

LUMBERING DAY

Fourth Grade – Rahr Memorial School Forest

ENDURING UNDERSTANDING

Lumbering and logging played important roles in the history of Wisconsin.

ASSESSMENT

Students will be able to identify the names and purposes of lumbering tools, lumberjack games, and will be able to discuss the typical life of a lumberjack in Wisconsin.

WISCONSIN MODEL ACADEMIC STANDARDS

Social Studies: B.4.3, B.4.8, B.4.9, D.4.4

CLASS OUTLINE

- I. Set-up
- II. Sample Schedule
- III. Introduction
- IV. Tools and life in a lumbering camp
- V. Woodsmen and river drivers
- VI. Paul Bunyan and tall tales
- VII. Be a Lumberjack/ Jill
- VIII. Life and games at lumber camp
- IX. Forest hike
- X. Conclusion
- XI. Clean-up

Safety

Optional/ Rainy Day Activities

Additional Information

Resources

School Forest Map

MATERIALS

Tools and Life in Lumber Camp

- cross cut saw
- file
- peavey
- cant hook
- come along
- sharpening wheels
- broad axe
- single-bit axe
- double-bit axe
- examples of barn beams
- beam peg
- ox shoe
- horse shoe
- 8-foot piece of lumber
- chalkboard
- chalk

Woodsmen and river drivers

- tv and vcr
- “Woodsmen and River Drivers” video

Paul Bunyan and all tales

- Paul Bunyan storybook
- Paul Bunyan painting
- lined paper
- clipboards
- pencils

Be a lumberjack/jill

- log cradle
- two logs
- peaveys (2)
- cant hooks (2)
- come along
- cross cut saw
- rope (for safety line)

Life and Games at Lumber Camp

- historic photos
- broom handle “pike poles” (2)
- long logs (2)
- carpet tubes (2)
- cast iron fry pans (4)
- frisbee “pancakes” (4)
- large fry pan (1)
- measuring tape
- rope
- matches
- stump
- hatchet
- metal can
- log for burling
- logs for carrying (2)
- come along
- stop watch

Forest hike

- Tree i.d. books

CLASS PROCEDURES

I. Set-up

For Lumbering Day, please reserve the Krejcarek Building and the Ivon Greene cabin. You will also need the Ehlert Lodge if you plan to do a Lumberjack breakfast.

After setting up a date, teachers are also responsible for filling out and turning in a field trip request form. Teachers should schedule a time when the School Forest Coordinator can meet with them at school to discuss the visit. Teachers will be asked to teach or co-teach one of the activities while the student groups rotate through the activities during the day. The School Forest Coordinator can also teach at one of the stations during the day if available. Preparation time will be needed to review the activity.

Decide which activities to do during your visit. You may want to do some at school before or after your visit. All of the materials for this day can be set-up at the School Forest. Please let the School Forest Coordinator know your class needs. Teachers should bring a few things from school: first aid kits, emergency contact information, School Forest keys, extra clothing, and any additional activities they feel necessary for the class. Students will need to bring a bag lunch (with a drink and nothing that needs a microwave) and adequate outdoor clothing for the day.

Some schools choose to include a lumberjack breakfast (see information in the Additional Information section of this lesson plan), best dressed lumberjack contest, and/or guest speakers during their visit to the School Forest. Please let the School Forest Coordinator know if help is needed with any of these things.

II. Sample Schedule

8:30	Leave School
9:00	Arrive at School Forest
9:00 – 9:15	Introduction
9:20 – 9:45	Lumbering Tools Presentation
9:45 – 10:30	Group 1: Be a Lumberjack/Jill Group 2: Life and Games of Lumber Camp
10:30 – 11:15	Group 1: Life and Games of Lumber Camp Group 2: Be a Lumberjack/Jill
11:15 – noon	River Drivers video and discussion
Noon – 12:40	Lunch
12:40 – 1:20	Group 1: Paul Bunyan and Tall Tales Group 2: Forest Hike
1:25 – 2:00	Group 1: Forest Hike Group 2: Paul Bunyan and Tall Tales
2:15 – 2:30	Conclusion
2:30	Depart
3:00	Arrive at school

III. Introduction

This day at the School Forest will provide students with hands-on experiences and valuable information. The day will be started with stories and tales of being a lumberman in Wisconsin. During the day, students will be given a chance to try their hand at being a lumberjack or Jill. Students will read the story of Paul Bunyan and learn about writing their own tall tales. Current logging techniques will also be highlighted and compared to past techniques. On a forest hike, classes will explore different types of forests and their uses.

