

Fifth Grade

DISCOVER AMERICA

Course 18 - Teacher Guide



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Fifth Grade

Teacher Guide



Key Themes

- Creative Liberty
- Community
- Risk-taking and Experimentation
- Teamwork

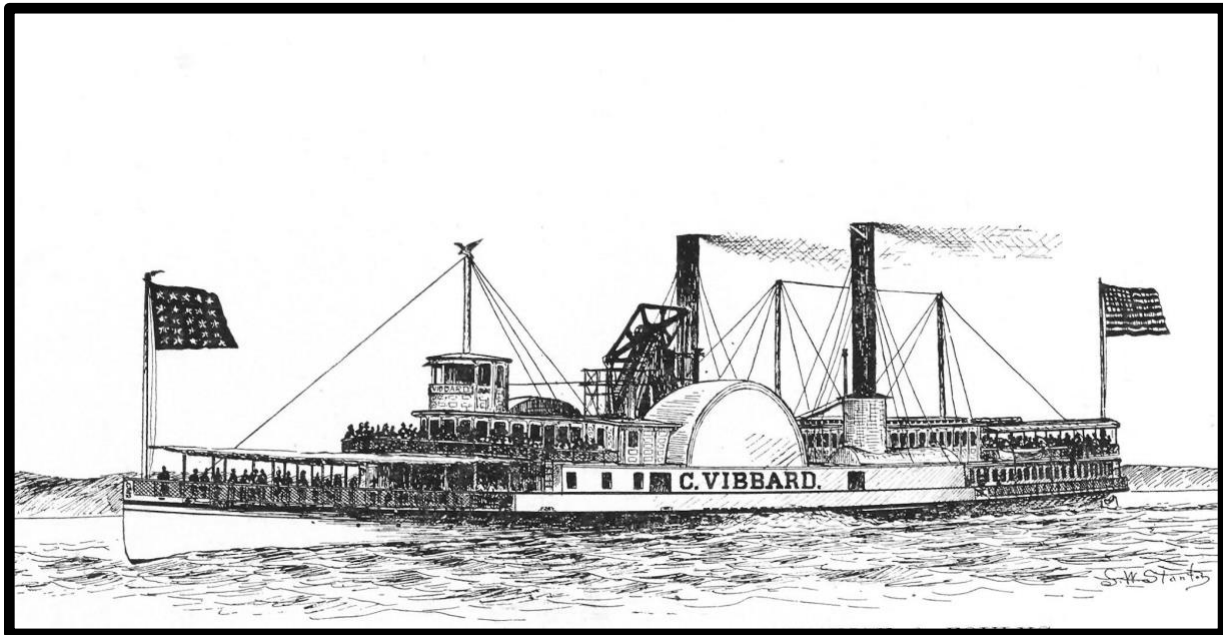
Core Values

- Community
- Liberty

Learning Objectives

Students will be able to:

- Define creative liberty.
- Explain the importance of teamwork in achieving goals.
- Experiment with new ideas and information in innovative ways.
- List two obstacles that Robert Fulton overcame.
- Analyze how communities along the Mississippi River changed after the steamboat was invented.
- Discuss the life, contributions, and impact of Robert Fulton, focusing on his invention of the steamboat and its significance in American history.



Fulton's Steamboat - Fifth Grade

Key Terms

- 01 **inventor:** a person who creates a process or device to improve circumstances.
- 02 **visionary:** a person who creatively thinks about the future.
- 03 **river transportation:** a boat or ship that moves up and down a river.
- 04 **efficient:** working in a well-organized way.
- 05 **engineer:** to design items that will solve problems and make products more accessible.
- 06 **steam engine:** an engine that uses steam expansions or rapid condensation to generate power.
- 07 **innovation:** a new method, idea, or product that helps the community.
- 08 **community:** a group living in an area with similar interests, beliefs, attitudes, and goals.
- 09 **wealth:** a significant amount of money or possessions.
- 10 **industry:** a group that produces goods and services that society requires and distributes them to consumers.

Fulton's Steamboat - Fifth Grade

Introduction

TELL Students

To engage students, begin by asking them about their favorite games or gadgets and the tools and devices they enjoy using. Transition into a discussion about how many of these items originated from creative ideas that required innovation to become a reality. Explain that innovators are individuals who aim to create or enhance products to make life more enjoyable or convenient, not only for themselves but also for others. Innovators who identify a need for product improvement or creation are often referred to as visionaries. Emphasize that these visionaries possess the unique ability to see the bigger picture and envision how their innovations can benefit society. Encourage students by mentioning that some of them might be the next generation of visionaries who will shape the future with their creative ideas and problem-solving skills.

ASK Students

- Define creativity.
- What does it mean to have creative freedom?
- Why would unknown inventions create a sense of fear?
- Define visionary.
- What is efficiency?
- Do you think there is a relationship between teamwork and visionaries?
- What role does efficiency play in experimentation?

WATCH

[Star Spangled Adventures Cartoon Ep. 18: America Moves](#)

Robert Fulton's Steamboat - Fifth Grade

Lesson Guide

TELL Students

When you think of creative people, who comes to mind? Artists? Musicians? Maybe even photographers and movie stars? What about engineers and inventors? These visionaries are incredibly creative because they make discoveries and find ways to solve problems. Please read the following passage to learn more about an important visionary. Have students use sticky notes to write important facts about Robert Fulton as they read.

In the years following the American Revolutionary War, as the nation was expanding, particularly in the southeastern United States, river transportation became crucial. The Mississippi Territory was established in 1798, and in 1803, the United States purchased the Louisiana Territory from France. These territories provided river routes, such as the Mississippi and the Chattahoochee, stretching from Canada to the Gulf of Mexico. [Insert Stock Image Mississippi Territory].

However, river travel in those days posed significant challenges. People relied on keelboats, flat-bottomed vessels propelled by river currents for downstream journeys. Navigating upstream was difficult, requiring long poles (oars) to push against the powerful current. This process often led to the keelboats being disassembled, or taken apart, and sold for their wood to avoid the return trip. [Insert Stock Image Keelboat].

The slow and difficult river transportation also hindered the timely delivery of goods, as some items would spoil before reaching their destinations. This

dilemma pushed inventors to explore ways to enhance river travel, and the steam engine, which had been invented in the early 18th century, showed potential.

Robert Fulton was born in 1765 on a Pennsylvania farm. Fulton wanted to be an artist. Despite painting portraits, including one of Benjamin Franklin, and having works accepted by the Royal Academy in London, his art career didn't flourish. Influenced by other Europeans, he decided to study engineering in the late 1780s. [Insert Stock Image Robert Fulton].

Fulton worked on various inventions, from a marble-cutting machine to a canal system. In 1797, he moved to France, where he designed a submarine, the Nautilus, hoping to sell it to Napoleon and the French Navy. However, French interest was lacking. His work caught the attention of Robert Livingston, an American residing in France. [Insert Stock Image Nautilus].

Livingston, a New York lawyer who had served in the Continental Congress and worked on the Declaration of Independence, saw potential in Fulton's inventive spirit. Both men shared a vision for using the steam engine's power for efficient boat propulsion, aiming to overcome the financial barriers of steamboat construction. [Insert Stock Image Robert Livingston].

In 1803, following the successful testing of a 74-foot side-wheeler steamboat on the Seine River in Paris, Fulton returned to America. He initiated the construction of "The North River Steamboat of Clermont" in 1806, using an English steam engine. Fulton's unique steamboat design featured a flat bottom and square stern. His artistic skills helped him to create detailed design plans, a rare talent at the time. He also used quality materials and skilled builders in the construction process.

On August 17, 1807, the "Fulton's Folly," as skeptics called the Clermont, traveled from New York City. The journey was dangerous due to the potential

for a boiler explosion from excessive pressure. Fulton himself described the moment as filled with anxiety and doubt. Fortunately, after a minor malfunction, he managed to get the steamboat moving. The Clermont traveled from New York City to Albany in 32 hours and returned in 30 hours, a remarkable achievement for the era. [Insert Stock Image the Clermont].

Less than a month later, the Clermont started commercial service. It would transport up to 100 passengers along the same route at a one-way fare of \$7. With Livingston's support, Fulton ushered in an era of efficient and profitable steamboats. [Insert Stock Image Steamboat].

This technological breakthrough granted the United States a competitive edge during the industrial revolution. Improved transportation allowed the movement of goods and raw materials, encouraged exploration and the establishment of new settlements. [Insert Stock Image Industrial Revolution].

Robert Fulton's journey to success was marked by perseverance and determination. He overcame numerous obstacles. Like Fulton, we can approach challenges with curiosity, creativity, and commitment.

ASK Students

- Why do we consider Robert Fulton to be a visionary?

(allow students to respond)

ASK Students

- What role did teamwork play in the creation of the steamboat?

(allow students to respond)

ASK Students

- What obstacles did Robert Fulton overcome?

(allow students to respond)

Worksheet: Boosting the Community's Economy

Recall: The Clermont entered commercial service, accommodating up to 100 passengers along the Hudson River route for a one-way fare of \$7. This venture flourished, revolutionizing transportation. Assisted by Livingston, Fulton ushered in a new era of profitable and efficient steamboats. This technological breakthrough positioned the United States at the front of the Industrial Revolution, a period marked by the adoption of innovative manufacturing methods. This enhanced transportation method simplified and expedited the movement of goods and raw materials, creating opportunities for exploration and new settlements to flourish.

List opportunities for communities to boost their economies, both along the Mississippi River and throughout the rest of the United States:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Explain how the invention of the steamboat helped the community and inspired other inventions.

What did the invention of the steamboat do for the economy?

Are inventions as important to the economy today as they were in the 1800's? Why?

Is freedom important to the continuation of a growing economy? Why?

Fulton's Steamboat - Fifth Grade

Assignment

Assignment Title: Robert Fulton and the Invention of the Steamboat

Objective:

To learn about the life, contributions, and impact of Robert Fulton, focusing on his invention of the steamboat and its significance in American history.

