



Learning on the Great Lakes Seaway Trail *One of America's Byways*

Cultural Lesson #7

Subject: Harvesting fur, ice, timber and minerals

Grade Level: 4 – 6

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Anticipatory Set:

Besides dairy farming what are some of the other “resource-based” industries in New York State?

New York State Standards:

Social Studies: Standard 1.1, 1.2 - History of the United States and New York

Math: Standard 5c – Measurement using formulas on word problems.

Language Arts: Standards 1,2,3,4

Arts: Standard #2 – Knowing and Using Arts Materials and Resources

Objective:

The students will see how people throughout history have used New York State's natural resources to make a living. Students will write an essay on what they learned about trading and bartering during the fur trading post activity. The students will solve mathematical word problems that connect with the harvesting of ice.

Purpose:

The purpose of this lesson is to show the students how people have adapted to their environment using its natural resources to survive.

Summary:

The dairy industry has become New York's number one agricultural business. Besides dairy farming New Yorkers harvest a number of items from the state's natural resources. In the early 1600's the fur trade business was one of the main reasons why the French, British and the Dutch came to settle in the region. Lumber and natural minerals was another resource that people found to harvest in New York. The demand for dairy products in the new developing cities caused a need for natural ice for refrigeration.

Fur Harvesting:

In the 1520's England and other European countries were finding beaver pelts to be very scarce and were unable to meet the demand for the fur. High fashion in those days was garments were made out of fur. Beaver pelts were in more demand than other furs due to the soft under fur it had. The beaver's hair is shielded by microscopic interlocking scales that seal out water. The fur was great for making hats that could hold their shape and style through rain, snow, and hard wear.

During the exploration of the new world French explorers discovered the abundance of quality beaver pelts that they were able to trade with the Native Americans for pots, knives blades, etc. The French controlled the waters in the northern part of the Great Lakes and St. Lawrence River. They conducted business with the Huron Indian Tribes. The British and Dutch followed with having several trading companies in the



Learning on the Great Lakes Seaway Trail

One of America's Byways

central and south part of New York State. Fur became the continent's cash crop and the beaver pelt was its gold standard. Fur caused more exploration, colonization and eventually warfare in the region.

European kings granted monopoly fur rights in North America with little supervision as long as they got their share of the taxable income. In 1600, Henry IV of France granted Pierre Chauvin a ten year monopoly of all of St. Lawrence River fur trading providing he established a colony of 500 people. In 1602 Chauvin died and his partner returned to France in 1603. Samuel de Champlain was one of the party to return. Champlain returned to Canada in 1608. He delegated the fur trade business to one of his lieutenants and he went on to explore, building on his relations with the Indians. He also assisted the settlers, and built forts. He was considered the "Father of Canada."

Robert Cavelier, Sieur de la Salle operated a large fleet of canoes ranging north far up the Ottawa River to the south into Michigan Lower Peninsula and Green Bay. He came up with an idea of having a ship built to carry the fur instead of using canoes. The ship, *Griffon* left the entrance of the Niagara River to sail for Green Bay on August 7, 1679. On September 18 the *Griffon* left Green Bay fell into a four-day storm and never made it out of the Great Lakes.

France issued a new policy that there were only twenty-five licensees for fur traders, but this policy could not be enforced. A large unofficial group of independent Frenchmen, *voyageurs*, established their own trade with the Indians or trapped beaver themselves to gain profit from fur trading. They used large bark canoes that were about 35 to 40 feet long and about 6 feet wide. The bows and sterns were high crescent shape that deflected icy spray in the rapids. The shell was easily punctured so they could not run the canoe up to landings. The vessels withstood the rapids because of their flexibility and buoyancy. There would be about 10 voyageurs in a canoe for 14 hours a day venturing from Montreal to the north shore of Lake Superior.

There was talk about a shorter route to Europe through the Hudson Bay. The British had formed a company called the Hudson's Bay Company and three other fur trading and processing posts at St. James Bay Fort Albany, Moose Factory and York Factory. The supply of Indian trade goods was considered superior to that of the French. Indians as far as Lake Superior began bringing pelts to the British's Moose Factory. The French policy of only 25 licensees was being enforced, men arriving to Montreal with furs were being turned away and heavily fined for illegal trade. This caused voyageurs fur traders to head for the Hudson Bay for trade.

The French outnumbered the British, but the British had the French sandwiched between the Hudson Bay operations and their thirteen colonies to the south. The English had the Iroquois as allies, who would kill French fur traders on the Ottawa and St. Lawrence River. After the Battle of Quebec in 1759 the British adapted the French's methods, routes, maps, and voyageurs and built up the fur trade to new heights and increased their profits. In 1782 the British formed the English Canada's Northwest Company that operated with 2,000 employees.



Learning on the Great Lakes Seaway Trail

One of America's Byways

After the American Revolution a young German immigrant, John Jacob Astor, went to work in a New York furrier's warehouse beating dirt out of the pelts. He started to buy and sell a few pelts on his own. Astor went on looking for better pelts and started trading with the Iroquois. He exported fur pelts and imported musical instruments to resell in New York. In 1808 he had built up a business called American Fur Company, where he undersold many of his competitors. As the fur trade continued some exploited the Indians with liquor and a credit system. The Government got involved in the fur business and established official fur posts to control the trade. Astor convinced the government to build forts to protect the fur business against Canadian intruders. In 1822 the government stepped out of the fur business. Astor had full control of the fur business in the country from south of the lakes up to the northwest coast from 1817 to 1832. Astor sold his business in 1835. Canadians moved out of the Northwest Company and it merged with Hudson's Bay Company. Slowly the fur trade gave way to lumber.

Timber Harvesting:

Lumbering was once one of New York State's important industries. Logging began in the Adirondack region around 1813. Towns like Tupper Lake, Lyon Falls, Watertown, Carthage, Potsdam, Glen Falls, Fulton, Hudson Falls, and many others flourished with lumber and paper mills. Traditional logging was hard physical work using basic tools such as the axe. In the late 1800's the crosscut saw was designed where two experienced men with the crosscut saw could cut about 100 trees a day, six days a week.

In the fall loggers cut, barked and skidded trees and cleared hauling roads. In January the loggers would start hauling loads of logs. The men would load logs from skidways onto sleds and haul them to rollways and banking grounds. Once the ice went out of the lakes, holding ponds, and rivers, the river drivers would release the logs downstream to the mills. Timber was used mainly for building until the 1870's, when the wood could also be used for papermaking pulp. Hemlock was used for tanning. Tanneries in the Adirondack region would process cattle hides into leather to make soles and uppers for shoes and boots.

In the twentieth century the inventions of chainsaws, steam driven cranes, and trucks made cutting trees and moving logs a lot easier. With modern improvements lumberjacks did not have to live in logging camps anymore. They could settle into towns with their families and commute to work.

Mineral Harvesting:

New York State has had several mines, quarries, and wells to harvest the natural resources in the state. Some of the natural resources you can find in New York are:

1. Clay
2. Pig iron
3. Salt
4. Sand and Gravel
5. Sandstone
6. Limestone



Learning on the Great Lakes Seaway Trail

One of America's Byways

7. Talc
8. Pyrite
9. Zinc
10. Petroleum
11. Lead
12. Silver

Fish Harvesting:

In Lake Ontario some of the fish you can find are:

1. Bullhead
2. Catfish
3. Herring
4. Pike Perch
5. Sturgeon

Ice Harvesting:

Prior to the 1830's food was preserved through salting, spicing, pickling, or smoking. Butchers would cut their meat for a day's trade at a time. Farmers would take and deliver their milk to the cities at night to keep the milk from spoiling. Ale and beer were manufactured during cooler months.

In the early part of the ice industry the farmers would harvest small amounts from local ponds or lakes. Ice was considered a luxury and was not commonly available to the public. Improvements with the icebox created the demand for ice. Food could be transported by ship or railroad to more distant places. By 1880, the American public was consuming an estimated 5 million tons of ice per year.

Knickerbocker Ice Company of New York was one of the major conglomerates of ice firms forming in New York State. The ice business had large number of employees during the winter harvest and fewer men during the rest of the year taking care of loading the ice onto the railroad cars.

Snow and slush had to be removed from the ice pond, they would use a team of horses pulling a large scoop that scraped and cleared the pond's surface. Next the men had to make a channel of water cleared next to the plant. The men would measure and mark a long straight line on the frozen surface using a small saw about twelve to eighteen inches long with a long handle. Then a horse-drawn marking saw was set on the line. The saw had a series of teeth that cut into the ice about three inches deep along the line. The saw had an arm, which extended ninety degrees from it and scratched a parallel 32-inch line along the ice's surface. The saw was moved over to the parallel line and cut three inches deep and also drew another 32-inch parallel line. This process continued until there were a series of parallel rows cut three inches deep on the surface. The ice surface was then cut crossways with 22-inch intervals until the surface had a checkerboard pattern with 32 x 22 inch rectangular appearance.



Learning on the Great Lakes Seaway Trail

One of America's Byways

A second team of horses with an ice plow that had larger teeth would deepen the cuts to eight to twelve inches, depending the thickness of the ice. Large rectangular sections were cut free with handsaws used by workers. The sections with about fifty pre-scored cakes of ice would float in the open water to the water-box near the ice plant. The sections were cut into individual cakes of ice with a uniform cut of 32 x 22 inches. The ice was about 8 to 18 inches thick depending on the severity of the winter. These measurements were based on the average icebox at the time. The ice was stored in large warehouses using sawdust between the layers.

Fur Trading Post Activity

Materials:

1. Material to create a trading post. Have pots, pans, beads, and pieces of fur or hide.
2. Construction paper: You can have the students create the fur by having them use different colors of construction paper to represent an animal. For example brown paper = beaver, green paper= mink, red paper = fox, etc. They can cut out the paper in the shape of the animal it represents.
3. A worksheet with mathematical word problems solving problems on ice harvesting.

Teach:

1. Discuss with the students the different ways of harvesting natural resources. Discuss how people made a living harvesting these resources. Take the student to the computer lab and visit the web site: <http://www.adirondackhistory.org/logging/intro.html> this web site gives a brief summary and photos that shows the logging industry in New York.
2. List on the board the benefits and problems there are in harvesting these natural resources. For an example talk about how logging almost wiped out certain tree species and how the government had to regulate and replant forests. Talk about how we have learned through history the importance of using our resources wisely.
3. Discuss how fur traders and Indians bartered at trading posts. Instruct the students to break up into groups of two to three students. Explain to the students you are going to recreate a fur trading post. Assign each group an animal they need to make for the fur trade. Have students bring in pots, pans, beads, etc.
4. Have the students come up with a name for their post. Have the students make a sign for the post.
5. Have the students brainstorm on what the barter chart will have. For an example a cooking pot = 2 beaver pelts. Students need to come up with the values of each item in the trading post.
6. Have groups decide if they are Indians or fur traders and what items they will have to barter with.
7. Trading Post Day: Have the groups go to the trading post and conduct trades.
8. After the activity ask the students what they learned about trading.
9. Assign the students a writing activity where they write an essay on what they learned about trading using the barter system during the trading post activity.



Learning on the Great Lakes Seaway Trail

One of America's Byways

10. Create a math worksheet with word problems that are about ice harvesting or another type of harvesting. Hand out the math worksheet for a homework assignment.

Guided Practice:

Help the students work on creating the trading post and the materials they need to conduct the activity. Give the students a couple of sample problems that you can go over with them before you hand them the math worksheet.

Independent Practice:

The students will write an essay what they learned about trading using the barter system.

Closure:

What were the different types of harvesting done in New York? What were some of the problems they faced? What is the barter system?

Extended Activities:

1. Take the students to one of the local museums that show logging, mining, ice harvesting, etc.

Web Sites:

1. <http://www.adirondackhistory.org/logging/intro.html>
This web site gives a brief history with pictures of the logging in the Adirondack region.
2. <http://www.mapcenter.org/community/bcv-history2.html>
The web site gives a great description on how ice was harvested from the ponds and lakes in New York State.

Resources:

Fur Trade:

1. "Land of the Inland Seas: The Historical and Beautiful Great Lakes Country", William Donohue Ellis, American West Publishing Company, 1974, ISBN 0910118477
2. "The Fur Trade in Colonial New York 1686-1776", Thomas Elliot, Norton, University of Wisconsin Pr., Dec 1974, AISN 0299064204
3. "Expansion in New York", Ruth L. Higgins, Porcupine Pr., June 1976, ISBN 0879913541

Lumber:

1. "Adirondack Voices: Woodsmen and Wood Lore", Robert D. Bethke, University of Illinois Press, Feb 1981, AISN 0252008294
2. "Jacks, Jobbers and Kings: Logging in the Adirondacks 1850-1950", Peter C. Welsh, North Country Books, April 1996, ISBN 0925168300



Learning on the Great Lakes Seaway Trail
One of America's Byways

Ice Harvesting:

1. "Ice Harvesting In Early America", Dewey D. Hill, Elliott R. Hughes, New Hartford Historical Society, 1977, ASIN 0932052460
2. "Harvesting Ice", Lawrence Cirelli, Town Book Press, Sept 1999, ISBN 1892657090

Mining:

1. "The Iron Ore Eaters: A Portrait of the Mining Community of Moriah, New York, Valerie Rosenquist, Taylor and Francis, July 1990, ASIN 0824074300
2. "Through the Light Hole: A Saga of Adirondack Mines and Men", Patrick F. Farrell, North Country Books, Aug 1997, ISBN 0925168556

Children's Books:

Fur Trade:

1. "Wintering", William Durbin, Yearling, Dec 2000, ISBN 0440227593, ages 9-12
2. "The Broken Blade", William Durbin, Yearling, May 1998, ISBN 044041184x, ages 9-12
3. "John Jacob Astor: And the Fur Trade", Lewis K. Parker, Powerkids Press, Aug 2003, ISBN 0823964477, ages 9-12

Lumber:

1. "Black Water Ben, William Durbin, Wendy Lamb Books, Nov 2003, ISBN 0385729286, ages 9-12
2. "Giants in the Land", Diana Appelbaum, Houghton Mifflin, Sept 1993, ISBN 0395647207