



Lesson 13.2 “Railroads Over and Across New Hampshire”

Unit 13: Tourism in New Hampshire, 1826–1920

Lesson Objectives

- Students will use math to determine travel times of trains in the 19th century.
- Students will compare maps from different years to examine the expansion over time of railroads in New Hampshire.
- Students will investigate the reasons for building railroads in New Hampshire and how they impacted tourism.

Lesson Competencies

- I can apply appropriate tools, techniques, and formulas while attending to precision to solve problems involving measurement (liquid volume, mass, perimeter, area, time, angles, money, distances). (Math 5)
- I can analyze, use, and construct maps and other geographic representations to explain relationships between people and the environment. (Moose SS)
- I can use sources to expand my understanding of the topic/text and locate information to support my point of view. (ELA 6)

Essential Question

How has New Hampshire come to be the way it is?

Focus Questions

How did technology and industrialization impact tourism in New Hampshire?
How did the rise in tourism change New Hampshire?

Estimated Time

Two 40-minute class sessions

Materials & Equipment

Copies of “Railroad Map of New Hampshire 1857” and “Railroad Map of New Hampshire 1890,” enough for each group to have one pair
“Mason Explains: Traveling to New Hampshire in the 1800s” video for projection
Class set of “Traveling to New Hampshire in the 1800s” worksheet
“Comparing Travel Times” infographic if desired
Class set of “Traveling on the White Mountain Express” worksheet
Profile House and Mount Washington Hotel sources for projection



Educator Introduction & Rationale

Beginning in the 1840s, changes in transportation and technology made it easier to accommodate the thousands of people who were flocking to New Hampshire to see the state's natural beauty and get away from the cities. The rise of tourism and the development of railroad lines to tourist areas in the state encouraged each other. By the 1870s, travel time for tourists to get to their vacation locations changed from days to hours, as stagecoach travel gave way to train travel. Tourists could board one of many trains daily and gain easy access to the White Mountains, along with the grand hotels and summer camps that were located throughout that region.

This is the second lesson in Unit 13: Tourism in New Hampshire, 1826–1920. Completion of the learning objectives in Lesson 13.1 “Tourists in New Hampshire” is recommended before students move through the activities in this lesson so that students are familiar with the tourist sites in the state. Please note, unit vocabulary and definitions are at the end of this document. You may wish to preview these with your students.

In this lesson, students analyze the growth of train travel by using map skills to “Notice and Wonder” an 1857 map of New Hampshire railroads and an 1890 map of the state's updated railroads. Students then use a historic time table to calculate the travel time for tourists and reflect on how technology and industrialization impacted tourism in New Hampshire.

Teaching Tip: The activation activity requires that each group of students receive a pair of sources: an 1857 map of New Hampshire and an 1890 map of New Hampshire. If desired, this activity can be simplified by having the two maps projected individually to the class so that the whole class can examine the maps together.

One reinforcement activity is suggested for students who will benefit from more time with the concepts and skills in the lesson. Two extension activities are suggested for students who are ready to continue their interpretation and analysis of maps of the White Mountain region and who are comfortable enough in their math skills to tackle the challenge of finding the ticket price for a trip from Boston to Wolfeboro, Rumney, and Bath. Please adapt all material in this lesson, as necessary, to meet the needs of the students in your classroom.

Learning Activity

Activation

Notice and wonder. To investigate the expansion of the railroad in New Hampshire, put students in groups of four, then divide each group into pairs. Review with the class the technique of Notice and Wonder; they should look at their document and take note of what they notice and what they wonder about it. Per group, give one pair "Railroad Map of New Hampshire 1857" and the other the "Railroad Map of New Hampshire 1890."

Give students two or three minutes to discuss their ideas of noticing and wondering with their partner, then invite the two halves of a group to present to each other. As they finish, ask students to look closely at both maps and compare them. What do they think these maps show? What can they guess at and what do they know?

After these mini-presentations have occurred, bring the class back for a whole class discussion. Focus on the similarities and differences between the maps. To help students view the maps more clearly, project them as you discuss them.

Possible outcomes:

- These maps show a part of New Hampshire.
- There are town and county names noted.
- Natural features like rivers and lakes are marked on the maps.
- Colored areas represent counties.
- The lines are railroad lines.
- There are more railroads in the 1890 map than the 1857 map, meaning that railroad transportation increased in the state.
- Why do students think railroad lines increased this much during this time in New Hampshire? Who might use them?

Guided Practice

Changing travel. As students think about why railroad lines increased, guide them to the knowledge that trains were the main form of transportation for tourists before cars in the late 1800s and early 1900s. During the mid-19th century, tourism in New Hampshire increased a lot. How did they get here? How did this change over time?

Distribute the "Traveling to New Hampshire in the 1800s" mind map worksheet and watch the video "Mason Explains: Traveling to New Hampshire in the 1800s." Discuss together as a group or have students take notes while watching the video.

If desired, use the "Comparing Travel Times" infographic to extend knowledge and add math practice to the lesson.

Teaching Tip: This is a good spot to pause if you will divide the lesson between two teaching periods.

Guided Practice

Traveling time. Project “Timetable 1882” and ask students if they can guess how this document would have been used by tourists. After brainstorming, explain that timetables like these would have helped tourists know which train they needed to take in order to get to their vacation destinations.

Have students brainstorm estimates of how long it would take tourists to take a train from Boston to the summit of Mount Washington, which is approximately 165 miles. Record estimates and hand out “Traveling on the White Mountain Express” worksheet, which includes a simplified version of the projected timetable. Have students work individually or in pairs to answer questions.

Discussion & Reflection

Comparing estimates and modern travel. Review and share as best for your class. Compare railroad traveling times with student estimates and discuss.

- How close were their estimates?
- What surprised students?
- How has travel changed today?
- How has tourism changed?

Possible outcomes:

- Answers will vary, but students will likely be surprised about how long it took travelers to get to their vacations in the 19th century.
- Their estimates will likely be shorter than the actual times.
- Travel has changed today. People can get from Boston to the White Mountains in roughly three hours by car.
- This means more people can go on vacation and for shorter times.
- Tourism has become more accessible for people in the lower and middle classes, rather than just the upper class. People can go more places with cars for cheaper costs.

To reinforce concepts from the lesson, view the video “Mason Explains: Traveling to New Hampshire in the 1800s” together as a class.

Reinforcement

1. **Mapping skills.** Using the "Railroad Map of New Hampshire 1890," students practice their observation and mapping skills with the help of the "Analyze It! 1890 Map" worksheet.

Extension

1. **Map detective.** Students examine where many railroads ended with the "Traveling on the White Mountain Express" map investigation worksheet. If desired, show the images of the Profile House and the Mount Washington Hotel and explain that this was a new type of business in the White Mountains that drew tourists: grand resort hotels. Grand resort hotels were large hotels where guests came to stay for a long vacation and had dining and recreational experiences on-site. These hotels were so important that some railroad lines even went directly to the hotels. The Profile House no longer exists today, but people can still visit the Mount Washington Hotel.
2. **Pay your way.** Using the "Pay Your Way" worksheet and the "Railroad Passenger Ticket Prices" chart, students use subtraction and multiplication of decimals to figure out how much money it would cost for different groups of people to get from Boston to Wolfeboro, Rumney, and Bath. Note: Today, you cannot take the train from Boston to the White Mountains!

Supporting Materials

New Hampshire Historical Society Resources

1. Railroad Map of New Hampshire 1890
2. Railroad Map of New Hampshire 1857
3. Profile House, circa 1850–1870
4. Mount Washington Hotel, circa 1900–1987
5. Railroad Timetable 1882
6. White Mountain Railroad Map, circa 1890s
7. Railroad Passenger Ticket Prices 1860

Standards

“Moose on the Loose” Content:

- ✓ Students will understand that transportation developed and all of New Hampshire was more accessible to the public, tourism grew and developed in the state. (4.T6.1)

“Moose on the Loose” Skills:

- ✓ Gathering, Interpreting, and Using Evidence (4.S1.2)
- ✓ Communicating and Critiquing Conclusions (4.S2.1)
- ✓ Effective Historical Thinking (4.S3.1)
- ✓ Comprehensive Geographic Reasoning (4.S4.1)

New Hampshire Social Studies Frameworks:

- ✓ Geography: Places and Regions (SS:GE:4:2.2, SS:GE:4:2.4)
- ✓ Geography: Environment and Society (SS:GE:4:5.1)
- ✓ History: Economic Systems & Technology (SS:HI:4:4.2)

National Council for Social Studies Themes:

- ✓ Theme 2: Time, Continuity, and Change
- ✓ Theme 3: People, Places, and Environments
- ✓ Theme 8: Science, Technology, and Society

C3 Frameworks:

- ✓ Human-Environment Interaction (D2.Geo.5.3-5, D2.Geo.6.3-5)
- ✓ Human Population: Spatial Patterns and Movements (D2.Geo.7.3-5, D2.Geo.8.3-5)
- ✓ Change, Continuity, and Context (D2.His.2.3-5)
- ✓ Historical Sources and Evidence (D2.His.9.3-5, D2.His.10.3-5)
- ✓ Causation and Argumentation (D2.His.17.3-5)

Common Core ELA:

- ✓ Key Ideas and Details in Reading Literature (RL.4.3)
- ✓ Range of Reading and Level of Text Complexity in Informational Text (RI.4.10)
- ✓ Fluency in Foundational Skills (RF.4.4a)

Common Core Math:

- ✓ Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects in Measurement and Data (3.MD.1)

Lesson Vocabulary

grand resort hotels	(noun) Large hotels where guests come to stay for an extended period of time and find dining and recreational experiences on-site
infrastructure	(noun) Human-made features that help a society function, including railroads, bridges, and road systems
stagecoach	(noun) A horse-drawn passenger and mail coach running on a regular schedule between established stops (Merriam-Webster.com)
taavern	(noun) A place where travelers can stop for a meal and, especially long ago, stay overnight
timetable	(noun) A schedule of departures and arrivals at stations along a route
tourism	(noun) Travel for recreation