Inventive American Mind

Daniel Mauch

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The Inventive American Mind

Unit Plan - Grade Level 4/5
Overview: This project is designed to help students see the impact of the ideas of American Inventors from the late 19th and early 20th centuries, on the American way of life. Students will be given a list of American inventors to chose from. They will then have to research the inventor trying to find information on the inventors contributions to America, not only their inventions but more importantly, how they changed the way America (and the world) worked.

Time Requirements: 5-6 class sessions; 5-6 lab sessions

Pre-requirements: Students should have a basic understanding of the following: Microsoft PowerPoint, Internet usage, Internet search techniques; MLA style of citation; Primary sources.

Subject Matter: Science/Social Studies (Also Language Arts & Character Education)

Standards:
Illinois State Standards:
STATE GOAL 3: Write to communicate for a variety of purposes.
B. Compose well-organized and coherent writing for specific purposes and audiences.
3.B.2a Generate and organize ideas using a variety of planning strategies (e.g., mapping, outlining, drafting)
3.B.2b Establish central idea, organization, elaboration and unity in relation to purpose and audience.
STATE GOAL 5: Use the language arts to acquire, assess and communicate information.
A. Locate, organize, and use information from various sources to answer questions, solve problems and communicate ideas.
5.A.2a Formulate questions and construct a basic research plan.
5.A.2b Organize and integrate information from a variety of sources (e.g., books, websites, CD/ROMs).
B. Analyze and evaluate information acquired from various sources.
5.B.2a Determine the accuracy, currency and reliability of materials from various sources.
5.B.2b Cite sources used.
C. Apply acquired information, concepts and ideas to communicate in a variety of formats.
5.C.2a Create a variety of print and nonprint documents to communicate information for specific audiences and purposes.
STATE GOAL 13: Understand the relationships among science, technology and society in historical and contemporary contexts.
B. Know and apply concepts that describe the interaction between science, technology and
13.B.2b Describe the effects on society of scientific and technological innovations.
13.B.2c Identify and explain ways that science and technology influence the lives and careers of people.

STATE GOAL 16: Understand events, trends, individuals and movements shaping the history of Illinois, the United States and other nations.

A. Apply the skills of historical analysis and interpretation.
16.A.2c Ask questions and seek answers by collecting and analyzing data from historic documents, images and other literary and non-literary sources.

E. Understand Illinois, United States and world environmental history.
16.E.2b (W) Identify individuals and their inventions (e.g., Watt/steam engine, Nobel/TNT, Edison/electric light) which influenced world environmental history.

Technology Required:
Computers (with Internet access)
Microsoft PowerPoint

Materials Required:
Paper and pencils (for note taking)
MLA citation guidelines

Resources:
Internet: Library of Congress website: www.loc.gov
Search Engines: www.google.com
www.ask.com
www.ajkids.com
Other sites
Books: Biographies/Autobiographies on American Inventors of the late 19th and early 20th centuries
Encyclopedias (hard-cover or CD/ROM)

Assessment Tools:
Informal: Students will be observed and their progress will be recorded using the Project Checklist. This checklist is designed to identify areas of strength and needed improvement for each student, as well as allow for the recording of daily achievement and observations in anecdotal form.

Formal: Completed project will be evaluated using the PowerPoint Rubric. The rubric evaluates ten components of the final presentation.

Presentation components:
1. Organization

2. Information

3. Language Mechanics

4. Word Usage

5. Graphics

6. Individual Work and Focus

7. Research

8. Overall Presentation

9. Creativity

10. Analysis and Reflection

Copyright Information


Henry Ford: Unknown. "Henry Ford, full-length portrait, standing, facing slightly left, leaving the White House after calling on the president." 1927. Prosperity and Thrift: The Coolidge Era and the Consumer Economy, 1921-1929. [http://lcweb2.loc.gov/cgi-bin/query/i?ammem/coolbib:@field(NUMBER+@band(cph+3c11360)):displayType=1:m856sd=cph:m856sf=3c11360] [cph 3c11360] (Oct. 9, 2004)

Objective:
Students will obtain information from a variety of sources including, but not limited to the Library of Congress website, www.loc.gov, biographies, and encyclopedias. The information collected should not focus on the inventions, but also the life of the inventor,
and if possible, the impact of the inventions on society. Students will then organize the information and present it in a PowerPoint presentation. Students will include in their presentation information about the inventor and/or inventions, photos and other primary sources. Students capable of higher level thinking should be encouraged to include their reflections on why this inventor was important (how he/she impacted American society), and what can be learned from this person.

Procedures:
Day 0 (approx. 1 week prior to beginning lesson):
Introduce unit
Explain purpose and give overview of unit
Review primary sources
Brainstorm or supply list of inventors and choose topics
Have students begin to acquire books and references materials on topic
Day 1: (students should be prepared to take notes on procedures or have handouts with procedures available)
Review basic PowerPoint procedures (i.e. creating presentations, adding new pages, copy and paste, inserting text, saving and opening files)
Review MLA citation (supply students with copies of citation examples)
*Students should be encouraged to cite web sites, resources, and photos as they are used.
Lab 1: (If possible, labs should be done in small groups)
Begin PowerPoint presentation (start prior to research so information and photos can be placed directly into presentation with citation)
Day 2: (students should be prepared to take notes on procedures or have handouts with procedures available)
Explain procedures for navigating the LOC website
Demonstrate how to locate pictures and other primary sources on the LOC website
Review students' progress on projects and answer questions
Labs 2-3: (If possible, labs should be done in small groups)
Research using LOC websites
Take notes
Insert photos/primary sources into PowerPoint (include citation)
Day 3: (students should be prepared to take notes on procedures or have handouts with procedures available)
Explain procedures for using search engines on the Internet
Discuss determining reliable websites
Review students' progress on projects and answer questions
Lab 4: (If possible, labs should be done in small groups)
Research topic using search engines
Day 4:
Review notes and progress
Answer questions
Discuss finishing projects
Labs 5-6: (If possible, labs should be done in small groups)
Complete PowerPoint presentations using information acquired from the Internet, books, and encyclopedias
Add reflections and student analysis of inventor (if applicable)
Days 5-6:
Share projects

Project Checklist

Student Name: ______________________________________
Inventor: _______________________________________
Book/Encyclopedia title: ___________________________________________

Student has an understanding of the following:
+ - Clear understanding - Some understanding X - Little or no understanding

_____ Primary vs. secondary source
_____ PowerPoint basic skills
_____ Using Internet search engines
_____ Searching on the LOC websites
_____ Determining relevant information in text
_____ Citation

Daily Progress

Day 1

_____ Student has shown an understanding of the days concepts
_____ Student needs extra help with: ________________________

_____ Student was able to stay on task.
_____ Student had difficulty staying on task.

Additional comments: ____________________________________________
________________________________________________________________
________________________________________________________________

Day 2
Day 3

_____ Student has shown an understanding of the days concepts
_____ Student needs extra help with: ____________________________

_____ Student was able to stay on task.
_____ Student had difficulty staying on task.

Additional comments: _____________________________________________
________________________________________________________________
________________________________________________________________

Day 4

_____ Student has shown an understanding of the days concepts
_____ Student needs extra help with: ____________________________

_____ Student was able to stay on task.
_____ Student had difficulty staying on task.

Additional comments: _____________________________________________
________________________________________________________________
________________________________________________________________

Day 5

_____ Student has shown an understanding of the days concepts
_____ Student needs extra help with: ____________________________

_____ Student was able to stay on task.
_____ Student had difficulty staying on task.

Additional comments: _____________________________________________
________________________________________________________________
________________________________________________________________
Day 6

_____ Student has shown an understanding of the days concepts
_____ Student needs extra help with: __________________________

_____ Student was able to stay on task.
_____ Student had difficulty staying on task.

Additional comments: ________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

Lab 1

_____ Student has shown an understanding of the days concepts
_____ Student needs extra help with: __________________________

_____ Student was able to stay on task.
_____ Student had difficulty staying on task.

Additional comments: ________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

Lab 2

_____ Student has shown an understanding of the days concepts
_____ Student needs extra help with: __________________________

_____ Student was able to stay on task.
_____ Student had difficulty staying on task.

Additional comments: ________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

Lab 3

_____ Student has shown an understanding of the days concepts
_____ Student needs extra help with: __________________________

_____ Student was able to stay on task.
_____ Student had difficulty staying on task.

Additional comments: ________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
Lab 4

_____ Student has shown an understanding of the days concepts
_____ Student needs extra help with: _______________________

_____ Student was able to stay on task.
_____ Student had difficulty staying on task.

Additional comments: __________________________________________
___________________________________________________________
___________________________________________________________

Lab 5

_____ Student has shown an understanding of the days concepts
_____ Student needs extra help with: _______________________

_____ Student was able to stay on task.
_____ Student had difficulty staying on task.

Additional comments: __________________________________________
___________________________________________________________
___________________________________________________________

Lab 6

_____ Student has shown an understanding of the days concepts
_____ Student needs extra help with: _______________________

_____ Student was able to stay on task.
_____ Student had difficulty staying on task.

Additional comments: __________________________________________
___________________________________________________________
___________________________________________________________

Observations and Comments: _________________________________________________

Grading Rubric (PowerPoint):

The following rating scale is based on the expectations listed below.
1. Organization: PowerPoint is organized in an orderly fashion. Begins with a title page. Information is presented in a logic order.

1 2 3 4 5

2. Information: Information is relevant and clearly stated.

1 2 3 4 5


1 2 3 4 5

4. Word Usage: Vocabulary is at student's level and words are used correctly.

1 2 3 4 5

5. Graphics: Photos and other graphics are included, neat, relevant, labeled, and adequately cited.

1 2 3 4 5

6. Individual work and Focus: Ability to work independently and stay on task.

1 2 3 4 5

7. Research: The inventor’s life and works have clearly been researched.

1 2 3 4 5

8. Overall Presentation: Project is neat and uniform. Transitions are appropriate and not distracting.

1 2 3 4 5

9. Creativity: Presentation is original and creative.
10. Analysis and Reflection: Student's analysis and reflection on materials shows an understanding of the topic's relevance and importance.

Complete list of MLA citation examples available at:
http://www.hcc.hawaii.edu/education/hcc/library/mlahcc.html
MLA Citation Examples. Honolulu Community College Library. 27. Dec. 2004
<http://www.hcc.hawaii.edu/education/hcc/library/mlahcc.html>

Information from the Library of Congress
http://memory.loc.gov/ammem/ndlpedu/start/cpyrt/index.html
http://memory.loc.gov/ammem/ndlpedu/start/cite/index.html

MLA Citation Examples
written by Honolulu Community College Library

The Modern Language Association (MLA) Style is widely used for identifying research sources. In MLA style you briefly credit sources with parenthetical citations in the text of your paper, and give the complete description of each source in your Works Cited list. The Works Cited list, or Bibliography, is a list of all the sources used in your paper, arranged alphabetically by author's last name, or when there is no author, by the first word of the title (except A, An or The).

For example:
In the text of your paper:
Results of studies done by Hawaii's Ocean Mammal Institute indicated that humpback whales were affected by the noise of marine engines (Calvez 41).
or, According to Leigh Calvez, studies by the Ocean Mammal Institute indicated that Hawaiian humpback whales were affected by the noise of marine engines (41).

The following examples are based on the MLA Handbook for Writers of Research Papers, 5th ed., by Joseph Gibaldi. (Ref LB2369 .G53 1999b) The numbers in <> refer to the appropriate chapters in the handbook. For example, for more information about citing a source by two authors, see chapter 4.6.4.

BOOKS

BOOKS
Format: Author. Title of Book. City of Publication: Publisher, Year.
Take the title from the title page, not the cover.
The author's name should be written Last Name, First Name.

One Author <4.6.1>
Reagan, Michael D. Curing the Crisis: Options for America's Health Care.

Editor or Compiler <4.6.1>
If the person named on the title page is the editor, rather than the author, add a comma then the abbreviation "ed." For a compiler, use "comp."

Two or More Authors <4.6.4>
List the names in the order in which they appear on the title page.
Only the first author's name should be reversed: Last Name, First Name.
Use a comma between the authors' names. Place a period after the last author's name.
If the persons named on the title page are editors, add a comma after the final name, then the abbreviation "eds." For compilers, use "comps."
If there are more than three authors, name only the first and add et al., or give all the names.


Two or More Works by the Same Authors <4.6.3, 4.6.5>
When citing two or more sources by the same author, give the name in the first entry only.
For the subsequent entries, type three hyphens, add a period, and skip a space (---) then give the title. The three hyphens stand for the name(s) in the preceding entry.

ENCYCLOPEDIAS and REFERENCE BOOKS <4.6.8>
Format:
Author of Article.(if given) "Article Title." Title of Book. City of Publication: Publisher, Year.
When citing familiar reference books, especially those that often appear in new editions, it is not necessary to include full publication information. Give the edition (if available) and


MULTIVOLUME SETS <4.6.15>
Format: Author or Editor. Title of Set. Total number of vols. City of Publication: Publisher, Year. Use this format when citing two or more volumes of a multivolume set. Reference to specific volumes and page numbers belong in the text of your paper (e.g. 4: 149-53 means volume 4, pages 149-153), not in the Works Cited. Jaffe, Jerome H., ed. Encyclopedia of Drugs and Alcohol. 4 vols. New York: Macmillan, 1995.

INTERNET RESOURCES

WEB SITE -- Professional or Personal <4.9.2c>
Format: Creator's name (if given). Web Page Title. Institution or organization. Date of access <URL network address>. Basic Hula Words. 8 Nov. 2000 <http://www.geocities.com/~olelo/o-h-general.html>.


LIBRARY OF CONGRESS RESOURCES

FILMS
Format: Photographer last name, first name, middle initial. "Title of film." Date. Title of collection. [Protocol and address] [digital ID] (date of visit)
Example:


LEGAL DOCUMENTS AND GOVERNMENT PUBLICATIONS
Format:
Author's Last Name, First Name. "Title of Work." Title of Complete Work. [protocol and address] [path] (date of visit).

Example:


PHOTOGRAPHS
Format:
Photographer last name, first name, middle initial. "Title of photograph." Date. Title of Collection. [Protocol and address] [digital ID] (date of visit).

Example:


TEXTS
Format:
Author last name, first name, middle initial. "Title of work." Date. Title of collection. [Protocol and address] [Call Number] (date of visit).

Example:
