Michigan Trees

Grades: 4 and 6

Approximate Length of Activity: One to two class periods

Objectives

Students

1. Students will understand the importance of forestry in the Michigan economy.
2. Students will develop an understanding of the steps in bringing a wood product to the consumer.
3. Students will name the careers along the path.

Michigan Content Standards: (Social Studies) 4-H3.0.1; 4-H3.0.3; 4-H3.0.5; 4-H3.0.8; 4-G5.0.1; 4-E1.0.1; 4-E1.0.8; 6-H1.4.2; 6-H1.4.3; 6-W1.2.2; 6-G2.2.2; 6-G4.3.1; 6-G5.1.2; 6-E3.1.2

Materials Needed

- "Forest to Home Flow Chart" worksheet

Activity Outline

1. Discuss the scarcity of trees. According to the World Book Encyclopedia, each person in the United States uses enough forestry products each year to create a tree 100 feet high and sixteen inches in diameter.
2. Discuss trees as a renewable resource.
3. Have students read and discuss the Forestry Worksheet
4. Have students complete the Forest to Home Flow Chart naming the step, the career and pasting the corresponding picture in the box.

Discussion Questions

1. What is Michigan's leading forest product?
2. Which has more forest timberland - the Upper or Lower Peninsula?
3. Name five careers related to forestry.
4. List ten items in your classroom made from wood.

Forestry Worksheet

Forestry In Michigan

Michigan is the leading state in Christmas tree production as well as other miscellaneous timber products. There are more than 2,500 companies involved in harvesting, transporting, brokerage or manufacturing of these forest products. The Upper Peninsula is 84 percent forested and contains 48 percent of the state's timberland.

Pulp and paper products contribute nearly $2 billion to Michigan's economy every year. Some of the careers created by these vast timberlands are for loggers, furniture manufacturers, pulp processors and paper manufacturers, forest fire fighters, insecticide specialist, land and water transporters, forest management personnel, tree biologists, etc.

Today, Michigan's forest economy is growing and showing increased productivity.

Valuable Production

Michigan produces a vast array of forest products, from paper to Christmas trees, industrial production of saw logs, pulpwood, veneer logs, poles, posts, fuel wood and miscellaneous timber products totaling 284 million cubic feet in 1984 -- an increase of 31percent since 1977. Of the 61percent of Michigan timber used to produce pulpwood, just over half are Aspen trees. Michigan is the leading state in Christmas tree production, producing 3.2 million trees in 1999 at a value of $41 million.

Growing Industry

Michigan's forest products industry is growing. An estimated 2,778 companies are involved in forest products harvesting, transporting, brokerage or manufacturing. Manufacturing accounts for 1,799 of these companies. Timber production is concentrated in the two northern regions of the state. More than half of the producers are located in the upper peninsula. On the other hand, almost three-quarters of the secondary manufacturers are located in the southern lower peninsula.

Stable Land Base

Half of Michigan (18.2 million acres) is forested. Of the forested acres, 17.3 million is timberland (meaning it supports commercial timber growth) – a base that has been fairly stable since 1980.The upper peninsula is 84 percent forested and contains 48 percent of the state's timberland. The northern lower peninsula and the southern lower peninsula contain 38 and 14 percent respectively of the state's timberland. Private ownership accounts for 64 percent of Michigan's timberland. Industrial owners have 20 percent of the total; farmers, 18 percent; other private forest owners, 26 percent. Michigan also administers the largest state forest system in the nation, which accounts for 21 percent of the state's timberland.

Economic Impact

Lumber and wood products, wood furniture and pulp products contributed nearly $2 billion to Michigan's economy in 1980. Pulp and paper contribute more than half of this total. In the same year, these industries, including forest management and logging, provided direct employment of some 63,000 persons. These jobs generated roughly an additional 76,400 jobs outside the forest products industry.

