

Ingenious Women Inventors and their Impact on the Growing American Economy: Colonial Times to the 1900s



Amy Clarke
Inventerrific, Inc
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5 women inventors who made a difference: Elizabeth Pinckney researched and planted the indigo plant on her plantation then introduced it into the southern economy, Hannah Slater invented a thread for use on commercial looms, Catharine Littlefield Greene played a crucial part in the invention of the cotton gin along with Eli Whitney, Madam C.J. Walker developed cosmetics for the African-American market and developed a unique sales technique by selling through personal contact in communities throughout the U.S. and Josephine Cochran developed a dish washing machine

Overview

Objectives:

Using the following ingenious women as examples from pre-colonial times to 1900:

Students will:

- Understand how these women contributed to the new flourishing American economy

Our “Stars”:

Elizabeth Lucas Pinckney

(1722-1793) region/South, introduced a new variety of the indigo plant

- The impact of the distribution of the indigo plant to farmers, making it a cash crop and eliminating importation

Hannah Slater

(1793) region/New England, inventing cotton sewing thread helps build the New England textile industry

- The ground floor development of New England’s manufacturing was the textile industry- we need to understand the part that Hannah played in it’s development

Catherine Littlefield Greene

(1755-1814) region/South, inventing the cotton gin, Greene’s role as well as Eli Whitney

- Understanding Greene’s role in the development of the cotton gin and the nuances involved, including the controversy about why Eli Whitney’s name is the only one on the patent

Madam C.J.Walker

(1867-1919) region/Mid-Atlantic, network marketing, 1st female black millionaire

- How does the daughter of freed slaves become the first female African-American millionaire. Her great-great granddaughter tells her story in two books, one for children and one that is a history of Madam Walker’s life

Josephine Cochran

(1839-1919) region/Mid-Atlantic, invented a dishwasher

1876 Centennial winner

- A wealthy socialite, Josephine was left with major debt after the death of her husband. How does she cope with that: she invented something that would provide the needed money, the dishwasher, an 1876 Centennial award winner

Recommended Time Frame

Whatever works, separate out what you need

You could chose any of the following for application in your classroom:

- Do it as a whole unit for Economics, Geography, Career, Technology
- Or space each person and era out into the areas you are covering in a comprehensive History/ Geography/Economics unit all year long or grade-level appropriate

Who and What

Grade Level

5-8 and beyond depending on your use of the whole plan

Select what you can use- the design is all about flexibility- and for any student's ability-Example: Sixth graders study the geography of North America-this is a way to incorporate what they have learned about America's beginnings

Curriculum Fit

Fits into all the Social Studies areas

Note: there will be some differences in spelling of names:

- Eliza's married name is spelled as Pinckney or Pinkney- I have chosen the former
- Catherine's married name is Greene with an e at the end
- Josephine's married name is also seen with an e at the end
- Hannah Slater is known as Mrs. Samuel Slater (good cultural question) Note: I was unable to find her birth to death years-perhaps students can find it
- Madam C.J. Walker was born as Sara Breedlove

Essential Questions

1. How did the geography of the American South, New England, and then, the Mid-Atlantic regions contribute to the successful growth of a flourishing new economy?
2. How did our "Stars" contribute to this growth?

Extended Questions

1. The differences in the economic development of these three regions contributed to the causes of the Civil War. How and why did their regional differences impact the movement to civil war
2. Women inventors have been largely unknown until recently. Why? What have been the cultural changes that have led the way?

Materials

Make copies of the Analysis Worksheets for students

www.archives.gov/education/lessons/worksheets/index.html

The Objectives

From: The Library of Congress Archives:

“Women Inventors: the desire to tinker, create and invent is universal. It doesn’t matter who or what you are—a scientist, business person, layperson, man, woman or child—if there’s a problem, we want to figure out how to solve it by inventing a new way of doing things or improving on an existing way.

Women inventors have had to overcome significant hurdles when it comes to patents. Researching the history of women patent holders can be challenging, because in this country’s early days, many women inventors didn’t use their own names on patent applications. They may have used a husband’s or other man’s name or just used initials to hide their identity. There were also the women who worked with men to patent an idea, but were left off the record, and some women’s inventions were never patented or were sold to a corporation who then patented the idea.

The good news is historians and scholars are bringing to light the history and work of women inventors and how their innovations have improved society. Our guide, [Women of Invention: Women Inventors and Patent Holders](#), is a good place to start learning about these amazing women and the struggles they endured.”

In this unit, students from approximately 5th thru 8th grade will understand how the American economy developed based on the topography/climate/land use of each regional area. Women that developed ingenious inventions that highly impacted the development of the early American economy will be our “stars”.

Note: These inventors are only examples. There are many, many more unrecognized women inventors in the beginning and on into the later 19th century whose contributions impacted our lifestyle and contributed to our growing economy.

Standards

Basic

MI U2 USHG ERA 2- Colonization and Settlement grade 5

Compare the regional settlement patterns in the South, New England, Mid-Atlantic areas

5- U2. 1.1, 1.2, 1.3

Describe significant developments of each region including

- impact of geography (landforms, climate) (*Nat Geo Standard 12 p.167*)
- development of one-crop economies
- plantation land-use (*Nat Geo Standard 11 p.164*)
- New England – agricultural (small farms) and non agricultural (shipping, manufacturing) (*Nat Geo Standard 15, p. 173*)
- Mid-Atlantic - e.g. breadbasket (*Nat Geo Standard 7, p. 156*)

Note: these same standards and activities can apply to 6th grade study of North America

5 – U2.1.4

Compare the regional settlement patterns of the Southern colonies, New England, and the Middle Colonies (*Nat Geo Standard 12 p.167*)

Enhanced

MI U4.2 Regional and Economic Growth gr 8

Describe and analyze the nature and impact of the territorial, demographic, and economic growth in the first three decades of a new nation using maps, charts, and other evidence.

8 – U4.2.1 Comparing the Northeast and the South

Compare and contrast the social and economic systems of the Northeast and the South with respect to geography and climate and the development of agriculture, including changes in productivity, technology, supply and demand, and price

(E1.3, 1.4) (*Nat Geo Standards 14, p. 171*)

- industry, including entrepreneurial development of new industries, such as textiles (E1.1)
- the labor force including labor incentives and changes in the labor force (E1.2)
- transportation including changes in transportation (steamboats and canal barges)
- on economic prices (E1.2, 1.3) (*Nat Geo Standard 3, p. 148*)
- race and class relations

U6.1 America in the Half of the 19th Century

Analyze the major changes in communication, transportation, demography, and urban centers, including location and growth of cities linked by industry and trade, in the 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 that Century. This era will be addressed in depth and with greater intellectual sophistication in high school

United History and Geography content expectations

8- U6.1.1 America at Century's End- Compare and Contrast the U.S. from colonial times to 1800, and then, to 1898

- compare similarities and differences in territory and land use
(*Nat Geo Standards 1 and 16, pp.144 and 196*)

Procedures

Teaching With Documents:

Lesson Plans

Archives.gov contains copies of printable worksheets of primary documents from the holdings of the National Archives of the United States, teaching activities correlated to the National History Standards and National Standards for Civics and Government, and cross-curricular connections.

Teaching with primary documents encourages a varied learning environment for teachers and students alike. Lectures, demonstrations, analysis of documents, independent research, and group work become a gateway for research with historical records in ways that sharpen students' skills and enthusiasm for history, social studies, and the humanities.

- [Revolution and the New Nation \(1754-1820s\)](#)
- [Expansion and Reform \(1801-1868\)](#)
- [Civil War and Reconstruction \(1850-1877\)](#)
- [The Development of the Industrial United States \(1870-1900\)](#)

Step 1. Go to Teaching with Documents

www.archives.gov/education/lessons/worksheets/index.html

Note: you can go directly to www.docsteach.org for user friendly navigation

Recommended time frame is two to three class periods or until the teacher feels the students have a thorough understanding of the material

Lessons by Era

- [1754-1820s](#)
- [1801-1861](#)
- [1850-1877](#)
- [1870-1900](#)
- [Worksheets](#)

More Lesson Plan Resources

- [Ready-to-use Tools, Activities and Documents at DocsTeach](#)
- [State & Regional Lesson Plans & Resources](#)
- [Lesson Plans from the Center for Legislative Archives](#)

Primary Source Research & Classroom Resources

- [Getting Started](#)
- [Finding Primary Sources](#)



DocsTeach

Find and create interactive learning activities with primary source documents that promote historical thinking skills



State and Regional Lesson Plans

Analysis Worksheets

- [Written Documents](#)
- [Artifact](#)
- [Cartoon](#)
- [Map](#)
- [Motion Picture](#)
- [Photograph](#)
- [Poster](#)
- [Sound Recording](#)

Teachers:

Conducting Research

- [Primary Source Research & Classroom Resources](#)
- [Finding Primary Sources](#)
- [Citing Primary Sources](#)
- [Using the Archival Research Catalog](#)

Step 2. Recommended Time Frame

As mentioned, the research can be done over time depending on the unit the class is studying

Basic

In teams of two, ask students to research our stars using the suggested resources listed under one and using sources from the expanded list. Ask them to use the applicable Analysis Worksheets and include them in their report.

Their report on all five “stars” should include the sources they used and should demonstrate they understand the impact each one had on America’s growing economy.

Enhanced

Do the Basic plan. Expect the students to include examples: photos, recordings, George Washington’s letter to Catherine Greene, Women’s Declaration of Rights (1876) and so on. Also, their reports should demonstrate that they understand how to synthesize information from several sources as well as use critical thinking.

Primary Resources from the Library of Congress

Introduction

Books

a must have for research

Basic

Mothers of Invention by Ethlie Ann Vare and Greg Ptacek LOC site Ms. Vare is speaking at <http://www.c-spanvideo.org/program/170065-1>

Enhanced

Patently Female by Vare/Ptacek

[www.loc.gov/ Women of Invention](http://www.loc.gov/Women_of_Invention)

<http://pbs.org/historydetectives-old/investigations/202-inventors.html>

<http://www.loc.gov/teachers/classroommaterials/connections/amrev-maps/file.html>

HerStory LOC

<http://www.loc.gov/teachers/classroommaterials/presentationsandactivities/presentations/>

Enhanced

<http://www.loc.gov/loc/cib/o201/herstory.html>

Eliza Lucas Pinckney

www.distinguishedwomen.com/biographies/pinckney.html

http://www.encyclopedia.co/topic/Eliza_Lucas_Pinckney.aspx

National Women’s History Museum <http://www.nwhm.org/education-resources/biography/eliza-lucas-pinckney>

Catherine Littlefield Greene

The New Georgia Encyclopedia – Catherine Greene

<http://memory.gov> The Papers of George Washington / two letters written to Catherine, wife of General Washington’s chief aide, Thomas Pinckney

Hannah Slater (note: there’s info on Samuel but very little about her- that’s culture)

<http://www.bingcomsearch?q+hannah+slater+cottonthread&src+IE-SearchBox&first+...>

Madam Walker

LOC.gov. THOMAS - Bill Summary and Status - H.J.RES.81

Basic

Madam C.J. Walker:

Enhanced

On Her Own Ground: the Life and Times of Madam C.J. Walker by A'Leila Bundles

webcast: <http://www.loc.gov/rr/women/bundles.html>

Josephine Cochran

www.loc.gov/pictures/resource/cph/.3c03123

<http://forgottennewsmakers.com/2010/04/20/josephine-cochrane-1839-1913-invented-the-dishwasher/>

LOC Prints & Photographs Online Catalog

<http://.loc.gov/pictures/tiem/2004668365/>

Extended Resources

Students can read the diaries and letters women wrote from the colonial times to 1900 and get a sense of what it was like to live daily life in each of these eras at

<http://www.loc.gov/teachers/classroommaterials/presentationsandactivities/presentations/...>

Basic

<http://.42explore2.com/invent.htm> - connections for younger students to explore

Enhanced

If you choose to go into the developing cultural movement – the women’s suffrage topic has plenty on the LOC site- start with the 1876 Centennial – there was *A Women’s Declaration of Rights* issued– the 1st move towards women’s rights.

At that same gathering was Elizabeth Duane Gillespie, granddaughter of Benjamin Franklin, who made it possible for women to exhibit their inventions (originally they were not included). She did it the way we all know so-o well – bake sales, etc.. She engaged women all across the country, raising enough money to have a building constructed at the Centennial where women could be represented.

Note: The Chicago World’s Fair in 1893 was a different story- see the first professional woman photographer’s pictures of the building being constructed at <http://www.pictures/resource/cph.3c03123>

LOC: Science Reference Services – list of sites on inventions

<http://www.gov/rr/scitech/selected-internet/inventions.html>

Evaluation

1. Grade the report.
2. As a final assessment, ask students doing it individually, not teams, to write answers to the essential questions in essay form. Grade.

3. Finally, give all students time (homework) to write out notes evaluating the process. Then, using their notes, have each student stand up and share their thoughts with the rest of the class. Recommend not grading.

Rubric

Student's Name _____ Class/Grade _____

Score students based on the essential questions, standards and your understanding of the student's capabilities	Excellent 10	Good 8	Fair 6	Poor 4-0	Score
<p>Basic</p> <ul style="list-style-type: none"> • Research reports reflect a use of multiple /diverse sources from LOC and suggested sources from list in the plan • Final research report integrates sources used/listed, has grade level L.A. writing expectations • Individual answers to essay/essential questions is L.A. grade level appropriate • Any extended research / report marked as extra credit 					
<p>Enhanced</p> <ul style="list-style-type: none"> • Research report reflects the use of extensive multiple/diverse sources from LOC as well as “outside” sources • Research paper includes all the essential components of L.A. grade-level expectations and reflects an ability to synthesize information into a cohesive report • Individual answers to essential questions in essay form have integrated the learned information and reflect proper grade-level writing • Any extended research reflects grad-level performance for extra credit 					

Total Score

Note: The author of this lesson plan is Amy Clarke, “retired” teacher and Education Director of a new entrepreneurial company, Inventerrific™

“It is my belief that plans you see from LOC trained teachers/media specialists can be applied in small parts or as a whole in as many environments as the staff sees as appropriate. *Our job is to assist not insist.*” aclarke@inventerrific.com