IV. Tools and life in a lumbering camp

“There is daylight in the swamp”

- Logging vs. lumbering

- The process – white pine tree to log to lumber
 - Demonstrate – cross cut saw, axes (single bit, double bit, and broad)
 - Sharpening – saw (file) and axes (wheel)
 - Other tools – pike pole, come along, barn beams and pegs, etc.
 - Snaking logs out – oxen, horses
 - Harness – collar
 - Dangers of logging
 - Life in the camp
- Questions?

V. Woodsmen and River Drivers Video and Discussion

Start this activity by talking with the students about what they already know about lumbering history. Discuss the importance of lumbering in Wisconsin from the human and environmental views.

Watch the video “Woodsmen and River Drivers” to see what life was like for lumbermen before 1930. Listen to people that worked as lumbermen tell stories and share information. Discuss with class.

VI. Paul Bunyan and tall tales

Read the story of Paul Bunyan. Discuss tall tales. What makes them memorable? Where do they take place? What is/ was the role of tall tales? Now have the students work on creating their own tall tale character and write a short story about them.

VII. Be a Lumberjack/Jill

Discuss the different tools that will be used (cross-cut saw and peavey). Demonstrate. Review safety procedures. Have each student try using the tools.

Cross-cut saw:

The cross-cut saw requires two people to work together to cut through a log. The class should all stand away from the cutting area, two students can sit on the log to hold it down. Demonstrate to the students the correct way to use the saw. Then, two students can be selected to cut. The students should stand sideways to the saw and use their hips and legs to PULL the saw through the wood. They should not push the saw. Make sure to watch the saw and the students carefully AT ALL TIMES. Make sure the students do not reach under the saw or stand close to the saw or the people that are cutting. As the saw gets closer to the bottom of the saw, remind the students to hold on to the saw tightly and everyone to stay back until the saw is out of the way (students may try to reach for the “cookie” that is cut off). After everyone has tried the two-man saw, lead a discussion about the strength and endurance it must have taken the lumberjacks to cut all day. Also, you may want to discuss how the crosscut saw is no longer used due to advancement in technology.

On-Land log roll:

To do the on-land log roll, the students will use the peaveys and cant hooks to roll the log over the ground to a determined point. Teams of two will work together to roll, pick up, and pivot the log toward the determined direction. Remind students to be safe with the peaveys. After everyone has tried the log roll, lead a discussion regarding when and why the lumberjack would use this skill.

VIII. Life and Games at Lumber Camp

Discuss with the class what life in the lumber camp was like. Working conditions and also living conditions. Discuss how many days a week they worked and what they did on their day off. Pass the historic photos around and talk about some of them. Then introduce the games, split the group into smaller groups, assign an adult to each of the stations that need one for safety (*), and then start the rotations to each game. If you do not have enough adults for all of the stations, you can omit some and/or combine 2 into one station

- Log toss * – use carpet tubes to see who can throw it the furthest
- Pan throw * – test who can throw the large fry pan the furthest
- River driver * – walk down the logs holding a pike pole (broom stick). This is not a race, just try not to fall into “the river.”
- Pancake flip – See how many times you can flip the “pancake” (Frisbee) without dropping it or taking a break.
- Match split * – Place a match in a slit in the stump. Now the goal of this activity is to get as close to the match as possible using a hatchet. Stand with your feet apart and axe standing straight up from your hand which should be by our waist. Now, just let the axe swing down (using gravity) to the stump. Tell students that they are NOT to swing the axe down, only let it fall (while keeping hold of the end of the handle). This activity needs supervision AT ALL TIMES. After the student has tried three times, the teacher should take the axe and hand it to the next student (once they are ready). It is possible to light the match with the axe. Used matches should be placed in the metal can.
- Burling * - a student has another student on each side of them and they hold their shoulders while they try to walk and roll the log
- Come-along race * - have the kids carry a log using the come-along to one spot, drop it, and pick up another one to carry back. The kids can time how fast they can do it.

Get the class back together to discuss how all the games went. What is something new you learned at this station?

IX. Current techniques

Watch the video “A Forest Legacy” to find out more information about current logging techniques. (This video could also be shown at school.)

