful, visually appealing and convey a sense of the depth of research conducted by the student.

Final Product Must Have: Cover page (illustrated), table of contents, page one description of hypothesis or area of explanation, illustrations with notations, conclusion and bibliography.

Anticipated Student Conceptions or Challenges to Understanding: The introduction of a mass-produced, affordable and user-friendly method of transportation was a paradigm shift for America. It is important that this brochure convey the impact that the automobile and, in particular, the Ford Model T had on the American landscape.

Curriculum Links: Rhode Island Civics and Social Studies Standards

America's Greatest History Attraction

Melissa Seideman, Southwestern High School, Hanover, PA

Title of the Lesson/Activity: Impact of Industrialization on Families

Grade Level: 11th grade U.S. History

Overview: This lesson will provide students with a deeper understanding of the Industrial Revolution. Students will analyze documents and think crtically about the implications of the documents.

Central Question/Problem: How did industrialization transform life in the early 20th century?

Learning Objectives:

-Students will be able to analyze primary documents.
-Students will be able to answer critical questions about the impact of industrialization.
-Students will be able to demonstrate their knwoledge through a document-based essay.

Assessment Tools:

-Document-based questions (part I) will be assessed during and after the lesson.
-Student's document-based essay (part II) will be graded. Teacher will evaluate the application of the documents and outside information on the essays about the impact of industrialization on a person's life.

Evidence/Sources:

-Key definitions and images
-Wordle as a lesson hook
-Document-based question handout with primary documents from the Henry Ford collections and the Internet

Duration: 1 day (75-minute lesson)

Instructional Sequence:

1. Lesson Hook: Industrialization Wordle (5)
   a. Present the industrialization Wordle to students on the projector.
   b. Give them 2 minutes to write four sentences about the words using their background knowledge.
   c. Ask a few students to share their responses .

2. Content Preview: History Context Lecture (10)
   a. Share historical context and answer initial student quesstions (see attached).

3. Definition Walkabout (15)
   a. Students walk around the room and complete the vocabulary worksheet (see attached).
   b. Vocabulary words and defintions will be written on poster paper.

4. Pair Work, Part 1: Document-based questions in pairs or small groups (10)
   a. Students will answer the document based questions based on their prior knowledge and primary documents.
   b. Students will work in assigned heterogeneous groups and complete the document-based questions.

5. Essay, Part 2: Document-based essay question (25)
   a. Students will write their document-based essay using the documents-based questions, graphic organizer and the provided rubric (see attached).

6. Conclusion: Give one get one (5)
   a. Students will write one interesting idea they learned from the lesson on a piece of paper.
   b. When students are finished, they will stand up and share their idea with three other people in a "give one, get one" exchange.

Student Project Ideas: Students will be able to write a document-based question essay using the provided documents, history background and prior knowledge.

Anticipated Student Conceptions or Challenges to Understanding:

-Teacher will need to assist students on particular primary documents. Some documents may be challenges. Heterogeneous groups can assist this problem.
-Teacher will need to help certain students with paragraph or essay structure. Some students may need extra support and may need a graphic organizer with the essay.
-Teacher will need to enforce partner accountability and responsibility.
-Teacher will need to differentiate and create heterogeneous groupings of students.

Curricum Links:

-7.3.12.C.3 Standard Descriptor: Forces that have reshaped settlement patterns (e.g., commuter railroads, urban freeways, the development of megalopolis and edge cities).
-8.1.12.B. Standard Statement: Synthesize and evaluate historical sources literal meaning of historical passages; data in historical and contemporary maps, graphs and tables; different historical perspectives; data presented in maps, graphs and tables; visual data
-8.2.12.C.5 Standard Descriptor: Settlement patterns (e.g., growth and decline of cities)
-8.1.12.C. Standard Statement: Evaluate historical interpretation of events Impact of opinions on the perception of facts; issues and problems in the past; multiple points of view; illustrations in historical stories and sources; connections between causes and results; author or source of historical narratives' points of view; central issue

Introduction: Industrialization Wordle

Name:_____

Impact of Industrialization on Families Definitions

Word	Definition	Image or Connection Today
Tenement		
Automation		
Assembly Line		
Immigration		
Child Labor		
Working Conditions		

Teacher Key: Impact of Industrialization on Families

Word	Definition	Image or Connection to Today
Tenement	A house divided into and rented as separate residences, esp. one that is rundown and overcrowded.	
Automation	The use of largely automatic equipment in a system of manufacturing or other production process.	
Assembly Line	A series of workers and machines in a factory by which a succession of identical items is progressively assembled.	
Immigration	To enter and settle in a country or region to which one is not native.	
Child Labor	Children as young as six years old during the Industrial Revolution worked long hours for little or no pay.	
Working Conditions	Inside the factories one would find poorly ventilated, noisy, dirty, damp and poorly lighted working areas. These factories were unhealthy and dangerous places in which to work.	
Interchangeable Parts	Interchangeable parts are parts that are for practical purposes identical. They are made to specifications by processes that ensure that they are so nearly identical that they will fit into any device of the same type.	

Name:_____

Impact of Industrialization on Families

Document-Based Questions

Historical Context: The Industrial Revolution took place over more than a century as production of goods moved from home businesses, where products were generally crafted by hand, to machine-aided production in factories. The new jobs for the working class were in the cities. Thus, the Industrial Revolution began the transition of the United States from a rural to an urban society. Young people raised on farms saw greater opportunities in the cities and moved there, as did millions of immigrants from Europe. Providing housing for all the new residents of cities was a problem, and many workers found themselves living in urban slums; open sewers ran alongside the streets, and the water supply was often tainted, causing disease. This revolution, which involved major changes in transportation, manufacturing and communications, transformed the daily lives of Americans as much as—and arguably more than—any single event in U.S. history.[1]

Part 1: Document-Based Questions

Directions: Analyze the documents and answer the short-answer questions that follow each document in the space provided.

Document 1: Excerpt from *The Jungle* written by Upton Sinclair[2]

> It was only when the whole ham was spoiled that it came into the department of Elzbieta… There was never the least attention paid to what was cut up for sausage: there would come all the way back from Europe old sausage that had been rejected, and that was mouldy and white - it would be dosed with borax and glycerin, and dumped into the hoppers, and made over again for home consumption."
>
> - The Jungle, Upton Sinclair

> It was too dark in these storage places to see well, but a man could run his hand over these piles of meat and sweep off handfuls of the dried dung of rats. The packers would put poisoned bread out for them; they would die, and then the rats, bread, and meat would go into the hoppers together.
>
> - The Jungle, Upton Sinclair

1. What were the conditions of the factories as described by Upton Sinclair?

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2. Why would factories want to create a product this way?

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[1] "The Industrial Revolution in the United States - Primary Source Set - For Teachers (Library of Congress)." Library of Congress Home. Web. 21 July 2011. <http://www.loc.gov/teachers/classroommaterials/primarysourcesets/industrial-revolution/>.

[2] Ward, Selena, and Upton Sinclair. The Jungle: Upton Sinclair. New York: Spark Pub., 2002. Print.

Document 2: Impact of the Automobile

> . . . Massive and internationally competitive, the automobile industry is the largest single manufacturing enterprise in the United States in terms of total value of products and number of employees. One out of every six U.S. businesses depends on the manufacture, distribution, servicing, or use of motor vehicles. The industry is primarily responsible for the growth of steel and rubber production, and is the largest user of machine tools. Specialized manufacturing requirements have driven advances in petroleum refining, paint and plate-glass manufacturing, and other industrial processes. Gasoline, once a waste product to be burned off, is now one of the most valuable commodities in the world. . . .

1. Based on this article, state TWO ways in which the automobile industry has had an impact on the American economy.

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Document 3: "The Close of a Career in New York," 1900-1906[3]

1. Why do you suppose animals are in the street?

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Document 4: Chassis Assembly Line at the Highland Park Plant, 1914[4]

1. How were workers affected by the assembly line?

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_____

[3] "*The Close of a Career in New York*," 1900-1906. 1900-1906. Photograph. The Henry Ford Collection, Detroit Michigan. *The Henry Ford Collection*. Henry Ford. Web. 19 July 2011. <http://collections.thehenryford.org/Collection.aspx?objectKey=4416543>.

[4] *Chassis Assembly Line at the Highland Park Plant*, 1914. 1914. Photograph. The Henry Ford Collection, Dearborn, Michigan. *The Henry Ford Collection*. Henry Ford. Web. 19 July 2011. <http://collections.thehenryford.org/Collection.aspx?objectKey=2504099>.

Some of the images and resources used and cited in these lesson plans are not from the collections of The Henry Ford nor are they affiliated with The Henry Ford in any way.

Document 5: Night School in the Seventh Avenue Lodging House[5]

1. What was the effect of industrialization on the lives of children?

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2. Why are the children attending school at night?

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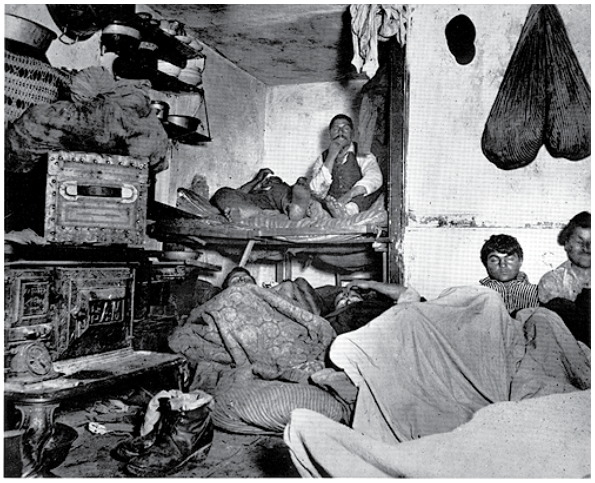
Document 6: Five Cents Lodging, Bayard Street, c. 1889[6]



1. What were the effects of tenement housing?

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_____
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_____
_____

[5] Adams, Kevin. "Documenting 'The Other Half': The Social Reform Photography of Jacob Riis and Lewis Hine." American Studies @ The University of Virginia. Web. 21 July 2011. <http://xroads.virginia.edu/~ma01/davis/photography/images/riisphotos/slideshow1.html>.

[6] Riis, Jacob. "Five Cents Lodging, Bayard Street, C. 1889." History Matters. Web. 21 July 2011. http://www.google.com/imgres?imgurl=http://history-matters.gmu.edu/mse/photos/images/riis4.gif

Document 7: Excerpt from "In the Depths of a Coal Mine" by Stephen Crane, McClure's Magazine, August 1894.[7]

Stephen Crane was the last of 14 children born to a Methodist minister who died when Stephen was nine. He lived the down-and-out life of a penniless artist who became well-known as a poet, journalist, social critic and realist. He began writing for newspapers in 1891 when he settled in New York City. After he wrote *Red Badge of Courage*, which earned Crane international acclaim at age 24, he was hired as a reporter in the American West and Mexico. He later covered the Spanish-American War for Joseph Pulitzer's *New York World*.

> We came upon other little low-roofed chambers, each containing two men, a " miner," who makes the blasts, and his " laborer," who loads the coal upon the cars and assists the miner generally. Great and mystically dreadful is the earth from a mine's depth. Man is in the implacable grasp of nature. It has only to tighten slightly, and he is crushed like a bug. His loudest shriek of agony would be as impotent as his final moan to bring help from that fair land that lies, like Heaven, over his head. There is an insidious, silent enemy in the gas. If the huge fanwheel on the top of the earth should stop for a brief period, there is certain death. If a man escape the gas, the floods, the "squeezes" of falling rock, the cars shooting through little tunnels, the precarious elevators, the hundred perils, there usually comes to him an attack of " miner's asthma " that slowly racks and shakes him into the grave. Meanwhile the miner gets three dollars per day, and his laborer one dollar and a quarter.

1. According to Stephen Crane, what working conditions did miners have to endure in the coal mines?

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_____

Document 8: Impact of the Automobile on the American Housewife[8]

> . . . What did the automobile mean for the housewife? Unlike public transportation systems, it was convenient. Located right at her doorstep, it could deposit her at the doorstep that she wanted or needed to visit. And unlike the bicycle or her own two feet, the automobile could carry bulky packages as well as several additional people. Acquisition of an automobile therefore meant that a housewife, once she had learned how to drive, could become her own door-to-door delivery service. And as more housewives acquired automobiles, more businessmen discovered the joys of dispensing with [eliminating] delivery services—particularly during the Depression. . . .

1. According to Ruth Schwartz Cowan, what was one way life changed for the American housewife as a result of the automobile?

_____

_____

_____

.[7] Pappas, Peter. "The Progress and Poverty in Industrial America." Peter Pappas. Web. 21 July 2011. <http://www.peterpappas.com/journals/industry/industry3.pdf>.

[8] Ruth Schwartz Cowan, "Less Work for Mother?" American Heritage, September/October 1987.

Part II: DBQ Essay

Task: Using the information from the documents provided and your knowledge of United States history, write a well-organized essay that includes several paragraphs, including an introduction and conclusion.

-Discuss the advantages or disadvantages of industrialization to American society.
-Discuss the effects of industrialization on families and how it affected different members of society.

Helpful Tips

★ Explain everything. Pretend I have never heard of the topic before. OVER explain.
★ Write an organized essay – readers like to read essays that are logically organized and follow patterns. This means that your introduction becomes very significant.
★ When finished read your essay and make any needed corrections and insertions.

How do I include DBQ information in my essay?

1) Refer specifically to document in a sentence, e.g., author's name or data.
Example: According to Senator Beveridge, U.S. must gain power in the Pacific since control of this region will be key to economic power in the future.

2) Identify the number of the document in parentheses at the end of a sentence.
Example: As the United States industrialized in the late 1800s and early 1900s, its imports and exports continued to increase. (Document one)

3) Refer to the document by number in a sentence.
Example: As illustrated in document two, the territory of the United States grew as a policy of expansion.

Document-Based Question Graphic Organizer

<table>
<tr><td colspan="2"><u>Introduction</u>
Background:

Thesis:</td></tr>
<tr><td>Topic Sentence:

<u>First Body Paragraph</u>

Info from the Documents</td><td>Outside Info</td></tr>
<tr><td>Topc Sentence:

<u>Second Body Paragraph</u>

Info from the Documents</td><td>Outside Info</td></tr>
<tr><td>Topic Sentence:

<u>Third Body Paragraph</u>

Info from the Documents</td><td>Outside Info</td></tr>
<tr><td colspan="2"><u>Conclusion</u></td></tr>
</table>

DOCUMENT-BASED QUESTION RUBRIC

5

- Thorough discussion; a full and balanced response to the question
- Uses nearly all documents
- Incorporates much accurate and relevant outside information
- Contains no significant factual errors or misinterpretation of documents
- Presents analysis which reflects understanding of complex issues
- Recognizes patterns and distinctions, draws conclusions and evaluates relative importance
- Recognizes point of view where applicable
- Writes a well-developed essay consistently demonstrating clear and logical organization, including a strong introduction and conclusion and a clearly stated thesis

4

- A good response, but may be unevenly developed
- Uses most of the documents
- Includes some supplementary information
- Contains mostly accurate information and interpretation of documents
- Shows some understanding/analysis of complex issues
- Evaluates evidence and formulates generally accurate conclusions
- Well-developed essay demonstrating clear plan of organization including a strong introduction and conclusion and a general thesis

3

- Competent response to the question
- Uses some of the documents
- Contains little or no supplementary information
- Attempts to formulate some conclusions; may contain some factual errors
- Essay may be unevenly developed with a general plan of organization
- Thesis missing, merely restates question or task

2

- An incomplete response
- Uses little information from the documents
- No supplemental information
- Draws vague conclusions; many serious errors
- Writes a poorly organized essay lacking focus, vague or missing introduction or conclusion

1

- Confused response
- No use of documents
- Misunderstands the question and/or responds in a dazed and vague manner
- Essay demonstrates major weakness in organization, vague or missing introduction or conclusion

0

- Fails to address the question
- No response
- Blank paper or illegible or indecipherable

America's Greatest History Attraction

Marc Sierra, Northville High School, Northville, MI

Title of the Lesson/Activity: Phase II of the Industrial Revolution Through Photos

Grade Level: 10–11 grades

Overview: Students will analyze photos to identify changes in the Industrial Revolution

Central Question/Problem: How does the second phase of the Industrial Revolution differ from the first?

Learning Objectives: Students will use and improve their analysis and interpretation skills to discover key differences between the first and the second phase of the Industrial Revolution. In doing this, they will gain a better understanding of the technological, economic and social changes that occurred in the second phase of the Industrial Revolution with particular emphasis on the United States circa 1890-1920.

Assessment Tools: Student/small-group answers will be collected and graded and there will be a teacher-led class discussion.

Key Concepts: Change, social impact of technologies, mass production, consumer demand, technological transition

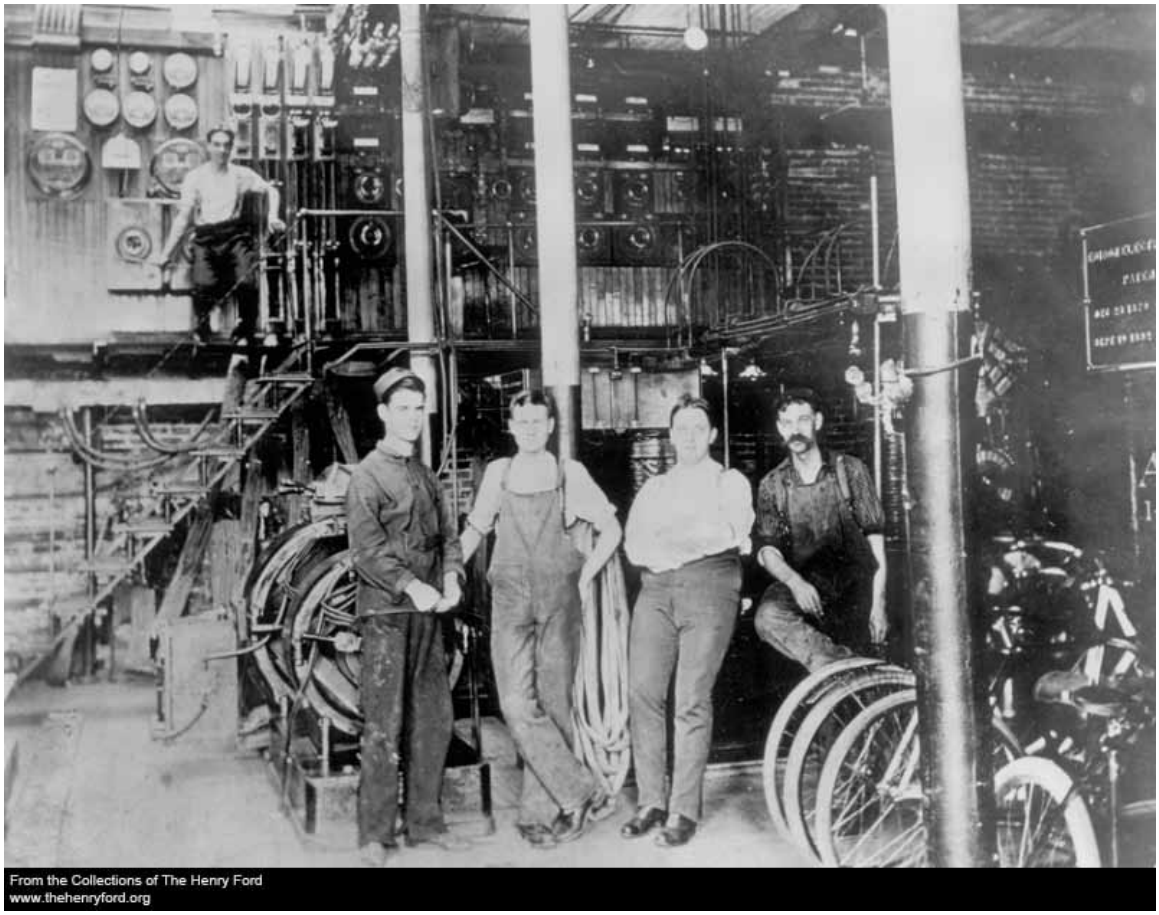
Evidence/Sources: Time period photos (see following lesson sheets)

Duration: One 55 minute class period

Instructional Sequence: The teacher will introduce the lesson by quickly restating some of the key characteristics of the first phase of the Industrial Revolution. Next, the teacher will explain the process of photo analysis. (The assumption is that the technique has been introduced in earlier lessons.) The central question will be written on the board for students to see. Students will then be placed in small groups, and each small group will be given a photo to analyze. The teacher will circulate among the groups to assist the groups and to make sure they are on target. Groups will record a list of their observations to be turned in for grading, and they will also write their observations on the board. At the end of the allotted time, each of the groups will present their photo and their observations of it. Class discussion will build on the observations of the groups.

Anticipated Student Conceptions or Challenges to Understanding: Lack of knowledge about characteristics of the first phase, poor observational skills, poor analysis skills

Curriculum Links: Lesson meets Michigan curriculum Framework standards I.2 comprehending the past, I.3 analyzing and interpreting the past, V.1 information processing, V.2 conducting investigations



Henry Ford with Other Employees at Edison Illuminating Company Plant, circa 1895

Write your observations here:

(Key elements that students should observe: advent of electricity, the youth of the workers in this new industry, bicycles in the foreground — introduction of personal mobility and another indicator of the youth of these men.)

Swift & Company's Meat Packing House, Chicago, Illinois, "Splitting Backbones and Final Inspection of Hogs," 1910-1915

Write your observations here:

(Key elements that students should observe: mass production for mass consumption, assembly line, electric lighting.)

From the Collections of The Henry Ford
www.thehenryford.org

Intersection of Electric Railroad Lines at Fort and Dearborn Streets, Detroit, Michigan, 1918

Write your observations here:

(Key elements that students should observe: presence of mass transportation, electricity, overlap of transportation technologies, directional sign to Ford facilities, i.e. no GPS.)

From the Collections of The Henry Ford
www.thehenryford.org

Write your observations here:

(Key elements that students should observe: presence of mass transportation, ubiquitous nature of trains by this point, rise of leisure activities, general level of prosperity.)

Rachel M. Slone, Osceola High School, Kissimmee, FL

Title of the Lesson/Activity: The Industrial Revolution Compared: Europe and America

Grade Level: 10th grade AP World History

Overview of Lesson: AP World History students are expected to consistently demonstrate their ability to write about comparisons between two regions, empires or societies. When considering these comparisons, students should look at the following: political, economic, social, intellectual and religious differences, among others.

Central Question/Problem: What are the major economic, political, social similarities and differences between the rise and the consequences of industrialism in England compared to the rise and consequences of industrialism in the United States?

Learning Objectives:

-Students will determine why the Industrial Revolution began in Europe and then spread to the United States.
-Students will understand the causes and effects of the Industrial Revolution in both Europe and the United States.
-Students will highlight the differences which make the revolution different considering the two continents.
-Students will analyze similarities and differences with regard to the rise of the Industrial Revolution in Europe and America.
-Students will analyze similarities and differences with regard to the political, economic and social consequences of the Industrial Revolution in Europe and America.
-Students will evaluate how the Industrial Revolution affected gender, racial groups in both the United States and in Europe.
-Students will examine how new legislation in Europe and the United States contributed to the Industrial Revolution.

Assessment Tools:

SPRITE Charts (Political-Economic-Religious-Social-Intellectual-Art-Artistic-Technology)
– Use for comparison purposes

AP Comparative Essay – Compare the rise and consequences of Industrial Revolution in Europe and America. See rubric for specific essay requirements.

Reading Quiz (check for understanding of textbook-related material)

Key Concepts:
-Causes and effects/consequences (political, social, religious, economic, etc.) of the Industrial Revolution in both countries/geographical regions.

-Geographic and technological differences in both Europe and the United States that will cause the Industrial Revolution to play out differently in those respective regions.

-Identify important figures (including both genders and people from all backgrounds and races) of the Industrial Revolution in both Europe and the United States.

-Evaluate the consequences of the following economic systems: capitalism, socialism and communism.

Evidence/Sources:
Primary Sources:

Students should spend sufficient time, as homework, exploring and conducting independent research using primary sources. These sources should be used, in conjunction with lecture notes and reading material, to answer the comparative question. Students will draw on these primary sources to support their thesis.

The sources provided by Fordham University are instrumental in this research:
http://www.fordham.edu/Halsall/mod/modsbook14.asp

Duration: 5 class periods plus homework assignments

Instructional Sequence:

Reading Preview – Chapter in AP World History Textbook (prepare for reading quiz Monday)

Teacher Lecture and Class Discussion – Day 1

Main Focus – Rise of Industrialism in Europe

Teacher Lecture and Class Discussion – Day 2

Main Focus – Rise of Industrialism in America

Teacher Lecture and Class Discussion – Day 3

Main Focus – Consequences of the Industrial Revolution in Europe

Teacher Lecture and Class Discussion – Day 4

Main Focus – Consequences of the Industrial Revolution in America

Primary Source Introduction – Day 2 (homework – independent research Days 3-4)

AP Comparative Overview – Connect the rubric to the material (Day 3)

SPRITE Charts (Homework Days 2-3)

Student Assignments:

Lecture notes and class discussion

ndependent Research and Reading – primary sources/textbook

SPRITE Charts – United States and Europe (highlights components of the Industrial Revolution – social, political, economic objectives and outcomes)

AP Comparative Essay – final product (see attached rubric)

Florida State Curriculum Links:

SS.912.A.3.2 Benchmark Description: Examine the social, political, and economic causes, course and consequences of the second Industrial Revolution that began in the late 19th century.

SS.912.W.6.2 Benchmark Description: Summarize the social and economic effects of the Industrial Revolution.

SS.912.A.3.5 Benchmark Description: Identify significant inventors of the Industrial Revolution including African Americans and women.

America's Greatest History Attraction

Christopher Smeader, Brandywine High School, Wilmington, DE

Title of the Lesson/Activity: The Transcontinental Railroad: An Illustration of the Decisions of Corporate Management and Their Impact on Citizens

Grade Level: 11th grade

Overview: Students will be examining a rate table, travel schedule and map of the Central Pacific's and Union Pacific's (collectively known as the transcontinental railroad) rights-of-way in order to determine their impact on citizens' lives, transportation options, settlement patterns and economic decisions. They will accomplish this by answering a series of questions on a work sheet and then summarizing their knowledge through an essay explaining three significant historical changes that occurred as a result of the railroad's construction.

Central Question/Problem: How did the transcontinental railroad impact the United States in general and the West in particular in terms of transportation costs and speeds, settlement patterns and economic decision making?

Learning Objectives: Students will analyze the transcontinental railroad's effect on population movement to the West, examine the impact of the railroad on costs and speed, and look at the increase in productivity of farmers and manufacturers as a result of the railroad's growth.

Assessment Tools: Students' learning will be assessed during the lesson through teacher questioning and students' written analysis of questions posed by teacher in summative activity.

Key Concepts: Impact of technology on costs and productivity of farmers and industry; availability of transportation and its impact on movement; impact of transportation on settlement patterns in the Midwest, Great Plains and West

Evidence/Sources:
Document 1: http://cprr.org/Museum/Ephemera/CPRR_Schedule_1869.html
Document 2: Work sheet on CPRR's rate tables, timetables and route map
Lecture using notes from presentations of Marc Greuther, Douglas Hurt and Martin Hershock

Duration: approximately 1½ 50-minute class periods

Instructional Sequence: Students will be engaged in a unit on the Industrial Revolution covering Americans such as Carnegie, Rockefeller, Edison and Morgan as well as the accompanying urbanization and immigration that coincided with these people. This lesson will commence with a lecture of about 30 minutes on the development of the transcontinental railroad and the factors surrounding its development. Students will then be given a copy of Document 1, along with the work sheet to guide their understanding of the railroad's impact on individual communities and farmers.

Student Project Ideas: Students could research Charles Crocker, Collis Huntington, Leland Stanford, Mark Hopkins, Theodore Judah or Grenville Dodge to analyze their specific roles in the development of the railroad as well as what they subsequently achieved. They could also research the role of the Chinese and/or Irish in the construction of the railroad. Finally, they could research technological developments and improvements that the railroad devised to achieve its completion.

Anticipated Student Conceptions or Challenges to Understanding: Students may have difficulty finding information on people besides Stanford and Dodge. Also, their possible lack of familiarity with train transportation might also hinder their understanding of the topic and its impact on American life.

Curriculum Links: Analyze historical materials to trace the development of an idea or trend across space or over a prolonged period of time in order to explain patterns of historical continuity and change.

Work sheet on CPRR rate tables, timetables and route map

1. a) What was the cost in coin of a first class fare from San Francisco to Omaha? What was the cost in currency for the same trip?

   b) Explain the reason for the difference in the two fares.

2. Why do you think railroads allowed children “not over twelve” to travel for half price and children under five to travel for free?

3. Explain the approximately 1½ - to 2-hour layover in Promontory, Utah, on the eastward train. What could have been the cause for this delay of travel?

4. What was possible at Cheyenne, Wyoming? How do you think this impacted Cheyenne’s population growth?

5. What was the charge for shipping livestock from San Francisco to Chicago? What stipulations existed regarding that shipment?

America's Greatest History Attraction

Darlisha Stanfield, KIPP: DuBois Collegiate Academy, Philadelphia, PA

Title of the Lesson/Activity: Technology: Help or Hindrance?

Grade Level: 9-12

Overview: Students will decide if technology helps or hinders based on two articles and then write a persuasive essay supporting their assertion.

Central Question/Problem: When does the role of technology in our lives shift from a help to a hindrance?

Learning Objectives: By the end of the lesson, students will be able to:
- Identify everyday uses of technology.
- Categorize technologies as helpful or hindering.
- Use persuasive techniques to create and support an argument.

Assessment Tools: Students will submit a list of everyday technologies, a T-chart and a five-paragraph persuasive essay convincing readers that a specific technology either helps or hinders users. A rubric will be used to evaluate the essay.

Key Concepts: Students will determine how technology affects their lives and if these effects are negative or positive. Then, students will make an argument for or against the use of everyday technology.

Evidence/Sources:
http://gopaultech.com/blog/2006/08/ten-ways-technology-can-hurt-us/
http://www.nytimes.com/2010/05/02/fashion/02BEST.html
http://www.nhpr.org/node/27783

Duration: 5 days

Instructional Sequence:

Do Now: Each student will be given a photo of a piece of technology. He/she will decide if his/her technology hinders or helps users. Then, students will take turns coming to the board and taping their item in the T-chart labeled “Help” and “Hinder.” Students will be given an opportunity to discuss their decisions. Then, students will be able to discuss which item placements surprised them in pairs.

Whole-Group Discussion Questions:

1. What were some of the item placements that surprised you when you discussed in your pairs?

2. Before railroads ran through small towns, animals were able to roam to any fenceless land. After the rails were laid, trains often killed grazing animals. Soon, laws changed requiring farmers to fence in their land. How do you think farmers responded to the new technology running through their town? What were the advantages? What were the disadvantages?

3. Can you think of a new technology that you are or were hesitant to embrace? Why were you hesitant? Were you eventually persuaded to adopt the technology?

4. Are there any technology you or someone you know uses that you believe has more disadvantages than advantages? What was the technology, and what didn't you like about it?

Writing Process

Brainstorming:
Students will read two articles. One article will encourage readers to adopt a particular technology. The other article will discourage the use of a particular technology. Then, students will side with one of the authors. Lastly, students will underline three details from the article that convinced them to side with the author.

Drafting:
Students will begin drafting their introduction and body paragraphs based on the details from the readings.

Revising:
With a partner, students will peer-edit their essays by consulting a checklist.

Editing:
Students will edit their essays based on the suggestions they received from their peers.

Publishing:
Students will write the final draft of their essays. The essays will be compiled into a teen magazine format.

Susan Stofanak, Bethlehem Catholic High School, Bethlehem, PA

Title of the Lesson/Activity: Thomas Edison and the Industrial Revolution

Grade Level: 9th grade

Overview: This lesson will take a closer look at the causes of the Industrial Revolution and the far reaching impact of Edison's inventions that transformed America's way of life.

Central Question/Problem: What factors led to the Industrial Revolution, why is Edison one of the more remembered inventors and how have his inventions impacted your life?

Learning Objectives:

-Students will state the factors that led to the Industrial Revolution.
-Students will identify causes and effects of the invention process and develop a digital exhibit to illustrate their understanding.
-Students will examine the long-term effects of inventions of the industrial revolution and the impact on their lives.

Assessment Tools: Chicago style bibliography rubric. Technology and/or Presentation rubric.

Key Concepts: The Industrial Revolution transformed the United States in economic, social and political aspects. This basic understanding of cause-and-effect will help students to continue to identify key factors that transformed America into the 21st century.

Evidence/Sources: Text *America: Pathways to the Present*, The Henry Ford website, PowerPoint

Duration: The unit may take 4-5 class periods that include one 40-minute computer lab class. Students will need additional time to develop project and several days will be utilized to present project. If time does not allow for presentations students could email presentation for assessment.

Instructional Sequence:

-Students will begin unit with pre-reading of their text *America: Pathways to the Present*, Chapter 14, pp. 406-422.
-Students will share with each other how technology has advanced since they entered grade school.
-Presentation of PowerPoint-notes, whole group discussion. (2 periods)

-Research in computer lab. (1-2 periods)
-Presentation of digital exhibit.

Student Project Ideas: ExhibitBuilder on The Henry Ford website.

Anticipated Student Conceptions or Challenges to Understanding: Students may not recognize the significance of 19th-century technological contributions to their lives. Ninth-grade students are still learning the research process and developing critical thinking skills.

Curriculum Links:
8.3.9 Analyze the importance of individuals who have made a difference in the U.S. from 1787-1914.
8.1.9 A. Analyze chronological order, historical evidence, cause and result. Analyze and interpret historical research.