

Canals vs. Railroads: The Transportation Race!
Teacher's Guide
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Objectives:

At the completion of this learning adventure, students will be able to:

- recognize the importance of moving goods to market quickly and efficiently
- use maps to locate places, make decisions and estimate distances
- compare and contrast the pros and cons of different modes of transportation
- write a persuasive letter to a 19th century Baltimore businessman

Appropriate Grade Levels: 4-5

MSPAP Outcomes:

Social Studies Grades 4-5

Economics

- Analyze historical and economic factors that have contributed to the growth and development of Maryland's economy

Geography

- locate places and natural features by interpreting maps using directions, legends, grid systems, boundary lines and scales
- examine the impact of geography on the industrial growth and economic prosperity of communities in the state, nation and world
- examine how people of the state and nation are linked by transportation and communication networks

Skills and Processes

- Obtain, interpret, organize and use print/non-print sources of information such as pictures, graphics, maps, globes and artifacts

Teacher Background Information:

The rush to move goods to market quickly and efficiently still drives the development of transportation technology today. In the early nineteenth century, there was a move to improve the infrastructure in America. This era is sometimes called "the golden age of canals"

because so many canals were constructed in America during this time period. The early nineteenth century also brought a new technology forward: the steam engine and the railroad. The race was on to build canals before railroads could be built and takeover the shipment of goods. The C&D Canal, while it did go through many changes and difficulties, is the only canal in America still used today to move goods to market.

More information about the history of railroads in Maryland can be found in the *Maryland Exploration*, “All Aboard! Trains In, Around and Through Maryland.”

Materials needed:

- paper and pencil
- Internet access
- Maryland and the Middle Atlantic states outline map
- string
- Hamburger Model for persuasive writing
- Copy of the writing rubric

Resources used in developing this lesson:

- *At the Head of the Bay: A Cultural and Architectural History of Cecil County, Maryland* by Pamela James Blumgart, Mark Walston, Paul Baker Touart; Maryland Historical Trust Press, 1996
- *The National Waterway: A History of the Chesapeake and Delaware Canal, 1769-1985* by Ralph D. Gray; Chicago: University of Illinois Press, 1989
- *History of the Baltimore and Ohio Railroad* by John F. Stover; West Lafayette, Indiana: Purdue University Press, 1987
- *The Story of the Baltimore and Ohio Railroad, 1827-1927* by Edward Hungerford; New York: Knickerbocker Press, 1928
- *Impossible Challenge: The Baltimore and Ohio Railroad in Maryland* by Herbert H. Harwood, Jr.; Baltimore: Barnard, Roberts and Company, Inc., 1979
- *The Great Road: The Building of the Baltimore and Ohio, The Nation's First Railroad, 1828-1853* by James D. Dilts; Stanford: Stanford University Press, 1993
- *The History of the Baltimore & Ohio: America's First Railroad* edited by Timothy Jacobs; New York: Crescent Books, 1989

Teaching Tips:

You may want to visit the Maryland is Fun Web site (<http://www.mdifun.org/history/chrono.htm>) to learn more about what was happening in Maryland during the early nineteenth century. Then you may want to start a class discussion to brainstorm a list of different modes of transportation. You and your students could start with a list of current modes of transportation and then identify which of these forms of transportation they think were available during the early part of the nineteenth century.

Motivation/Introduction:

Read to or with students:

Since the first exchange of goods between people for profit, there has been a desire to move goods to markets quickly. This push to bring goods to the marketplace has also provided fuel for the race to find better and faster ways to transport goods. People have moved from carrying goods on their shoulders, backs and heads to domesticating pack animals to inventing mechanical modes of transportation. Where there are waterways, people have used rafts, canoes, barges, sailing ships and motorized vessels to move trade items. Ships like the swift Baltimore clippers were developed to move goods more swiftly from the markets of the Far East to the markets of America.

In this *Exploration*, you will put yourself in the fine leather shoes of a wealthy Baltimore merchant to discover more about two forms of transportation, canals and railroads.

Activities:

In this lesson, students will:

1. Use the Captain's Log to find out about *Pride of Baltimore II's* previous trips through the C&D Canal
2. Use a map and label a map to locate Maryland, the Middle Atlantic States, the Delmarva Peninsula, the Chesapeake Bay, the Delaware Bay and several cities on the Atlantic seaboard.

3. Explore why it is important to merchants to move their goods to and from marketplaces quickly.
4. Use tables to chart the resources needed to construct both canals and railroads in 19th century Maryland.
5. Discover what types of cargo travel to and from Baltimore by way of the Chesapeake and Delaware Canal (C & D Canal).
6. Use the hamburger model of persuasive writing to write a letter to a 19th century Baltimore business person giving advice on which transportation project, the C&D Canal or the B&O Canal, should be invested in and why.
7. Determine why the C&D Canal is the only American canal built during the 'golden era of canals' that is still used by commercial shipping traffic today.

Possible Extensions

If you're really interested in canals, think about these questions:

1. What kinds of ships use the C&D Canal today? What sorts of cargo do they carry?
2. What are some of the reasons that the C&D Canal was changed from a canal with locks to a sea level canal?
3. How has the development of the interstate trucking industry affected the viability of the railroad system?
4. What sort of environmental concerns are associated with canals? Do you think these concerns were considered during the 'golden era' of canal building in America? Why or why not?
5. Research the shipwrecks that have occurred in the C&D Canal.
6. One opinion about the future of the Panama Canal can be found at this Panama Canal Web site (<http://www.eclipse.co.uk/~sl5763/panama.htm#The Future>). After you have read this article, determine if the C&D Canal will experience

similar difficulties. More information about the Panama Canal can be found at the **official** Panama Canal Web site (<http://www.pancanal.com/general/>). Be sure to support your opinion with details from this lesson and from information found in the websites about the Panama Canal.

7. Create a detailed drawing or model of a lift lock. Explain to your classmates how the lift lock works.