



Lesson 3 - The Logging Process



Nutshell

The lumbering era of early Wisconsin was a colorful and exciting time. This lesson will show the sequence of turning a raw material (trees) into a finished product (lumber). Students will hear the adventures of a northern Wisconsin tree, do an activity that will demonstrate why log stamps were so important, and put in order all of the people that were involved in turning a tree into lumber.

Concepts

- Many steps were involved in the process of cutting a tree down and turning it into usable lumber.
- Early logging in Wisconsin was done in the winter so that logs could be more easily moved and floated down river during the spring thaw.
- Wisconsin's forests helped provide necessary building materials for other parts of the country.

Objectives

After completing this lesson, students will be able to:

- Discuss two reasons why logging in the late 1800's in Wisconsin was done during the winter
- Organize the twelve jobs mentioned in the lesson related to turning trees into lumber in their proper order
- Locate two communities outside Wisconsin where Wisconsin wood was used and discuss why.

State Standards

ELA	M	SS	EE
A.4.1	A.4.3	A.4.4	B.4.8
C.4.3		B.4.4	

D.4.1

Total Estimated Time

1 hour and 10 minutes

Vocabulary

Bucker – the person who cut the tree trunk up into logs

Crosscut saw – a saw designed to cut across the grain of wood; what lumberjacks used in the 1800's and early 1900's to saw trees down

Cruiser – the person who estimates the amount of wood in a forest before it is cut

Lumber – logs sawed up for use

Lumberjack – a logger

Notch – a v-shaped gap

River pig – the person who floats the logs down the river to the lumber mill

Road monkey – the person who spreads hay on icy slopes to make it safe for the sleighs to travel

Sawyer – the person who used a crosscut saw to saw a tree down

Scaler – the person who measures each log down at the river bank and estimates how much wood is there

Skidder – the person who drags the logs out of the forest and loads them onto sleighs

Stamper – the person who pounds the lumber company's stamp into the end of each log

Swamper – the person who cut the branches off of the tree after it had been cut down

Teamster – The person who brings the loaded sleighs down to the river

Top Loader – the person who stands on top of the logs on the sleigh and arranges them into a pile



Undercutter – the person who cuts a notch on one side of the tree in preparation for cutting it down

Materials

Bucket
Candy (optional)
The logging story (Insert 3.1)
Job descriptions (Insert 3.2)

Teacher Preparation

Make copies of Insert 3.1 for all of your students. Also, make a copy of the job names and descriptions (Insert 3.2) and cut them apart.

Background Information

As this country was settled, the demands for lumber increased. By the early 1800's, Wisconsin's forests were helping meet the demands of westward migration and settlement. The demand for lumber within Wisconsin increased as the population rose from 3,000 in 1830 to 30,000 in 1840 and to 300,000 in 1850.

When the Civil War ended, the need for Wisconsin lumber increased dramatically. By 1869, the annual harvest of the state reached one billion board feet. This increased to a peak of 3.4 billion board feet in 1899. That year Wisconsin took over as the nation's chief lumber producer. (A board foot is a volume of lumber equal to 12"x12"x1", or 144 cubic inches.) Wisconsin lumber was used around the nation for homes, barns, sidewalks, furniture, boats, paper, gunstocks, barrels, etc.

The process of getting usable lumber out of Wisconsin's forests in the late 1800's was not an easy task. White pine was the tree of choice. It was tall and straight, and since it was a softwood, it

floated easily on water. Before the railroad was used, lumber companies depended on the state's waterways to transport their logs to the lumber mills. Lumber mills often depended on the waterways to also send their lumber to the lumber yards to be sold.

Wisconsin wood was used in many places besides Wisconsin. As settlement in the United States expanded, material was needed to build houses, farm buildings, and towns. Many of the places being settled were not as fortunate as Wisconsin in their wood resources. Many areas in the country lacking forests got their wood from Wisconsin.

Introduction

Ask your students what things need to be done to a tree to turn it into boards in a lumberyard. Some ideas might be cutting the limbs off, peeling the bark off, etc. If your students are having trouble coming up with ideas, ask them leading questions such as, "Does lumber in a lumberyard still have bark on it?" or "How does the tree get from the forest to the lumberyard?"

Activity 3.1 - A Tree's Story (20 min)

Tell the students that today you are going to be learning about how trees in the late 1800's went from standing in Wisconsin's forests to being wood in a lumberyard. Have your students take turns reading the story in Insert 3.1 to the class

READ STORY.

Discuss the story with your students after it has been read. Was there anything that surprised them about the story? Why did the lumberjacks cut the



trees down in winter? Which jobs were dangerous and why?

Activity 3.2 - It's a Tough Job, But Someone's Got to Do It (15 min)

Pass out the names of the different lumbering jobs as well as the descriptions found in Insert 3.2. Have your students pair up with the description that matches their job title or vice versa. Depending on how many students you have, some cards may be given to a pair of students. Once your students have paired up with who they think should be their partner, go around the room and check to see if any groups need to be shuffled around.

Next, have the students put the jobs in order of when they were done. Go over the answers with your students.

Activity 3.3 - A Mark of Ownership (15 min)

Have your students put all of their pencils and pens (or some other item that they might have more than one of) into a bucket. You could also have them choose a few pieces of their favorite candy from a mixed bag and then put them in the bucket. Mix the items in the bucket around, and then go around the room asking each student how many pencils, pens, or pieces of candy they put into the bucket. Randomly hand them the number of items that they tell you. The items will probably not be their own.

You will probably hear complaints that the pencil or candy they got back was not their pencil or candy. Ask them if it matters since they got back the same number they put in. Why does it matter?

Give your students a chance to answer. What could they do to make sure they got their own items back? Put their name on it! Allow your students to get their possessions back, and then explain that this is similar to what happened when logging companies floated their logs down the river. Loggers wanted to make sure they got the same logs that they cut, and they wanted to make sure they got all of them. That is why each company had its own stamp so people would know the log belonged to them!

Conclusion

Discuss with your students what they think it would have been like to be a lumberjack in the late 1800's. Be sure to include the role of women. What would women have done? They weren't usually lumberjacks, but some women had the job of being the cook at the lumberjack camp. Many, however, were on their own while their husbands worked in the woods. Since many lumberjacks were farmers, the wives stayed home and kept the farms going while the husbands were logging in the northwoods. The life of a lumberjack was very hard work, but in the next lesson you'll learn that they were still able to have fun despite all of the work and danger.

Extensions

- Have your students create their own logging company stamp. Hang these up in your room.
- Do the math activity found in Insert 3.3.
- Logging charades – have the students play the logging jobs they learned



about and have the rest of the students guess what job they held.

- Write classified ads for the lumberjack jobs.

Evaluation

- Conduct an evaluative discussion with your class using the following questions:
Why was lumbering done in winter?
What were some of the jobs of the lumberjacks?
Can you think of places where Wisconsin wood went?
What were some of the hardships of the lumberjacks?

Resources

- Kozlak, Chet. Lumberjacks and Logging Coloring Book. St. Paul, Minnesota: Minnesota Historical Society; 1982.

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Insert 3.1

You wouldn't believe my story if I told you. It really is quite incredible how I ended up in Iowa. I used to live in Wisconsin, just like you. Now I am part of a house in Des Moines. I'll tell you how it happened, and I promise that all of what I say is true.

I grew up in northern Wisconsin in a beautiful forest surrounded by my fellow pine trees. Yes, I used to be a majestic white pine tree. Birds and squirrels used me for shelter. I was gorgeous, especially when I was covered in a blanket of snow. I was proud to be part of that forest. That was a long time ago, though.

I enjoyed my life in the woods of Wisconsin, and I thought those days would last forever. In the late 1880's, however, things began to change. A man came through my patch of woods looking us white pine trees over very carefully. He was a CRUISER, and his job was to figure out how much wood and money could be gotten out of the forest. Some of the other trees had heard of this happening, and they said that it wouldn't be long until more men came and cut us down.

At first I was a little nervous, but the idea of being cut down and going somewhere was also exciting. I had been stuck in the same place my whole life. I wondered where I might be going.

Just as the other trees had said, it was not long before more men came into the forest with axes and saws and lots of other equipment I had never even heard of. I was a big, strong tree, so it wasn't long before they decided to cut me down. The first man I met was called an UNDERCUTTER. He used an ax to cut a notch on one side of me. He swung the ax over and over again until I had a big wedge missing from my left side.

I thought he was going to cut me down, but he stopped after he had chopped the wedge. Next, I met two men who worked together using a crosscut saw. That's a big, long saw with lots of big teeth and a handle at both ends. The men were called SAWYERS. They cut from my right side, opposite of where the big wedge had been chopped out. They stood on either end of the saw, and one of them would pull the saw towards himself and then his partner would pull the saw towards himself. As their saw reached the missing wedge, they yelled, "Timber!" at the top of their lungs. I was so startled I nearly fell over, and then I realized that I was about to fall over anyway! The sawyers ran from me as my trunk cracked, swayed, and came crashing to the ground.

I was now lying on the forest floor. I had never seen it up close like that. I barely had time to look at much before the SWAMPER came and trimmed off all of my limbs. Then a pair of BUCKERS came and cut my trunk into several logs. I was now ready to be moved. How exciting!

I tried to wait patiently for the SKIDDERS. I saw that these men moved logs onto a big sleigh. At first I wondered why these bundled up lumberjacks hadn't waited until it was



warmer to cut us down, but now I understood. It was much easier to move us logs around on the ice and snow.

There was a man on top of the pile of logs on the sleigh called a TOP LOADER. He had quite a dangerous job. He helped me to the top of the log pile on the sleigh. I almost rolled on top of him! He must be a brave man to do that job. He finally got me balanced and then stood on top of me to help put more logs on the sleigh.

Before I went anywhere on the sleigh, I noticed that the roads through the forest had water from the river sprayed on them so that there was a sheet of ice over all of them. This made it easier for us logs to be moved. There was also a man called a ROAD MONKEY who spread hay on the ice so that the sleigh would not go too fast down the slope to the river bank.

It was the TEAMSTER'S job to drive the sleigh down to the river bank. The sleigh was pulled by strong horses. Once I got down to the river bank, a SCALER measured me to see how much wood I could provide.

Next I was stamped by the STAMPER with a mark that looked like this: ☆. All of the other logs were also stamped with the same symbol. This was so that when we got to where we were going, people could tell which logging company we belonged to.

I couldn't wait to get to where I was going, so I impatiently sat at the frozen river's edge and waited...and waited...and waited some more. I had to wait there until the spring thaw! When the ice on the river melted and it began to flow, the craziest thing happened. I was pushed into the river with all of the other logs I had been waiting with. It was so cold!

Men called RIVER PIGS traveled with us on the river. Sometimes they would travel along the river bank, but sometimes they would walk on us logs while we were floating on the water! Some of the drivers drowned along the way when they slipped and fell between logs. I couldn't believe these people!

At one point, all us logs got stuck in a log jam. I couldn't move! The river pigs had to use explosives to get us unstuck, but not before we backed up on the river for two miles. Finally, after a long time floating down the river, we arrived at a lumber mill. I saw logs with all kinds of stamps like ◇, ⊙, and ⊖. All of the logs with a ☆ like me were grouped together.

At the lumber mill I was cut into boards like you might see in a lumberyard or hardware store. Then I was put on a huge river raft carrying lots of other boards. That's how I ended up in Iowa. You see, there weren't a lot of trees in Iowa in the late 1800's like there were in Wisconsin, so the people who lived there had to get wood from other places. Some of my friends went to Illinois, Missouri, or even Wyoming.



So, I was used to help build a farm house in Iowa. I've been here for a long time, and I have been a home for many people. I am proud to be part of this house.



Insert 3.2

Job Title	Job Description
Cruiser	Your job is to go through the forest before any trees are cut. You estimate how much money your boss will get from cutting the trees. You better be right, or he will lose money and you could get fired!
Undercutter	Your job is to cut a notch on one side of the tree using an axe. You are the first person to cut the trees. It is a very important job!
Sawyers	You two work with the big cross cut saw. You cut on the side opposite of where a big notch has been cut. When the tree is about to fall, you yell, “Timber!” and get out of the way!
Swamper	Your job is to cut all the branches off the tree trunk. These branches and limbs are not needed for making lumber.
Bucker	Your job is to cut the tree into logs. Some of those white pine trunks were really long, so there could be a lot of logs from a single tree!
	Your job is to drag the logs out



<h1>Skidder</h1>	<p>of the forest and help put them on sleighs. You will work with the top loader to pile a lot of logs onto each sleigh that will be taken to the river.</p>
<h1>Top Loader</h1>	<p>You have a very dangerous job. You must stand on top of the logs on a sleigh and arrange them so that a lot can fit on a single sleigh. You'll be lucky if you make it through the logging season without getting hurt.</p>
<h1>Road Monkey</h1>	<p>The logging roads are very icy which makes moving the logs easier, but it can also be dangerous when the sleighs are going down slopes. Your job is to spread hay on the icy slopes for safety.</p>
<h1>Teamster</h1>	<p>Your job is to bring sleighs full of logs down to the river. You used to use oxen for the job, but now you use horses. You and your horses work as a team!</p>
<h1>Scaler</h1>	<p>Your job is to measure each log once it has made it down to the riverbank. You want to let your boss know how much wood is in each log. The amount of wood is measured in board feet.</p>



<h1>Stamper</h1>	<p>Your job is to put the lumber company's stamp on the end of each log before it goes down the river. This way, your boss will be sure to get money for all of his logs.</p>
<h1>River Pig</h1>	<p>You have a dangerous job. You follow the logs down the river to the mill. Sometimes you walk along the banks of the river, but other times you stand on the floating logs. Don't slip!</p>



Insert 3.3

Lumber and Numbers

1. If a crew harvests 30 trees a day for a week (remember, they don't work on Sunday), how many trees would they harvest? _____
2. How many trees would they harvest in a 135-day season (Sundays have already been subtracted)? _____
3. If the lumber mill will pay \$15 per tree, how much money would the crew make in one week? _____ For the whole season? _____
4. If there are five companies sending logs to one mill and each company sends the same amount, how many came from each company if the mill receives 1205 logs?

5. If each lumberjack wears two pair of socks to keep warm and there are 50 lumberjacks in camp, how many sweaty socks are hanging from the rafters in the evening to dry? _____ Yuck!



Lumber and Numbers Answer Key

1. If a crew harvests 30 trees a day for a week (remember, they don't work on Sunday), how many trees would they harvest? **180**
2. How many trees would they harvest in a 135-day season (Sundays have already been subtracted)? **4050**
3. If the lumber mill will pay \$15 per tree, how much money would the crew make in one week? **\$2700** For the whole season? **\$60,750**
4. If there are five companies sending logs to one mill and each company sends the same amount, how many came from each company if the mill receives 1205 logs?
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5. If each lumberjack wears two pair of socks to keep warm and there are 50 lumberjacks in camp, how many sweaty socks are hanging from the rafters in the evening to dry? **100** Yuck!