Instructions:

1. Research:

- Begin by researching Robert Fulton and his background. Find information about his early life, education, and interests.
- Explore his journey from being an artist to becoming an engineer and inventor.
- Investigate the challenges and problems related to transportation in the early 1800s in the United States.

2. Create a Timeline:

- Create a timeline of key events in Robert Fulton's life. Include important milestones, such as his artistic pursuits, experiments with submarines, and the development of the steamboat.

3. The Invention of the Steamboat:

- Write a short essay (1-2 pages) explaining the significance of the steamboat invention. Describe how it transformed transportation, trade, and the growth of communities in the United States.
- Include details about the first successful steamboat voyage and the impact it had on society.

4. *Illustrations:*

- Create visual aids or illustrations to accompany your essay. You can draw diagrams of the steamboat, depict scenes from Fulton's life, or create a timeline graphic.

5. *Historical Context:*

- Research and provide information about the historical context of the late 18th and early 19th centuries in America. Explain why improved transportation was crucial during that period.

6. *Impact Assessment:*

- Discuss the long-term impact of Robert Fulton's invention on American society, economy, and transportation. Consider how it contributed to the development of new industries and the expansion of the nation.

7. *Present Your Findings:*

- Prepare a presentation to share your research findings with your classmates. You can use PowerPoint, Google Slides, or create a poster to present your information.

- Be sure to include visuals, key points, and interesting facts about Robert Fulton and his invention.

8. *Class Discussion:*

- Participate in a class discussion where each student presents their findings and insights about Robert Fulton and the steamboat.

- Encourage questions and engage in discussions about the significance of innovation and its impact on history.

9. *Reflection:*

- Write a short reflection (half a page) on what you've learned from this assignment. Include your thoughts on the importance of creativity, innovation, and perseverance in historical achievements.

10. *Extra Credit (Optional):*

- Research other notable inventors or engineers from the same time period and

compare their contributions to Robert Fulton's work.

Evaluation Criteria:

Your assignment will be evaluated based on the following criteria:

- Accuracy and depth of research.
- Clarity and organization of your essay.
- Creativity and quality of illustrations.
- Engagement and participation in the class discussion.
- Reflection on the importance of innovation in history.

Submission:

Submit your essay, timeline, visuals, and presentation materials as instructed by your teacher. Be prepared to share your findings and present your work to the class.

Fulton's Steamboat - Fifth Grade

Resource List

"Studying the past makes it possible for us to understand the human story across time." (NCSS, 1921)

"Knowledge and understanding of the past enable us to analyze the causes and consequences of events and developments and to place these in the context of the institutions, values, and beliefs of the periods in which they took place." (NCSS, 1921)

"The study of people, places, and environments enables us to understand the relationship between human populations and the physical world." (NCSS, 1921)

"Questions related to identity and development, which are important in psychology, sociology, and anthropology, are central to understanding who we are." (NCSS, 1921)

"The study of individual development and identity will help students to describe factors important to the development of personal identity." (NCSS, 1921)

1 <https://www.sam.usace.army.mil/Portals/46/docs/recreation/OP-CO/montgomery/pdfs/10thand11th/ahistoryofsteamboats.pdf>

2 <https://education.nationalgeographic.org/resource/steamboat>

3 <http://www.southernlancasterhistory.org/robert-fulton-birthplace>

4 https://www.pbs.org/wgbh/theymadeamerica/whomade/fulton_hi.html

5 <http://www.southernlancasterhistory.org/robert-fulton-birthplace>

6 <https://lemelson.mit.edu/resources/robert-fulton>

7 https://www.pbs.org/wgbh/theymadeamerica/whomade/fulton_hi.html

8 <https://www.sam.usace.army.mil/Portals/46/docs/recreation/OP-CO/montgomery/pdfs/10thand11th/ahistoryofsteamboats.pdf>

9 <https://lemelson.mit.edu/resources/robert-fulton>

- 10 <https://www.nytimes.com/1987/11/17/opinion/l-why-fulton-achieved-steamboat-success-003087.html>
- 11 <http://www.southernlancasterhistory.org/robert-fulton-birthplace>
- 12 <https://lemelson.mit.edu/resources/robert-fulton>
- 13 <https://www.nytimes.com/1987/11/17/opinion/l-why-fulton-achieved-steamboat-success-003087.html>
- 14 <https://www.sam.usace.army.mil/Portals/46/docs/recreation/OP-CO/montgomery/pdfs/10thand11th/ahistoryofsteamboats.pdf>
- 15 <http://www.eyewitnesstohistory.com/fulton.htm>
- 16 <https://education.nationalgeographic.org/resource/steamboat>
- 17 <https://lemelson.mit.edu/resources/robert-fulton>
- 18 <https://www.sam.usace.army.mil/Portals/46/docs/recreation/OP-CO/montgomery/pdfs/10thand11th/ahistoryofsteamboats.pdf>

Notes