X. Forest hike

Take the students on a hike to learn more about different types of forests and how humans use them. Visit the areas that were logged in 2012. The clear cut along frog lane is a good depiction of what Wisconsin looked like after the lumberjack era.

You may want to use the Forest Hike Guide found in the back of this lesson plan.

XI. Conclusion

Lumbering and logging are an important part of the history of our state. Review the information that was covered during the day and discuss what the students learned.

XII. Clean-up

- Return supplies to building
- Take garbage out to dumpster
- Close windows, shut off all lights, lock doors, shut driveway gate

- Give the School Forest Coordinator feedback on how to make this trip better in the future.

Safety

Please stress safety with your students throughout Lumbering Day.

While at the School Forest, teachers should carry first aid kits. You can bring these from your school or use the ones at the School Forest. The first aid stations can be found in the Ehlert Lodge office and the upstairs of the Krejcarek Building. Please report any safety issues to the School Forest Coordinator.

Students should be supervised at all times. If you decide to go off trail, go in a clear area where branches cannot swing back and hit someone. Be aware of the plants you are traveling around so as not to pass by thorn covered plants.

Optional/Rainy Day Activities

If the weather is not good, make sure students are prepared with proper clothing. It is encouraged to still go outside for a hike and enjoy the rain if it is a safe thing to do. Please let the School Forest Coordinator know if you will need any equipment or supplies for additional activities. These activities can be used to add on to or replace the outdoor activities and can also be set-up in stations indoors. *They would also make great activities to do back at school.*

Your Life in a Tree Cookie activity – show students a tree cookie. Discuss how every year the tree creates a ring and these rings can tell us a lot about the tree. The tree rings can tell us if the tree was ever stressed by lack of water or sun, if the tree had good growth in a year, if a fire scarred the tree, and many other things. Have each student create their own life in a drawing of a tree cookie. Start with their birth date in the center and draw one ring for every year until now. They can add information about events that happened in their lives (for example, a brother or sister's birth, first word, learning to ride a bike, starting school, learning to read, etc).

The Logging Process – this activity is from “The Changing of the Land: A Wisconsin Forest History Unit” and can be found in the following pages of this lesson plan.

Current Techniques – watch and then discuss the video about current logging techniques

Additional Information – found on the following pages

Resources

Central Wisconsin Environmental Station. [The Changing of the Land: A Wisconsin Forest History Unit](#). 2002.

Learning, Experiences, and Activities in Forestry Program. [Forestry Lesson Guides](#).

Wisconsin Department of Natural Resources. 2004

Manitowoc Public School District curriculum

Lesson plan updated by Patty Brodeen Maher, School Forest Coordinator, Manitowoc Public School District. February, 2004 and revised July, 2008, updated 2012.

FOREST HIKE GUIDE



RED PINE PLANTATION

Across the road from the driveway, enter “Hemlock Trail.” Stop at the intersection of Frog Lane and Hemlock Trail to discuss the “Red Pine Plantation.”

1. “What do you notice about these Red Pine trees?” (They were obviously planted – how do you know that – because they are in straight rows.)
2. Explain and show that pine trees grow in sections, one year between each circle of branches. Tell students, “Counting from top to the bottom, there are about 50 years of growth. That means that these trees were planted about 50 years ago. They were planted by fifth graders.”
3. “Note the dead and broken branches on the lower parts of these red pines...why do you think they are dead and broken?” (Absence of sunlight)
4. “Examine these red pine needles - how would you describe them?” (Long, two in a cluster, picky on the sharp end)
5. “Red pines are often planted for lumber because they grow straight.”
6. “Now, let’s look at this small, ‘White Pine.’ Note the same evergreen yearly growth pattern – one space for each year – Examine the needles – Describe them - (Short, soft, 5 in a cluster)
7. Continue on Frog Lane to the “Forest Story” sign.

ASPENS

1. “Why do you think these small Aspens are bending outward?” (To get more sunlight)
2. “Describe the bark” (Smooth, light colored)
3. “How is the bark different from the white birch bark?” (It is not white, it does not peel.)
4. “Aspens are the first trees to grow after a forest fire or a big windstorm... What does that tell us about the habitat needs of aspens?” Accept a few responses... Yes, they need SUNLIGHT and lots of it.”
5. Explain – “Aspens only get to be about 40 to 50 years old. They are the first to grow in disturbed area and they provide shade for small trees such as pines, birch, and maples.”
6. “Do pines, birches, and maples like full sun?” (No, that’s why they depend on the aspens to provide shade so they can get started.)
7. “Pick up an aspen leaf – note its shape, kind of heart shaped with saw-tooth edges”
(If you are here in the winter – note the short, pointy bud – “What is a bud?” (Leaves grow from buds. “When do trees ‘set’ the buds on the trees?” (Autumn)
8. “Feel the leaf stem – note that it is flat – that’s why they shake and wiggle in the slightest breeze – that’s why these are sometimes called ‘quaking’ or ‘trembling’ aspens.”
9. “Would these aspens make good logs?” (No, too small, too soft, too crooked)
10. “We use aspens for pulp for paper. What is pulp?” (Ground up tree fiber)
11. Continue on the trail to the hemlock forest.

HEMLOCK FOREST

1. In the Hemlock Forest, examine the hemlock trees - “NOTE the needles on the hemlock trees – how are they different from the needles on the white pines and red pines?” (Hemlocks are short, flat, and they have a white stripe on the bottom.) Hemlocks are also evergreens, (conifers) like the red and white pines.
2. “Look for a hemlock cone...they are tiny and have soft scales...now look at some of the huge, old hemlocks...isn’t it amazing that such large trees have such tiny cones?”
3. “Look around here in the hemlock forest...why isn’t there much brush and why isn’t there any grass on the forest floor?” (Only a little sunshine reaches the forest floor – note the “closed canopy” – the treetops are so close that they limit the amount of sunshine that reaches the floor - This is called a “Climax Forest” or “Mature Forest.” If this forest is undisturbed by fire or wind, it will always be a climax hemlock forest. There are also a few large red maples. This is typical of a hemlock forest.)
4. “About 150 years ago the local farmers would cut hemlock trees, then cut the bark off the logs and send the bark to Two Rivers or to Two Creeks to the leather tanneries. At the tannery, the bark was boiled in water to remove the “tannic acid,” then leather was soaked in the “tannic acid” to make it soft.”
5. “Where do you think the tanneries got the hides to make the leather?” (Local farmers)

6. “What do you think the farmers did with the hemlock logs after they had removed the bark?” (Took them to the sawmill to be sawed into lumber. Much of the lumber was sent on ships to Milwaukee, Chicago, etc. for building purposes.)
7. Additional information – share with students if you’d like – “The soil in this hemlock forest is high in acid because the needles, cones, and decayed hemlock trees put acid into the soil. Vinegar is an ‘acid.’ Also, swamps are highly acidic.”
8. If you have time, look into the swamp and discuss how there are different plants that grow there... because of the different water level.

Lumberjack Breakfast

Menu

Pancakes
Home made butter
Maple syrup
Sausages
Applesauce
Orange Juice
Anything else you want to add in.... soup...



Grocery List (for approximately 50 students)

4 syrups
5 boxes “just add water” pancake mix
2 gallons orange juice
3 – 50 ounce jars applesauce
100 sausage links
3 pints cream to make butter (heavy whipping cream)

Supplies for breakfast from “home”

Water from the city to mix pancakes
4 pancake griddles and nylon spatulas
Empty mason jars with lids for making butter (4 or more)

Supplies from the School Forest:

Nesco roaster to keep the pancakes warm
Nesco roaster to keep sausages warm
Tongs for serving sausages
Aluminum foil
Syrup pitchers
Measuring cups

Whisks
Plates, silverware, napkins, cups
Large mixing bowls
Serving bowls and platters
Dish detergent
Dish towels and wash cloths

Preparations:

Bring School Forest key from school
Arrive early with volunteers to start cooking
Line Nescos with aluminum foil for easy clean-up
Start making sausages and pancakes, put into Nescos to keep warm
Rearrange tables, if desired
Set tables
Get cream ready to make butter
Pour syrup into pitchers
Put applesauce in serving bowls
Once students arrive, put sausages in bowls with tongs, pancakes on serving platters, and bring everything out to the tables

* you may want to provide a “lumberjack” experience by assigning someone to be the camp cook and following lumberjack camp rules and lingo at meal times... ☺

Clean – up

Follow kitchen procedures
Wash all School Forest supplies used
Wash counter tops
Put garbage out in dumpster
Make sure all appliances are off