New Investment

Since 1981, new and established forest products industries have invested more than $41.3 billion in plant construction and expansion in Michigan, including six pulp or paper facilities, four composite wood producing facilities, 35 secondary or integrated manufacturing plants and at least six wood energy facilities. This investment also represents more than 3,700 jobs directly related to the operations of the industry.

Update

As 1990 approaches, Michigan's forest economy is growing and its forests are showing increased productivity. Since the forest economy was assessed in 1980 by the Michigan State University Department of Forestry, both biological and economic changes have occurred in this important sector, as indicated by new estimates of timber volumes, growth and removals provided by the U.S. Forest Service. New industry was located here and existing industries have expanded, in part, through the efforts of the Governor's Forest Products Industry Development Council; the Michigan Department of Natural Resources, Forest Management Division; and the Michigan Department of Commerce. Below is a summary of the status of the forest economy; the facts are substantiated by the tables which follow.

Increasing Resource

Michigan's forests hold an extremely productive timber resource. The current estimate for standing timber is 20.6 billion cubic feet of growing stock, an increase over both 1966 and 1980 measurements. The majority of growing stock is hardwoods (74 percent). Net timber growth (annual growth minus losses from insects, disease, fire, and other causes) is estimated at 753 million cubic feet per year. Cubic-foot growth equaled almost twice the timber removals in 1986.

 Name:_____

Michigan Forest Economy: The Facts

Timberland by Region in Thousands of Acres
1987 & 1980

Region	1987	1980
Upper Peninsula	8,258	8,289
Northern Lower Peninsula	6,653	6,702
Southern Lower Peninsula	2,430	2,477
Total	**17,342**	**17,468**

Percentage of Timberland by Type of Ownership
1987 &1980

Region	1987	1980
Industry	20%	20%
Farm	18%	18%
Other private	26%	27%
State	21%	20%
Federal	14%	14%
Other public	1%	1%

Timber Growth and Removals in Millions of Cubic Feet
1986 & 1979

Timber	1986			1979		
	Growth	Removals	Surplus	Growth	Removals	Surplus
Hardwood	521	326	196	472	218	254
Softwood	232	72	160	206	56	149
All	753	398	355	678	275	403

Forest Production and Values
1984

	Volume	Value
Pulpwood	174 million cubic feet	$89,956,000
Saw logs	91 million cubic feet	$87,378,000
Veneer logs	4 million cubic feet	$12,236,000
Posts and poles	3 million cubic feet	$4,092,000
Other round wood	12 million cubic feet	$5,411,000
Mill residues	0.1 million tons	$1,588,000
Domestic firewood	2 million cords	$102,781,000
Christmas trees (1986)	5 million trees	$50,700,000

Forest Products Firms and Distribution by Region
1986

	Upper Peninsula	Northern Lower Peninsula	Southern Lower Peninsula	State
Producers, truckers, brokers	506	379	94	979
Primary manufacturers	129	190	110	429
Secondary manufacturers	123	238	1,009	1,370
Total	**758**	**807**	**1,213**	**2,778**

Employment and Value Added by Forest Products
1980

	Direct Employment	Indirect & Induced Employment	Value Added (millions of dollars)
Forest management	3,500	NA	NA
Logging	2,290	2,739	NA
Lumber & wood products	16,400	16,285	$ 403
Wood furniture	14,190	11,721	$ 404
Pulp & paper	26,630	45,697	$ 1,972

State-Assisted Wood Processing Plant Investments
1981-1987

	Employment Created or Retained	Investment (millions of dollars)
Secondary manufacturing or integrated industry	$76.2	1,836
Paper and pulp	$991.8	1,300
Composite wood products	$114.0	485
Wood energy production	$97.0	121
Total	**$1,279.0**	**3,742**

 Name:_____

Forest to Home Flow Chart

Step 1 - *Tree in the Forest*
Career:

Step 2 -
Career:

Step 3 -
Career:

Step 4 -
Career:

Step 5 -
Career:

Step 6 -
Career:

Step 7 -
Career: