

NEW YORK
archives Jr!
Teaching Guide

Topic: Erie Canal Engineering and Innovation

Issue: Special Edition

NYS Social Studies Framework:

4.6b In order to connect the Great Lakes with the Atlantic Ocean, the Erie Canal was built. Existing towns expanded and new towns grew along the canal. New York City became the busiest port in the country

7.6c Students will examine the Erie Canal as a gateway to westward expansion that resulted in economic growth for New York State, economic opportunities for Irish immigrants working on its construction, and its use by religious groups, such as the Mormons, to move westward.

NYS Social Studies Practices:

A2, A5, A6, B1, B5, B7, C4, D1, D3

NYS Next Generation ELA Learning Standards:

4R1: Locate and refer to relevant details and evidence when explaining what a text says explicitly/implicitly and make logical inferences.

4R3: In informational texts, explain events, procedures, ideas, or concepts, including what happened and why, based on specific evidence from the text.

4W2: Writing informative/explanatory texts to explore a topic and convey ideas and information relevant to the subject.

Notes about icons:



This icon is paired with observation questions to help students remember that to observe is to just look at what is in the document.



This icon is paired with inference questions to help students remember that to infer is to use what they observed paired with their own background knowledge to draw a conclusion.



This icon is paired with questions that require thinking about the worldview of those involved. This is to remind students to put on their “Worldview Glasses” and see things from the point of view of the people involved.



This icon is paired with questions that ask students to synthesize information from more than one source.

Big Ideas in this Issue: Building the Erie Canal was a massive engineering challenge that led to important innovations in tools, construction methods, and systems. Engineers like Benjamin Wright, Canvass White, and David Bates developed and improved technologies—especially locks, excavation tools, and hydraulic cement—that made it possible to overcome difficult terrain and transform transportation and trade in New York State.

Activities in This Issue:

Page 3 – “Take a Closer Look” - Students will read an excerpt from Canvass White’s patent for water proof cement. They will tag the text using a color-coded key, identify the problem White was trying to solve with his invention and think about why he would want to patent it.

Page 4 – “Learning Activity” – Students will look at a diagram showing multiple views of the “Flight of Five” locks at Lockport. They will compare and contrast this with an engraving of a lock, identifying the parts of the a lock and thinking about the purpose of each type of document.

Learning Activity Online Extras:

- Compare & Contrast – this Extra goes with page 4 of the magazine. It provides prompts and more writing space to compare and contrast the two drawings presented on page 4.
- Inventions Solve Problems – students will fill out a table of inventions and the problems they solved using information from the article and the video.
- Draw a Lock - a page with directions to draw a lock diagram.
- It’s Your Turn – Be an Inventor. Students are encouraged to think of an object or task that they could create/improve to solve a problem. Space is given to describe the problem and draw sketches of the solution. This could lead to an explanatory writing piece.

Video: Erie Canal Engineering and Innovation video – *Jr!* Archivists Mia & Archie teach about many of the inventions created for building and navigating the canal. The video includes an animation of how a lock works.



Connections

ELA:

- *The Amazing Impossible Erie Canal* by Cheryl Harness
- *The Erie Canal* by Peter Spier
- *The Erie Canal* by Martha E. Kendall
- *The Story of the Erie Canal Just for Kids* by Sarah Michaels
- *The Erie Canal* by Andrew Santella (from the We the People series)
- *Building the Erie Canal* by Linda Thompson (from the History of America series)
- *Hoggee* by Anna Myers - makes a great read aloud

Websites:

- <https://eriecanalway.org/learn/history-culture> The Erie Canalway National Heritage Corridor
- <https://www.nps.gov/articles/000/history-of-the-ohio-erie-canal.htm> National Park Service: History of the Ohio and Erie Canal
- The Erie Canal Museum - <https://eriecanalmuseum.org/>

Videos:

- Time Lapse video of a boat going through Erie Canal Locks - https://www.youtube.com/watch?v=S7_Hr3iCPls
- Locks on the Erie Canal educational video by the Erie Canal Park. Has a really good demo of a lock- <https://www.youtube.com/watch?v=1lF-qK-aamE>
- The Seneca Chief (replica) Locks Through the Mohawk Valley - (you'll notice no mules are pulling the replica – they have a tug and a tow boat). <https://www.youtube.com/watch?v=KleGtagAIPc>
- Stump Puller demonstration - <https://www.youtube.com/watch?v=ugBf0vesalk>