

Lesson Plan

Bound to Be New Hampshire

This is an adaptation by Linda Burdick of a lesson plan prepared by Barbara Brown. The adaptation is included as a sample lesson plan in the *New Hampshire History Curriculum, Book I* (1997).

What Students Learn

Students should be able to identify neighborhood, town, and state boundaries. Students should be able to distinguish between natural and man-made boundaries. Students should be able to identify major state geological features. Using maps, students should be able to explain how New Hampshire boundaries have changed over time.

Procedures

Question: Are there boundaries around me? Where are they? What do they mean?

- Using Sobel's book as a reference, have the children draw maps of their neighborhoods, including their boundaries. How far will their parents let them go on their own? Then have the students discuss their maps and boundaries.
- Make oak tag stencils of the outline of your town. (Town maps are available in your local library, historical society, town hall, or at the New Hampshire Historical Society.) Students use the stencils at their desks while you work with an overhead projector. Students trace the outline of their town on paper. Then guide them through adding bordering communities and natural features such as rivers. Students devise a compass rose and legends for their maps

Question: Where are there boundaries in New Hampshire?

- Small groups look at state maps of New Hampshire. What are some natural boundaries? Each group lists the major topographical features. Compare lists.
- Make oak tag stencils of the state. Use the same process as 1.B. Use the lists generated in activity 2.A., and have students draw these on their maps. Then discuss the political boundaries. Do they match the natural boundaries? Use other boundaries, such as major regions of New Hampshire. (See Brietbart map or Ladd map.)
- Do map worksheets in "Literature Based Map Skills" (Sniffen).

Question: How were the natural boundaries in New Hampshire formed?

- Show the video, "Franconia Notch State Park." (See student worksheet for directed viewing.) The video illustrates the glacier effect on the New Hampshire landscape and introduces vocabulary. [*Ed. Note: This video made in the mid 1990s is not available through the New Hampshire Historical Society.*]
- Give students fact sheets about glaciers. (Lacasse, 1977, and see following pages.) Read aloud and discuss.

- Make a model of a glacier. Freeze a large pan of ice with colored aquarium rocks mixed in. Place on a "mountain" of soil. Let the ice melt. Students should record their observations.
- Color an outline map of North America. Color land one color and the ocean blue. Using the Holt science book, students sketch in the boundary of the glacier. Students take cotton balls and glue over the sketched in area representing the glacier. Note the location of New Hampshire.
- Students list evidence they have observed of glaciers' effect in New Hampshire. What natural features were formed by glaciers?

Question: Have manmade boundaries in New Hampshire always been in the same place? If not, who moved them and why?

- Discuss the native peoples of New Hampshire. Where did they live? Using the "Indians of New Hampshire" map (or maps found in Calloway's books or "Facts on File"), see if you can find any natural boundaries between the different tribes. Write your conclusions. What natural features formed boundaries most often?
- Discuss European exploration and colonization. Use maps found in "Facts on File" to trace where they explored and settled in New England and New Hampshire.
- Using a series of maps (Drake, 1889; Bailey, 1960; Bardwell, 1989; Gilmore, 1989), compare boundary changes from the 1600s to 1997. Discuss why changes were made and the impact of population growth. Using maps, discuss Benning Wentworth's role in granting town charters in the interior of New Hampshire and what is now Vermont. Highlight the major boundary changes-- the Mason grant and the impact that had on future disputes, the 1740 boundary, the Indian Stream controversy, the Connecticut River boundary dispute, and the modern day boundary dispute with Maine. Have students plot the changes and the dates they occurred on a series of blank state maps. What conclusion can they draw? (That our state boundaries have changed over time.)
- Have students research in newspapers what citizens and editors had to say about different boundary disputes. (The New Hampshire-Maine line is the most recent--mid 1990s.) Role-play a decision to change a boundary. Have students be judges, lawyers, and citizens from both sides of the boundary.
- Using several maps and time lines, create a time line of important facts relating to New Hampshire boundaries.

Lesson Materials

- Student Worksheet: *Franconia Notch* [Video]
- "Bound to Be New Hampshire Fact Sheet"
- "New Hampshire's Boundaries: Background"
- Materials from the bibliography as listed in the procedures section

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- Wingate, Martha, principal at Gonic Elementary School, formerly Rochester Elementary School teacher. Several fact sheets on glaciers.

Assessment Tools and Techniques

- Students label boundaries, natural features, and neighboring communities on a blank town map.
- In an essay, students explain how glaciers impacted the New Hampshire landscape, and give examples. Use a rubric to evaluate.
- Students label man-made boundaries, natural features, neighboring states, and country on a blank New Hampshire map.
- In an essay, students explain that New Hampshire man-made boundaries have changed over time, and give examples. Use a rubric to evaluate.

New Hampshire's Boundaries: Background

New Hampshire was shaped by the Great Ice Age. The mountain tops were scraped off. The glacial melt made streams that changed the surface. Boulders were moved to other places. The Connecticut and Merrimack Rivers were great glacial lakes as were many other rivers. The lowlands were pushed down due to the weight of the ice. Therefore, the ocean was further inland than today. "The glaciers did more than any other one thing to shape the land we know today." (Bailey, 1960)

Political boundaries have changed over time. The Abenaki tribes seasonally roamed over territory encompassing present-day Vermont, New Hampshire, Maine, and part of Canada. Sub-tribes had distinct territories within New Hampshire. When Europeans came to settle, they defined the boundaries of the different colonies. Sometimes the boundary decrees made little sense because of ignorance of the geography of the land. When John Mason received his charter, he assumed that the southern end of the Merrimack River continued westward instead of turning north, and thereby the stage was set for continuing border disputes with Massachusetts. Massachusetts understood their boundary to include all land three miles south and west of the Merrimack River and three miles north of its headwaters (at Lake Winnepesaukee) in a line running northwest.

The boundary between Massachusetts and New Hampshire was "settled" under the King's Decree of 1740--the southerly boundary was drawn due west from the most southerly curve of the Merrimack River at Lowell. Both States approved a later survey, made between 1885 and 1898. "Starting from the sea, it runs in a wavy line for thirty miles, north of and roughly paralleling the Merrimack River at a distance of three miles therefrom, and follows a straight, if not absolutely due western, course to the Connecticut River." (Murphy, 1938)

There were also disputes with New York. There was a great deal of argument about where the boundaries of New Hampshire were. In fact, Governor Benning Wentworth thought New Hampshire included all of what is now Vermont, and started chartering towns there. However, the governor of New York also claimed Vermont and started chartering towns in the same area. The dispute was sent to the king to be settled. He decided in 1764 that all land beyond the western bank of the Connecticut River belonged to New York. (Bailey, 1985) The boundary between New Hampshire and Vermont runs from a point on the 45th parallel, for about one and three-fourths miles to the west bank of the Connecticut River. The boundary then follows the river for 168 miles. The west bank of the river was set by the Supreme Court in a decision in 1934. (Murphy, 1938) Again, this is an interesting story, as the western boundary changed depending on court cases fought with neighboring Vermont.

The commissioners of the king made a survey in 1737 to originally establish the eastern boundary between Maine and New Hampshire. "By this original survey, the eastern boundary line passed through the mouth of the Piscataqua Harbor and up the Newichwannock, part of which is now called Salmon Falls, and through the middle of the same up to the farthest head thereof and from thence two degrees westerly until 120 miles be finished from the mouth of Piscataqua harbor aforesaid or until it meets his majesties other governments; and that the dividing line shall part the Isle of Shoales and run through

the middle of the harbor between the islands to the sea on the southerly side, and the south-westerly part of said islands shall lye in and be part of the providence of New Hampshire.”(Murphy, 1938)

Other surveys were done to establish the eastern boundary. A "final" survey was done in 1874. This survey established the line through the northern forests, the White Mountains, and south through the Salmon, Cocheco, and Piscataqua Rivers to the ocean. In this survey, the three southern islands in the Isle of Shoals are within the New Hampshire boundaries. The shoreline became the southern end of the eastern boundary. (Murphy, 1938) In the last decades of this century, New Hampshire and Maine have disagreed over where their boundary is located in relation to the Piscataqua River. As of 1997, that dispute was not settled.

The boundary between Canada and New Hampshire was established on August 9, 1842, by the Webster-Ashburton Treaty. “Commencing at the 'Crown Monument,' so called at the intersection of the New Hampshire, Maine, and Providence of Quebec boundaries, . . . thence by an irregular line along the divide to the head of Halls Stream and down the middle of that stream to . . . the 45th parallel of latitude.” (Murphy, 1938) The story that led up to this treaty is well-worth relating to the students, as it involved part of New Hampshire seceding from the United States to form what was known as the Indian Stream Republic!

Bound to Be New Hampshire Fact Sheet

By the East Rochester, N.H. Fourth Grade Teachers

Most of the state's lakes were formed by the action of the great glaciers that covered the state four times to enormous depths of 8,000 feet or more. Grinding relentlessly over the earth, they dug basins that filled with water to become lakes. Sometimes glacial till formed natural dams, which backed up water for miles.

Glaciers formed many of the natural features of present day New Hampshire. In addition to the lakes, huge circular valleys, known as glacial cirques, were scooped out. These form some of the most attractive scenery in the state. Southern New Hampshire has many hills shaped like whales' backs. These hills, sometimes clay and sometimes rock or other material, are called drumlins.

The glaciers were most "generous" to the state in the gift of boulders. They were trundled overland from their original sites with infinite slowness and "graciously" deposited in New Hampshire when the ice melted. These are found in incredible numbers and sizes. Some areas are entirely covered with great glacial boulders in weird and jumbled masses.

It is hard to believe that the boulders, even on the lofty top of Mt. Washington, were deposited there by glaciers. The Madison boulder is said to be the largest "erratic" boulder in the United States. It weighs almost 8,000 tons (7,257 metric tons) and is over 80 feet (24 meters) long.

New Hampshire's famous flumes are also relics of the Ice Age, as are the Polar Caves near West Plymouth.

The weight of the glaciers was so tremendous that the level of the land was pressed down much lower than it now is. When the ice melted, the land began to rise slowly, like a sponge that expands when it is no longer being squeezed. The melting ice also raised the level of the seas, and parts of New Hampshire that had once been land were submerged. The famous Drowned Forest near Jenness Beach was probably growing on the New Hampshire shore until the sea rose to overwhelm it.

Forces much older than the glaciers formed many major features of New Hampshire. Fantastic slow upward and downward movements of the land raised mountain chains or brought in shallow seas. Much of the mountain region owes its present form to the centuries-old processes of erosion. The enormous quantities of granite that are such a marked feature of the state were forced to the surface by the forces of heat and pressure deep in the earth.

New Hampshire divides naturally into six geographical districts: the North Country and the White Mountain Region, the Monadnock Region, the Lakes District, the Connecticut River Valley, the Merrimack Valley, and the Eastern Seacoast.

Student Worksheet: Franconia Notch [Video]

[Ed. Note: This video made in the mid 1990s is not available through the New Hampshire Historical Society.]

Name _____

CIRCLE WORDS THAT MEAN THE SAME AS THE FIRST WORD:

Notch = gap pass trail cave valley
Flume = trail boardwalk gorge cliff river

CIRCLE EACH ACTIVITY THAT YOU CAN DO WHEN VISITING FRANCONIA NOTCH STATE PARK:

rock climb hike camp hunt fish shop at the mall
ski swim bike take pictures paint rest

CIRCLE WHAT YOU CAN SEE WHEN YOU VISIT FRANCONIA STATE PARK:

wild animals airport wild flowers tourists lakes
a school a rock face a cable car a church

FILL IN THE CORRECT NUMBERS AS YOU HEAR THEM ON THE FILM.

1. The Old Man of the Mountain Profile is _____ feet above the valley.
2. The White Mountains are _____ million years old.
3. The Ice Age happened _____ thousand years ago.
4. Most of the grand hotels were built in the (check one) _____ 1600s _____ 1700s
_____ 1800s _____ 1900s
5. The Aerial Tramway can carry _____ passengers.
6. The main form of transportation to the mountains from Boston and other cities was by train _____ years ago.

CIRCLE ALL OF THE WORDS THAT TELL HOW FRANCONIA NOTCH WAS FORMED:

volcanic action bulldozers wind action frost and ice action
earthquakes water action forest fires sun gravity

WRITE YES OR NO IN THE BLANK BEFORE THE SENTENCE.

1. _____ The White Mountains are older than the Rockies in the western U.S., the Alps in Europe, and the Himalayas (including Mount Everest) in Asia.
2. _____ The bedrock under most of the state of New Hampshire is granite.
3. _____ Franconia Notch is still changing.
4. _____ People are responsible for a lot of the damage, which is done to the park.

CIRCLE EACH ONE AS YOU SEE IT OR HEAR ABOUT IT ON THE FILM: Cannon

Mountain the Flume Pemigewassett River the Basin aerial tramway
Mt. Lafayette Profile Lake Eagle Cliffs Maine, Vermont and New York

Curriculum Information

Information relating to the *New Hampshire History Curriculum* refers to the K-12 resource in two volumes developed by the New Hampshire Historical Society in partnership with Public Service of New Hampshire, the New Hampshire Department of Education, and the New Hampshire Council for the Social Studies. The K-6 volume is available on-line through the school programs section of the Society's Web site (<http://www.nhhistory.org>).

Grade Level

Elementary School and Middle School

New Hampshire Social Studies Standards

Civics 1, 2, 4; Geography 1, 2, 4, 5; US/NH History 1, 2, 5

New Hampshire History Curriculum Focus Topics

Boundaries

New Hampshire History Curriculum Eras

To 1623: Different Worlds Meet

1623–1763: Colonization and Settlement

1763–1820s: Revolution and the New Nation

1801–1861: Expansion and Reform

1850–1877: Civil War and Reconstruction

1870–1900: Development of the Industrial United States

1890–1930: Emergence of Modern America