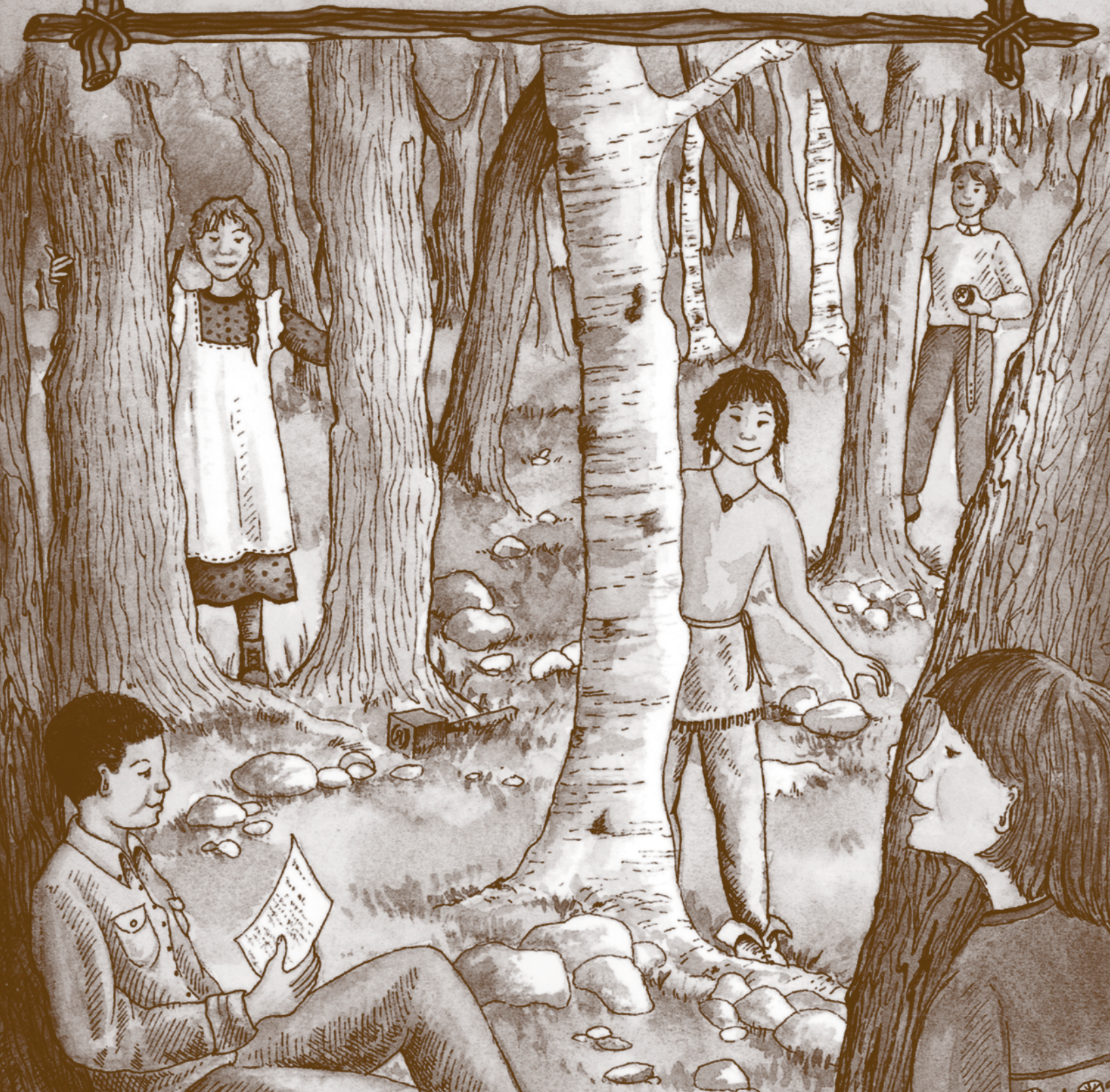


WISCONSIN FOREST TALES

Activity Booklet



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The activities in this booklet were developed to be used with the 4th grade reading book, Wisconsin Forest Tales, by Julia Pferdehirt. ISBN: 1-931599-47-5.

To obtain a copy of the book, visit your local school or public library.

Classroom sets of the book can be checked out from the Wisconsin Center for Environmental Education Resources Library (715-346-4853).

DEVELOPED BY LEAF

Sterling Strathe - Director

Sunshine Buchholz - Forestry Education Specialist

Sarah Gilbert - Forestry Education Specialist

AUTHOR

Angie Nyquist - Learn & Love It

IN COOPERATION WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES - DIVISION OF FORESTRY

Kirsten Held - Forestry Outreach and Issues Specialist



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For more information:
www.uwsp.edu/cnr/leaf
leaf@uwsp.edu
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LEAF
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ACTIVITY 1

SAENOMEHSAEH FINDS A WAY

In Chapter 1 of Wisconsin Forest Tales, students learn about connections the Menominee have to forests. In this activity they explore these connections further and write a legend that describes how one of the connections came to be.

BACKGROUND

Before there were supermarkets and department stores, the Menominee gathered what they needed for daily living from the forest. From food and water to shelter, tools, clothing, and medicines, the Menominee looked no further than their natural surroundings to find or make the things they needed.

The Menominee collected food from plants growing in the forest. They also hunted forest animals and fished in nearby streams to provide food for their families. Not ones to waste, the Menominee found ways to use parts of the

animals they hunted to make clothing and tools. From the same streams they fished in, the Menominee collected drinking water. Coupled with a canoe made from tree materials, these streams also served as modes of transportation. Shelters such as wigwams were built by bending saplings into a framework. The joints were bound together with green basswood fiber and the framework was then covered with large sheets of bark. Forest resources were also used for medicines to help with everything from rashes to dental problems.

The Menominee have cultural connections to the forest as well. Some named their clans after forest animals. In addition, traditional legends are strongly connected to the natural world and frequently include plants and animals from the forest.



LESSON OBJECTIVE

Upon completion of this activity, students will be able to:

- Describe ways that the Menominee are connected to the forest.

TIME

Introduction.....5 minutes
Activity.....45 minutes
Conclusion.....30 minutes

MATERIALS

- Writing paper and pencils
- Drawing paper and crayons, markers, or colored pencils
- One worksheet per student

SUBJECT AREAS ADDRESSED

Language Arts
Social Studies
Visual Arts

INTRODUCTION

Help your students brainstorm ways that the Menominee were connected to or used forests in Chapter 1 of Wisconsin Forest Tales. Begin by giving a worksheet to each student and explain that the class will work together to fill out the top portion.

- Have your students look through the story for things that the Menominee ate. (*The Menominee in the story ate maple syrup made from maple sap, mushrooms, fish, deer, rabbits, and turkey.*)

Indicate to your students that most of these things came from the forest.

- Have students look through the story for tools that were made from forest materials. (*In the story, trays for collecting maple sap were made from birch bark, fire sticks were made from cedar bark and wood shavings, and bows and arrows were made from copper, hickory, cedar, rawhide, and feathers.*)
- Ask if your students remember the names of any of the the Menominee clans from the story. (*The clans mentioned in the story were Golden Eagle, Coot, and Wolf.*) Point out that clan names were related to the forest.
- Ask your students if they can think of any other ways that the Menominee were connected to the forest, even ways that may not be mentioned in the story. (*Legends, like the one told in the beginning of the chapter, were connected to the forest in many ways. In addition, forest resources provided the Menominee with water, shelter, clothing, medicines, and transportation.*)



ACTIVITY

1) Tell your students that they will have a chance to make up their own legend about the ways the Menominee were connected to forests. Remind your students that at the beginning of the chapter, Grandmother tells the old story of Maeqnapos and the white birch. Lead a discussion to help your class review the story.

- Why did Maeqnapos want feathers from the Thunderers? (*Maeqnapos wanted feathers to put on his arrow to help him catch the greatest fish in the lake.*)
- How did Maeqnapos get into the Thunderers' nest? (*He changed himself into a rabbit and one of the Thunderers snatched him up.*)
- How did Maeqnapos get the feathers? (*He waited until the old Thunderers went hunting, then he changed back into a man, pulled feathers from the young Thunderers and jumped out of the nest.*)
- What did the Thunderers do to Maeqnapos? (*They chased him and threw lightning bolts at him.*)

- How did Maeqnapos stay safe? (*Maeqnapos hid from the Thunderers in a hollow birch log. The birch protected Maeqnapos.*)
- How does this story explain the way birch trees look? (*To this day you'll see black marks on the bark of birch trees from the lightning bolts.*)

Tell your students that legends and stories are important aspects to the Menominee culture. Besides having a lesson to communicate, many stories are also related to observable characteristics of things in nature. The legend we just discussed tells about how a birch log protected Maeqnapos from lightning and explains why birch bark looks the way it does. Interestingly enough, many people throughout history have observed that birch trees are struck by lightning much less frequently than other trees.

2) Give your students instructions for writing their own legend. By now the top of their worksheet should be filled in. Explain that they will be filling in the bottom portion on their own. First they will choose at least one natural item from the forest that is somehow connected to Menominee life. Remind them to look at the top of their worksheet for ideas. Then they will need to figure out what kind of connection that item has to Menominee life. For example, does the item help the Menominee because it is food? Is it used in making tools, shelter, clothing, or medicine? Is it a name that represents a certain characteristic, like the name of a clan? Those observations will become the material for their story. Their legend will need to explain how the connection between the Menominee and the natural object came to be. For example, a student may choose to write a legend that explains why cedar is the best bark to use for making fire sticks, or a legend that explains how a particular clan got its name. Each story should be at least one page long. As an optional challenge, you may consider asking your students to include a lesson in their story, like some Menominee legends do.



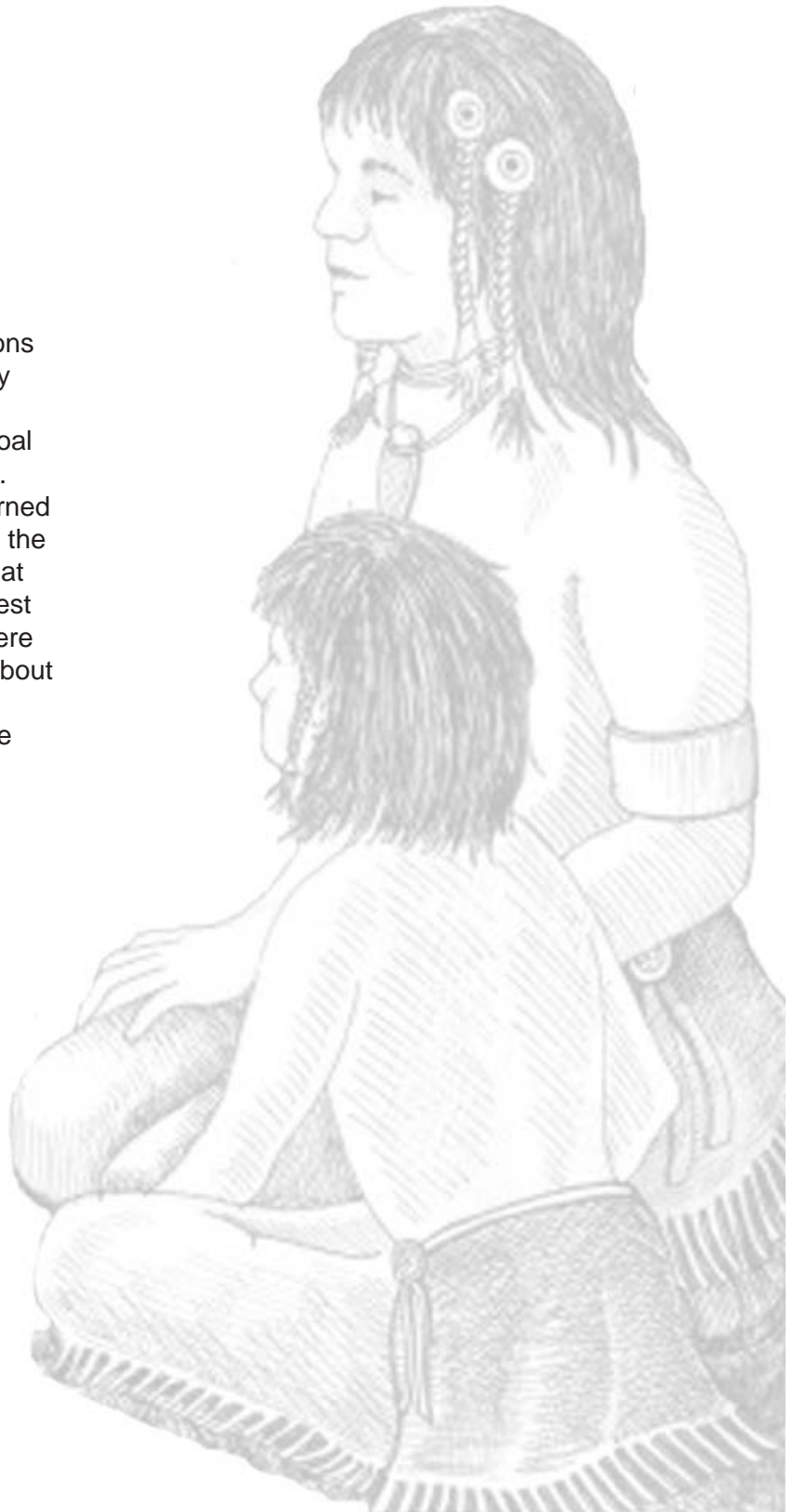
CONCLUSION

When everyone is done writing, ask your students to draw a picture to illustrate the legend they wrote. When the drawings are complete, ask several students to show their drawing and read their legend to the rest of the class.



ASSESSMENT

Have each student do a survey of family members to learn about their connections to forests. Speaking to grandparents or elderly neighbors might be especially interesting for students. Students should explain that their goal is to learn how different people use the forest. Encourage them to share what they have learned about the connection the Menominee have to the forest. Have them ask questions such as: What tools have you used that were made from forest products? What foods have you eaten that were gathered from forests? Do you have stories about your relationship with forests? Have students take notes during the interviews and share the information they gather with the rest of class or write a paragraph about the information they learned.



PART 1 - As a class, fill out the top of the worksheet.

1. List things from the story that the Menominee ate.

2. List tools from the story that were made from forest materials.

3. List names of the Menominee clans from the story.

4. What other ways were the Menominee connected to forests, even ways that may not have been mentioned in the story?

PART 2 - These questions will help you write a legend.

5. What item from the forest connected to Menominee life do you want to write about? Look at the top of the worksheet for ideas.

6. What is the connection that exists between your item and Menominee life? Does the item help the Menominee because it is food? Is it used in making tools, shelter, or medicine? Does the name represent a certain characteristic, like the name of a clan?

7. On a separate sheet of paper, make up a legend about how the connection from Question 6 came to be. For example, write a legend that explains why cedar is the best bark to use for making fire sticks, or write a legend about how a particular clan got its name. Your legend should be at least one page long.

Optional challenge: you may consider including a lesson in your story, like some Menominee legends do.

ACTIVITY 2

ROLL OUT OR ROLL UP

In Chapter 2 of *Wisconsin Forest Tales*, students experience lumber camp life through the eyes of a young man named Johnny. In this activity, students put themselves in Johnny's shoes by choosing a camp job and nickname and writing a story about their first day at work.

BACKGROUND

During the lumberjack era of the late 1800s, lumber camps had a culture all their own. Made up of men of different nationalities, the crews had to find ways to get along and communicate with one other while getting their work done.

Since the men frequently spoke different languages, lumbermen made up new words

to communicate with one another. From *agropelter* to *zippo*, lumberjacks created more than 4,000 new words. Most of these words, however, have faded along with the lumberjack era.

In addition to creating new words to communicate better with one another, lumberjacks also created their own fun and their own sense of community. Upon returning to camp each night, lumbermen peeled off several layers of wet wool clothing and hung them on balsam racks over the hot stove to dry out. After dinner they passed the time talking, storytelling, singing, or playing the fiddle and harmonica.

Since lumberjacks only had each other, they found creative ways to entertain themselves when they got a break from work. A common form of entertainment was playing games. One such game is described in the book *Lumberjack Lingo* by L. Sorden and J. Vallier. In a game called "rooster fight," broom handles were placed under the knees of two squatting men. Each man's hands were then tied to either side of their broom handle. The two men butted into each other to see who would tip over first. Games such as this were probably as entertaining to watch as they were to participate in.



LESSON OBJECTIVE

Upon completion of this activity, students will be able to:

- Describe what life was like in a lumber camp.

TIME

Introduction.....10 minutes

Activity.....45 minutes

Conclusion.....30 minutes

MATERIALS

- Writing paper and pencils
- Drawing paper and crayons, markers, or colored pencils
- Overhead projector
- Overhead transparency of the Lumberjack Story
- One worksheet per student

SUBJECT AREAS ADDRESSED

Language Arts
Social Studies
Visual Arts

INTRODUCTION

Explain to your students that lumberjacks came from many different backgrounds. Thus, they spoke different languages. There were many things they needed to communicate about, so they made up a language of their own. Tell your students that words like “flitch” and “salusiver” sound silly to us now, but they had meaning to the lumberjacks. Project the Lumberjack Story on an overhead projector.

LUMBERJACK STORY (see page 11)

A lumberjack sat in a hospital. When a nurse asked him how he got hurt, he replied, “The **ground loader** threw the **beads** around a pine log. He claimed he had called for a **Saint Croix** but he received a **Saginaw**; she gunned, broke three of my **slats** and one of my **stilts**, and also a very fine **skid**.” The nurse said, “I don’t understand.” His reply was, “I don’t either. He must have been **yaps**.”

Ask a student to read the story out loud to the class. Then go back and point out the words that are in bold print. Ask if any of your students know what the term “ground loader” means or if anyone has ever heard of the word “yaps.” Now, pass out the worksheets to your students and point out the definitions at the top of the sheet. Have another student read through the story again, but this time ask him/her to stop at each word in bold. Ask different students to read the definitions for each word before continuing with the story. Once your students know what all the bold words mean, see if anyone can tell the story in their own words.



ACTIVITY

1) Discuss with your students that within each lumber company there were many different jobs. Have your students look back through Chapter 2 of Wisconsin Forest Tales to list and describe as many different jobs as they can. As your students describe the jobs, have everyone write the descriptions down under each job title on their worksheet. (*Boss was in charge*

of everything, cookees helped serve the meals, foreman was the leader of the crew, jacks cut trees, swampers and skidders trimmed logs and hauled them to the trail using oxen, teamsters loaded logs on the sleighs, road monkeys kept the sleigh road in good shape, hay man on the hill spread hay to slow the heavy sleds going downhill, chickadees shoveled horse manure off the track, sky loaders loaded logs on top of sleighs and river pigs rode logs down the river.)

2) Remind students that at the end of Chapter 2 Red offers Johnny a job in his new lumber company. Have your students imagine they are Johnny. Ask them, “If you could choose any job in Red and Ole’s new company, which job would it be? Why?”. Give your class time to think about their answer and then ask them to write their answer down on their worksheet. Allow several students tell which job they would want and why.

3) Next ask students to look back through the chapter and list all the nicknames they can find for different characters from the story. (*Boss Larson, Cook, Red, Little Ole, and Three-Finger Ole are some of the nicknames used in the story.*) Show your students the list of nicknames on their worksheet and explain that these are examples of nicknames given to real lumberjacks. Give your students time to review the list of nicknames and create a unique nickname for themselves. Remind your students that their nicknames should somehow reflect themselves or the lumberjack job they chose. When everyone has something written down, ask several students to share their nicknames with the class.

4) Now explain to your class that they will draw a picture of themselves doing the job they chose. Ask them to write their nickname above the drawing at the top of the paper. Below the drawing, they should write the name of their job. Explain to your students that when they are finished with their drawing, they need to get out a second sheet of paper and write a one-page story describing their first day on the job. Each student should use at least three lumberjack words in their story. Remind them to refer back to the definitions given on their worksheet and in their books.



CONCLUSION

After each student has had time to complete a drawing and write a story, have your students choose one of the following two activities as a conclusion to the lesson.

1. Choose a character from Chapter 2 of Wisconsin Forest Tales. Draw a caricature of what you think that character looked like. Include the tools they used to do their job in the drawing.

Or

2. Imagine that you are starting your own lumber company. You will need to have an individualized timber mark to keep track of your logs. Draw a picture of what your timber mark would look like.

When everyone has had a chance to complete their final drawing, ask several students to share their drawings from the main activity and from the concluding activity with the entire class. Ask questions like: Why did you choose that job? Why did you choose to draw that character from the story? How does your timber mark reflect you?



ASSESSMENT

Remind your students that a lumber camp had a culture all its own, including its own language. Now that the lumber era is over, many parts of that culture no longer exist except in history books. Ask each student to make a list of things that were a part of the lumbermen's daily lives that are no longer a part of our daily lives today.

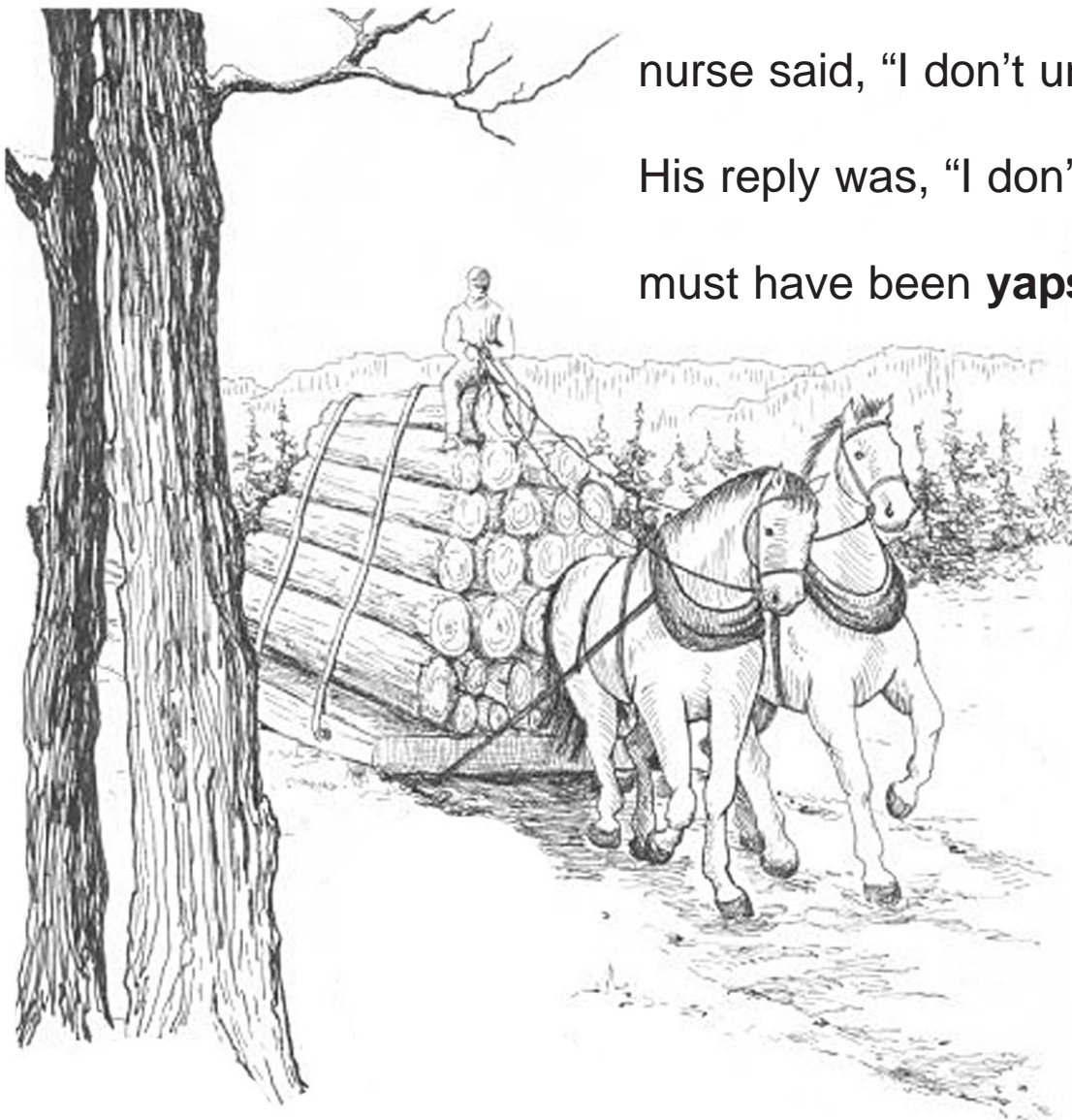


LUMBERJACK STORY

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nurse said, “I don’t understand.”

His reply was, “I don’t either. He must have been **yaps**.”



LINGO - Additional definitions are listed on page 42 of Wisconsin Forest Tales.

Agropelter - A horrible animal that lived in hollow trees mostly in Minnesota. Any lumberjack walking near its home was killed by a falling limb.

Beads - A chain used in loading logs.

Flitch - Part of a hog prepared for eating; bacon.

Ground Loader - A member of the crew who guides the logs up on the skids.

Saginaw - The larger end of a log. Opposite of Saint Croix.

Saint Croix - The smaller end of a log. Opposite of Saginaw.

Salusiver - A match.

Skid - Large timbers used to hold and support logs before loading.

Slats - A person's ribs.

Stilts - A person's legs.

Yaps - Crazy; someone out of their mind.

Zippo - A small logging company.



JOBS - Write a description of each job.

Boss

Cooke

Foreman

Jacks

Swampers and skidders

Teamsters

Road monkeys

Hay man on the hill

Chickadees

Sky loaders

River pigs

Which job would you want to do? Why?

NICKNAMES – Nicknames of real lumberjacks:

Jimmie on the Trail
Pancake Billie

Rattlesnake Pete
Dirty Bill

Whispering Bill
Clothes Pin Ole

What would your nickname be? Create a nickname for yourself that describes you or relates to the job you would want in a lumber company.

ACTIVITY 3

CALLING PAPA HOME

In Chapter 3 of Wisconsin Forest Tales, students learn about the Great Peshtigo Fire through the main character, Susanna. In this activity, students study maps to enhance their understanding of the extent of the fire.

BACKGROUND

**One dark night, when people were in bed,
Mrs. O’Leary lit a lantern in her shed,
The cow kicked it over, winked its eye and said,
There’ll be a hot time in the old town tonight.**

LESSON OBJECTIVES

Upon completion of this activity, students will be able to:

- Locate Peshtigo on a map of Wisconsin.
- Describe the effects of the Great Peshtigo Fire on people and property.
- List at least three counties effected by the Great Peshtigo Fire.
- Explain how to prevent forest fires.

TIME

Introduction.....5 minutes
Activity.....30 minutes
Conclusion.....20 minutes

MATERIALS

- Drawing paper and crayons, markers, or colored pencils
- Overhead projector
- Overhead transparencies of Road Map of Wisconsin and Peshtigo Fire Map
- One Road Map of Wisconsin and one Peshtigo Fire Map per student
- Wisconsin road map(s)

SUBJECT AREAS ADDRESSED

Social Studies
Visual Arts

Many Americans have heard the old story, whether real or not, about the cow that kicked over a lantern and started the Great Chicago Fire on October 8, 1871. What many Americans haven’t heard is that on the very same night as the Chicago fire, another more severe fire took place in eastern Wisconsin: the Great Peshtigo Fire.

Although the Chicago fire and the Peshtigo fire occurred on the same night, the fire in Chicago got a greater amount of attention and press coverage. Thus, it may be surprising to find out that about 1,400 people died in the Peshtigo fire, while about 300 people died in the Chicago fire. In addition, 2,400 square miles of land burned in the Peshtigo fire, while 4 square miles of land burned in the Chicago fire. When news of the Peshtigo fire reached Wisconsin’s capital on October 10, 1871, the governor and other state officials were in Chicago, helping the victims of that fire.

Peshtigo is now called the city reborn from the ashes of America’s greatest fire. On October 8 each year, the Peshtigo historical society marks the anniversary of the fire with a special candlelight service that is open to the public. It is an event worth remembering. Hopefully this lesson will help your students place Peshtigo on the map.



INTRODUCTION

Explain to your students that wildfires can be destructive. Wildlife can die and valuable

habitat is lost. Wildfires can take human lives as well. Remind students that when the Peshtigo fire took place, people were not educated about the risks and dangers of wildfire. Many people stayed in their houses because they were more afraid of someone stealing their silver than they were of losing their lives. Some people who tried to escape were not able to and they also died in the flames. Tell students that there were about 1,400 people who died in the Peshtigo fire. Help students understand the magnitude of this number by comparing it to an example they are familiar with. (For example, the number of people in your school or town.)

Explain to students that even though the fire was tragic, there were survivors. Remind them that the story in the chapter gives an idea of what it would have been like to live through the Great Peshtigo Fire. Ask students to describe how Susanna and her family survived the fire. (*They ran to the river and covered their heads with wet blankets.*) Tell students that they will have a chance to find this river on the map as well as other important landmarks related to this enormous fire.



ACTIVITY

1) Give each student a copy of the Road Map of Wisconsin and the Peshtigo Fire Map. Project a transparency of the Peshtigo Fire Map on an overhead projector. Ask your students to look at the Peshtigo Fire Map first and direct their attention to the lower left corner where the entire state of Wisconsin is shown. Explain that in this image, the areas affected by the fire are highlighted. Then explain that the larger image is a blowup of the burned area showing more detail.

2) Begin a discussion to help orient students to the area burned by the fire. Invite a student to come up to the front and point to the city of Peshtigo on the projected map. Once the volunteer has done so, ask your students to put a red star on Peshtigo on their copies of both the Road Map of Wisconsin and the Peshtigo Fire Map. Ask your students to locate the Peshtigo River on the Peshtigo Fire Map and outline the

river in blue. Now point out the dotted line on the Peshtigo Fire Map. Explain that this line shows the extent of the fire. The fire burned over 2,400 square miles of land. This would be equal to two times the size of Dane County, Wisconsin or eleven times the size of Lake Winnebago. (Show these areas to your students on a map.) Now ask your students to raise their hands if they can list one of the counties affected by the fire. As your students list the counties, highlight the names of the counties on your overhead and ask your students to circle the names of the counties on their Peshtigo Fire Maps in black. (*Counties affected were: Marinette, Oconto, Brown, Kewaunee, Door, and Menominee.*) Ask your students which one of the counties affected is actually in Michigan. (*Menominee County is in Michigan.*)

3) Next, have students use their Road Map of Wisconsin to find 10 current towns that exist within the area that was burned. Ask students to raise their hands when they have found one. As your students list towns, have the rest of the class underline the names of those towns on their Road Maps of Wisconsin in blue. Obviously, there are more than ten current towns that exist within the boundaries of the fire. Finding at least 10 will help connect your students to the area that was burned. Discuss how the area has been rebuilt and repopulated since the Peshtigo fire. It is probably very difficult to tell that there was ever such a great fire in the area. If any of your students have been to the area, have them describe what it looks like.

4) Although many towns have been built in this area, there are some towns that never got rebuilt. Have your students look at the Peshtigo Fire Map and compare it to the Road Map of Wisconsin. Ask them to look for towns on the Peshtigo Fire Map that are not listed on the Road Map of Wisconsin. Ask your students to raise their hands when they have found one. As your students list them, have the rest of the class underline the names of those towns on their Peshtigo Fire Maps in blue. (*Peshtigo Harbor, Upper Sugar Bush, Middle Sugar Bush, Lower Sugar Bush, Menekaune, Tobinville, and Williamsonville were never rebuilt.*)

5) Finally, have your students plot a route on a state road map from their town to Peshtigo.

You can do this as a group or divide the students into multiple groups if you have enough maps. Begin by helping your students locate your town on the Road Map of Wisconsin. Ask your students to put a blue star on your town. Give your students time to look at the roads on the map and identify a route that would get them from their town to Peshtigo. Ask your students to outline that route in black on the Road Map of Wisconsin.



CONCLUSION

Explain to your students that a fire as large as the Great Peshtigo Fire has not taken place in Wisconsin since 1871. Ask your students why a fire this large is not likely to happen today. *(Possible answers include: Smokey Bear has helped educate people about wildfires; today we have local fire stations with firefighters always on duty to help put out fires; communication is faster so firefighters can get to fires when they are smaller than they could in the past, fire trucks are equipped with hoses and other helpful tools to put out fires as quickly as possible.)* Ask your students what they can do to help prevent fires. *(Never play with matches or fireworks. Always keep a bucket of water and a shovel near a campfire. Have an adult put out your campfire before leaving the forest. Never leave a fire unwatched. Carry a fire extinguisher in your car. Always check with fire officials in your area before burning.)* Finally, have your students make posters showing ways they can help prevent forest fires. When the posters are complete display them in the hallway of your school to help teach other students about fire safety.



ASSESSMENT

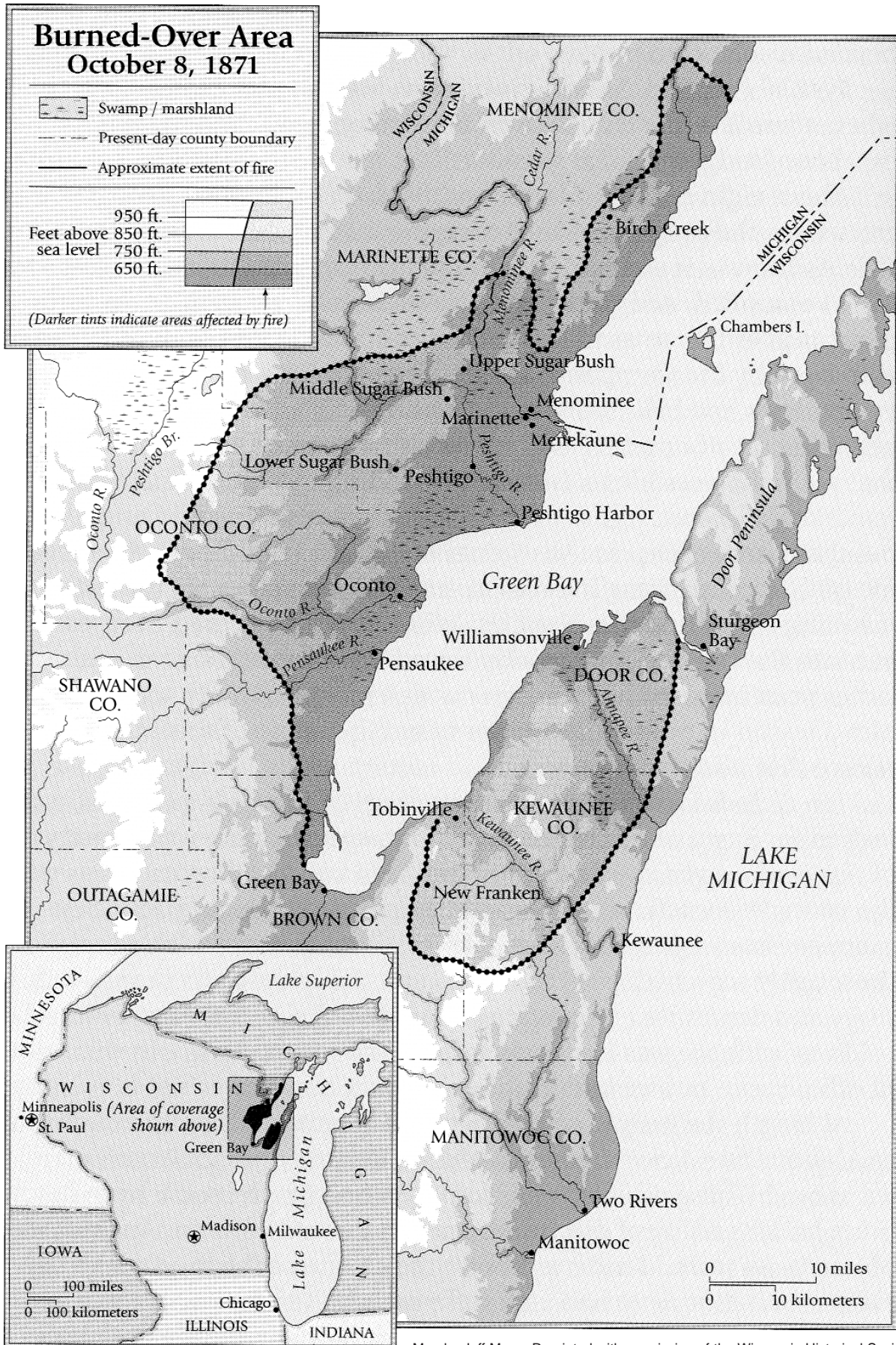
Explain to your students that it is important to have a plan of what to do in case of an emergency happens, such as a fire. This is why fire drills occur in schools, so everyone has an opportunity to practice the plan. Talk about what happens during a fire drill at school. *(Do not panic. Walk to the nearest exit. Do not gather your backpack or items in your desk. Do not go back inside until an adult tells you to do so.)* Have students write a plan of what they would do if there was a fire in or near their home. Have them consider what door they would exit, if there is a window they could crawl out, how far they would go from the house, where they would meet with their family, etc. Encourage students to work on this with their family or share it once it is complete.



ROAD MAP OF WISCONSIN



PESHTIGO FIRE MAP



ACTIVITY 4

DREAMING OF WISCONSIN

In Chapter 4 of Wisconsin Forest Tales, false advertising leads Will's family to attempt to farm cutover land. In this activity, students create a brochure to persuade people to plant trees instead of farm on cutover land.

BACKGROUND

By the beginning of the 1900s, most of Wisconsin's forests had either been cut over to provide lumber or burned by wildfire. Lumber companies liquidated land holdings as they moved west to new forest resources. Some of the companies used misleading advertising to attract immigrants and people from cities to purchase the land. They appealed to those eager for a new life with advertisements claiming that cutover land would make rich farmland. Advertisements were

even sent to Europe to lure adventurous folks to Wisconsin. Like the Meyers family in Wisconsin Forest Tales, many families risked it all at a chance for a new start. After several years of backbreaking work and only meager crop yields, many families abandoned their farms. Wisconsin became known as the land of 10,000 failures.

Tax-delinquent farms became the property of their respective counties. Beginning with Marinette County, trees were replanted on this land. With help from volunteers and the Civilian Conservation Corps, Wisconsin got its forests back. Now, in an effort to make sure that there will always be trees in Wisconsin, our forests are carefully managed to ensure regeneration after harvest.



LESSON OBJECTIVES

Upon completion of this activity, students will be able to:

- Explain why farmers attempted to farm cutover land.
- Explain why farmers were not successful farming cutover land.
- List several benefits of trees to humans, wildlife, and the environment.

TIME

Introduction.....20 minutes
Activity.....60 minutes
Conclusion.....15 minutes

MATERIALS

- Drawing paper and crayons, markers, or colored pencils
- One worksheet per student

SUBJECT AREAS ADDRESSED

Language Arts
Science
Visual Arts

INTRODUCTION

Have students look back at the beginning of Chapter 4 of Wisconsin Forest Tales. Ask them what claims the little book "Wisconsin: The Farmer's Dream" made about farmland in Wisconsin. (*The book claimed that Wisconsin grew wheat taller than a man and that cows gave rivers of milk.*) Next, ask students what Pa thought he was buying when he handed over \$400 at the Wisconsin Land Company Office. (*He thought he was buying cleared land and a house.*) Finally, ask students what the Meyer family actually found when they arrived on their land. (*The land was cleared of trees, but not of stumps. The "house" was actually a tar-papered shack.*)

Explain to students that the advertisements put out by lumber and railroad companies to persuade people to buy cutover land were misleading. Many families, like the Meyers, gave everything they had to buy cutover land, only to find out that the land was not good for farming.

Optional: Ask your students to draw two pictures: one of what the Meyers may have imagined their farm to look like before they arrived in Wisconsin and one of what the Meyers actually found when they got to the farm.



ACTIVITY

1) Ask students, “If cutover land was not good for farming, what was it good for?” (*It was good for growing trees.*) Tell students that you are giving them an opportunity to do a better job of advertising about cutover land than the lumber and railroad companies did. Explain to students that they will each create a brochure to persuade people to plant trees on cutover land. The brochure will not try to sell land to people. It takes too long before seedlings grow big enough to be harvested and sold. Instead, the brochure will persuade people to make a trip to the cutover to help plant trees. You may want to bring in several sample brochures advertising various places or items to show your students.

2) Tell your class that in order to make such a brochure, they need to know a little bit about what might motivate someone to plant trees on cutover land. Give each student a worksheet and encourage them to take notes from the discussion on Part One of their worksheets. Lead your students in a discussion about the benefits of trees.

- Ask your students to raise their hands if they can list a benefit that humans receive from trees. (*Trees clean the air, they prevent soil erosion, provide shade, help prevent flooding, and provide beauty.*)
- Explain to your students that wildlife also benefit from trees. Ask your students to list some ways that animals benefit from trees. (*Trees provide homes, hiding places, shade, and food for*

animals.) Tell your students that some people really love wild animals. If they knew of the benefits trees provide for wildlife, they might be willing to plant trees on the cutover.

- Next, ask students if anyone can list ways that trees benefit the environment. (*During a strong rainstorm, the leaves on trees break the fall of the raindrops, which prevents erosion and runoff into nearby streams. Trees near streams help keep the water temperature cooler. Shade from trees can lower the amount of energy we use to cool our homes and that helps the environment.*)
- Tell your students that in their brochure they might want to mention the personal benefits someone might get from participating in tree planting. Ask your students if anyone can list ways that people would benefit from participating in tree planting. Encourage your students to be creative, yet truthful, in their answers. (*Answers may include: tree planting is good exercise, you get to spend time outside in nature, you will always have the satisfaction of knowing you played a role in restoring Wisconsin’s forests.*) Be sure everyone has listed several benefits on their worksheets.

- 3)** Before giving your class time to plan their brochure, explain Part Two of the worksheet.
- Tell students the first thing they need to do is figure out what their main idea will be. This should be stated in a complete sentence on their planning sheet. The main idea is the starting point for the rest of the brochure.
 - Tell students the front cover should contain a catchy slogan and maybe a picture to catch people’s attention. They should write down their ideas for the front cover on the planning sheet.
 - Inside the brochure, your students will want to bring home their point. Ask students to choose at least three ideas from the list they made during the class discussion. Your students should elaborate on these three points on the inside of their brochure.
 - The back of the brochure should be a call to action. Tell your students to use the planning sheet to write down their ideas of how to motivate people to take action.

- 4)** After students have completed their planning sheets, hand out blank sheets of paper. Ask students to fold the paper in thirds. Explain that this will become their brochure. Tell students to use their ideas from their planning sheet to

complete their brochure. Give your students time to work. Once everyone has completed their brochures, ask several students to share their brochures with the rest of the class.



CONCLUSION

Tell students that false advertising led Will's family to attempt to farm cutover land. Will gave up his dream of becoming a schoolteacher so that he could help his family with chores on the farm. Ask students the following questions and allow several to respond to each one. "What do you dream of doing someday?" "Would you be willing to give up your dream to help your family survive?" In the end, Will joined the Civilian Conservation Corps and helped to reforest Wisconsin. Lumber companies and paper companies still harvest trees to make products, but today they also replant trees so that we will always have trees to enjoy and use.

Optional: Remind your students of the two drawings they made at the beginning of the lesson. Ask your students to make a third drawing showing the Meyers' farm after it was reforested. When everyone is finished, find a place in the classroom to display each series of three pictures.



ASSESSMENT

Explain to your students that we cannot go back and change the false advertising that took place in the early 1900s, but we can make a difference in our world today. Trees continue to offer people, animals, and the environment many benefits. Assign your students to write and deliver a letter that uses facts about the benefits of trees to persuade a parent, neighbor, relative, or the school groundskeeper to plant a tree in their yard (or the schoolyard).



PART ONE: DISCUSSION

Benefits of trees to humans:

Benefits of trees to wildlife:

Benefits of trees to the environment:

Personal benefits to participating in tree planting:

PART TWO: PLANNING

Main Idea:

What will be the main idea of your brochure? What is the most important point you want to make? State it here in a complete sentence.

Front Cover:

Create a catchy slogan to introduce your main idea to the reader.

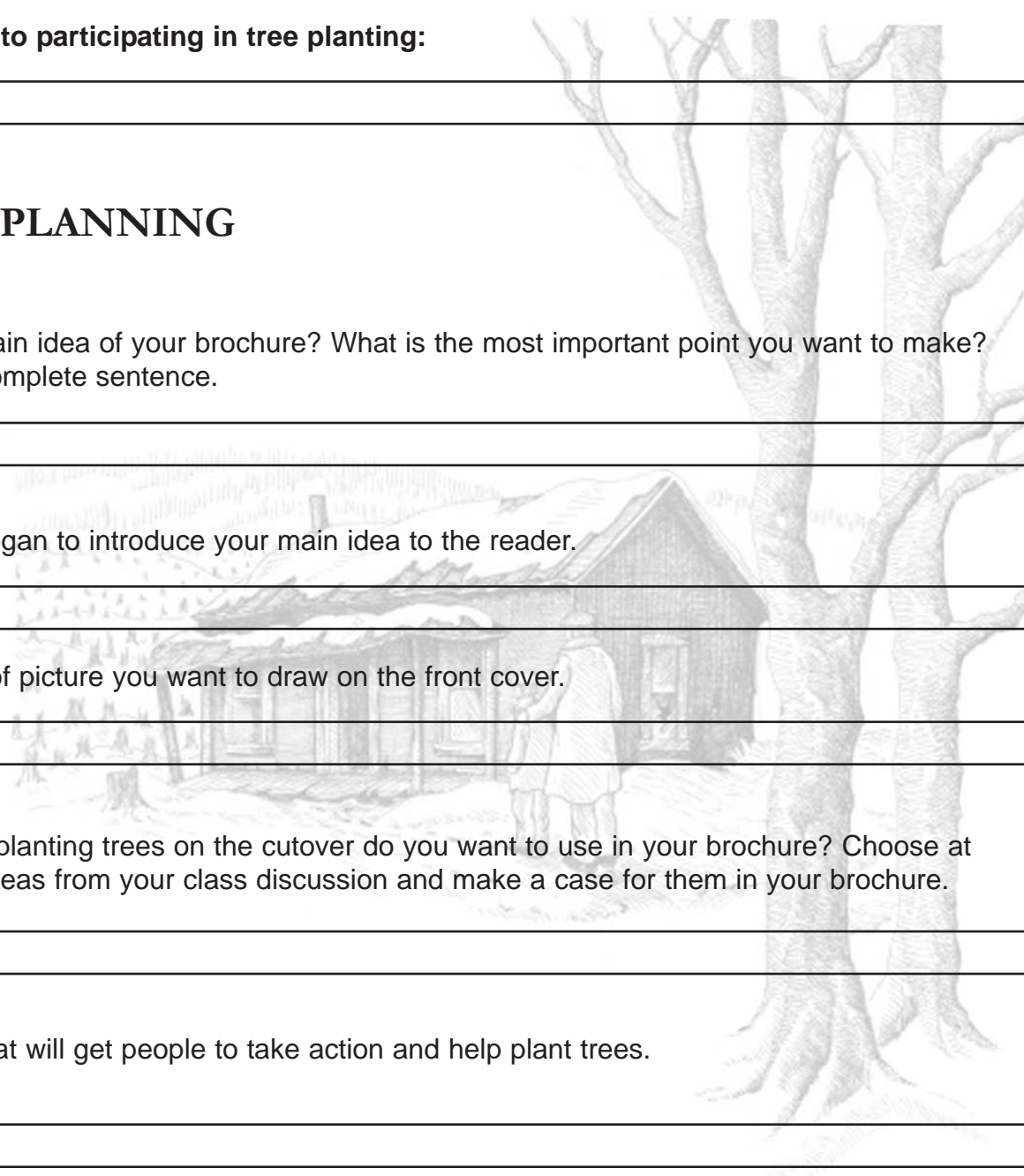
Describe the type of picture you want to draw on the front cover.

Inside:

Which reasons for planting trees on the cutover do you want to use in your brochure? Choose at least three of the ideas from your class discussion and make a case for them in your brochure.

Back Cover:

Write something that will get people to take action and help plant trees.



ACTIVITY 5

WRITING HOME

In Chapter 5 of Wisconsin Forest Tales, students read a series of letters exchanged by Will and his parents during Will's time in a CCC camp. In this activity, students continue the story, pretending to be Will and write one more letter home.

B ACKGROUND

In this lesson, students compose a friendly letter. A friendly letter has five parts: heading, greeting, body, closing, and signature.

The heading gives the address of the person writing the letter. The first line of the heading contains the street address. The second line tells the city, state, and zip code. The date the letter was written appears on the third line of the heading.

Following the heading is the greeting. A greeting is like saying "Hello." The first word in a greeting and the names of people are always capitalized. The greeting ends with a comma.

The body contains the main message of the letter. The body should be written in complete sentences and the beginning of each paragraph should be indented.

Following the body is the closing of the letter. This is the place to say "Goodbye." The first word in the closing is capitalized and there is always a comma at the end.

Finally, the signature tells who wrote the letter.



LESSON OBJECTIVES

Upon completion of this activity, students will be able to:

- Write a personal letter.
- Address an envelope.

TIME

Introduction.....10 minutes
Activity.....30 minutes
Conclusion.....10 minutes

MATERIALS

- Writing paper and pencils
- Overhead transparency and projector or one copy of the handout for each student

SUBJECT AREAS ADDRESSED

Language Arts

I NTRODUCTION

Ask your students to imagine that they are Will from Wisconsin Forest Tales. Tell them that a couple weeks have past since your last letter to Ma and Pa and now you are about to leave for Moose Lake. Lead a discussion about the possible events that may have taken place since Will's last letter. Ask questions like: What kinds of things may have taken place that you would want to write home about? Looking back on your time at Fort Sheridan, are you proud of the tree planting and rock hauling that your crew has done or do you feel it was a waste of time? What are your feelings about going to Moose Lake? What do you expect life to be like in Moose Lake? Will you get more schooling there? How are you getting along with Leon and Thomas? How have your opinions about Leon and Thomas changed now that you have gotten to know them better? Have you received

more books? What is it like to be their teacher?
How has your dream come true?



ACTIVITY

1) Following your discussion, remind your students of how Chapter 5 of Wisconsin Forest Tales ends: "...I'll write you again before we leave for Moose Lake. Love to you all, Will." Tell your students that their job is to continue the story for one more letter. They will pretend to be Will writing to Ma and Pa just before leaving for Moose Lake.

Each student's letter should include a heading, greeting, body, closing, and signature. Pass out the example letter to each student or place it on the overhead projector. Explain each part of the letter to your students.

2) Since your students will pretend to be Will, they should use the address and date given in the example heading. In addition, they should sign their letter "Will." There are however, several options for the greeting and the closing. Ask your students to look back at the letters in the story for examples of different greetings and closings. Allow your students to use any appropriate greeting or closing in their letters. Remind your students to use their imaginations when they write the body of the letter. Encourage your students to put themselves in Will's shoes. After explaining all five parts of a friendly letter to your students, give them time to work.

3) When all the letters are complete, conclude the activity by having each student address an envelope. The letter should be addressed to Will's parents in Chippewa Falls and the return address should be Will's address at the CCC camp. See the example envelope for more details. Have your students draw a stamp in the corner.



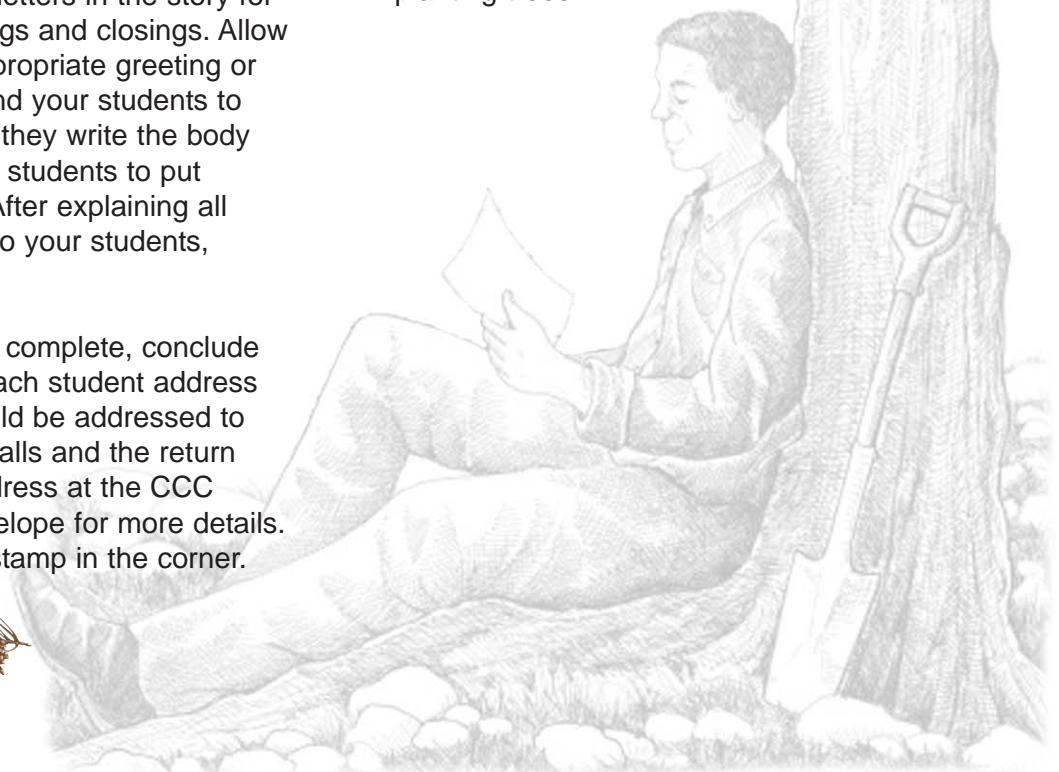
CONCLUSION

After your students have written their letters and placed them in the addressed envelopes, it is time for them to switch roles. Ask your students to exchange letters with another student. Now have them imagine that they are Will's Ma and Pa as they read the last letter from Will before he leaves for Moose Lake. After your students have had a chance to read their letters to themselves, ask several students to volunteer to read the letter they received out loud.



ASSESSMENT

Ask your students to write another letter. This time ask them to imagine they are either Leon or Thomas writing home to their parents about their experience in the CCC camp. Ask your students the following questions to get them thinking: What would you tell your parents about Will? Would you tell them about the fight? What would you tell them about what you are learning? Coming from Chicago, what has life been like for you in the CCC camp? How do you feel about planting trees?



100 CCC Way
Fort Sheridan, IL 60037

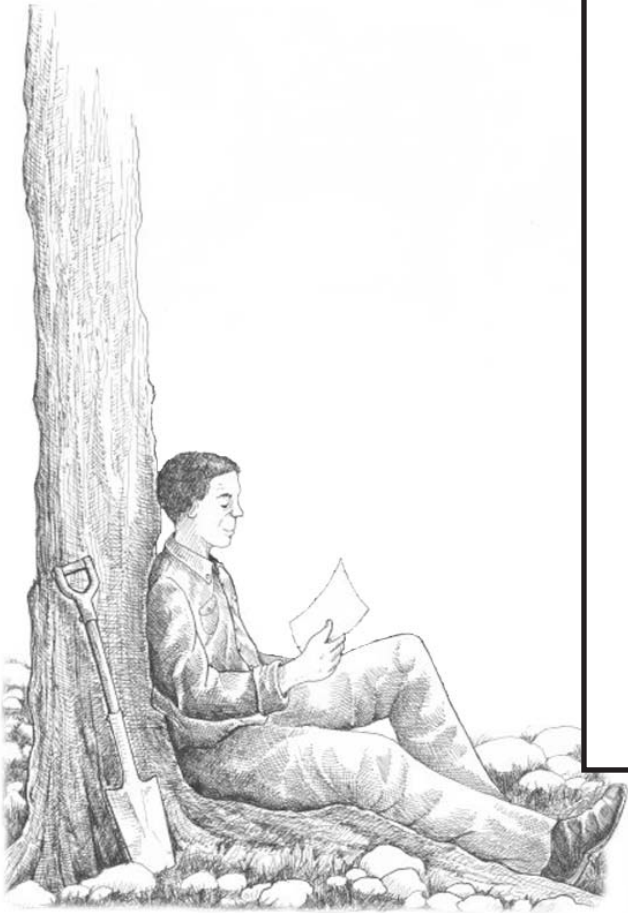
September 3, 1933

Greeting to Ma and Pa,

Use your imagination to fill in the body of the letter. If you were Will and you were about to leave for Moose Lake, what would you want to tell your parents in a letter? Remember to write in complete sentences and indent the beginning of each paragraph.

Closing,

Will's signature



Will Meyer
100 CCC Way
Fort Sheridan, IL 60037

Mr. and Mrs. William Meyer
1000 Stump Road
Chippewa Falls, WI 54729

ACTIVITY 6

TIMBER-R-R THIEVES

In Chapter 6 of *Wisconsin Forest Tales*, students read about thieves stealing four trees growing on the property of Paul’s family. In this activity, students calculate what those trees may have been worth to gain a better understanding of their value.

BACKGROUND

Black walnut trees hold value in both their nuts and their wood. The nuts are commonly used in baking, ice cream, and candy making. The rich, dark color of walnut wood makes it a choice material in furniture, musical instruments, cabinets, boats, and many other beautiful wood products. Other highly valued types of wood in Wisconsin include oak and maple, but typically black walnut wins the prize of most highly valued. Even other countries seek black walnut as a material for their wood products. The United States commonly exports black walnut to countries such as Germany, South Korea, and Japan. Although

some black walnut trees are grown in plantations, most black walnut trees in Wisconsin occur naturally in the southern part of the state. The older the tree, the more valuable the wood will likely be. Veneer quality wood goes for the highest price. (Veneer is a thin sheet of wood peeled from a log. It is applied to the surface of many products such as furniture.) To be veneer quality, the wood must be straight and virtually flawless. Typically the butt log, or log that came from the bottom of the tree, is worth the most money and has the greatest potential to be veneer quality. Logs not good enough to be used for veneer are usually used as saw logs (logs that are milled into lumber).



LESSON OBJECTIVES

Upon completion of this activity, students will be able to:

- Determine the monetary value of a tree.
- Determine the number of products that can be made from a particular volume of wood.

TIME

Introduction.....5 minutes
Activity.....30 minutes
Conclusion.....5 minutes

MATERIALS

- Chalk/Marker board
- Tape measure
- One worksheet per student
- One calculator per student

SUBJECT AREAS ADDRESSED

Mathematics

INTRODUCTION

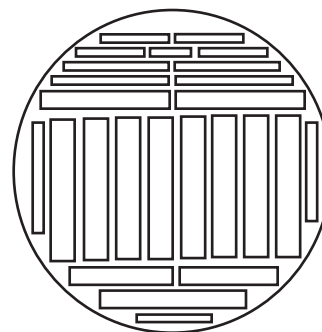
Remind your students that the trees stolen in “Timber-r-r Thieves” are the same four trees at the bottom of the bluff in “Dreaming of Wisconsin.” Ask your students to look back at “Dreaming of Wisconsin.” Remind your students how the Meyer family was struggling to survive. Ask your students why Pa and Will didn’t cut down the four trees and sell them. *(They were not able to cut them down. The forester told them it would take ten oxen and a week to haul the trees up the bluff.)* Ask your students what the thieves in “Timber-r-r Thieves” used to cut and haul the trees. *(They used a chain saw to cut the trees. They used a winch and a truck to haul the logs up the bluff and transport the*

logs to the lumber mill.) Ask your students how long it took the thieves to cut and load the logs. (*The story doesn't give an exact time, but two men completed the job in less than one day.*) Discuss with your students how new technology made it easier and faster to harvest the trees.



such as wood chips used in landscaping or as fuel in the sawmill.

SAMPLE



ACTIVITY

1) Tell your students that in this lesson they will calculate how much wood was in each of the black walnut trees. They will also figure out the value of the trees in dollars and in terms of how many products can be made from the trees.

Tell your students that the biggest tree of the four was 28 inches in diameter. Draw a circle on the board that is approximately 28 inches in diameter. Explain to your students that when the tree was cut down, this is about how big around the stump was.

2) Next have your class walk into the hallway. Take a tape measure with you. Explain to your students that when a tree is harvested, not all of the tree can be used. When foresters measure the height of trees, they usually measure the amount that can be used. Tell your students that the tallest of the four trees had 64 feet of useable wood. Run the tape measure along the floor in the hallway to show your students what 64 feet looks like. Explain that if the tree were lying down, this much of the tree could be used to make products. Have several students hold hands and stretch themselves out along the measured distance. How many students does it take to fill this space?

3) Go back into the classroom and draw your students' attention back to the circle you drew on the board. Draw several rectangles inside of the circle to show how the round log gets sliced into pieces of lumber. Explain that since rectangles don't fit exactly into a circle, some of the wood is not used for lumber. Explain how the rectangles are different sizes in order to make the best use of the wood in the log. Some of the wood around the edges of the circle does not get used for lumber. It can be used for other wood products

4) Next, draw a board on the chalkboard that measures 12 inches wide and 8 feet long. Make note on the chalkboard that this board is also 1 inch thick. Ask your students to imagine a real board of this size. Explain that you will be using a board of this size as a unit of measure during the activity. Tell your students that you are going to tell them how many boards of this size can be made from each of the four trees in the story. Remind them that in reality, you cannot cut all the boards in one tree to be the same size and shape. However, the numbers you are giving them represent the equivalent number of boards IF they could all be the same size and shape.

TREE	NUMBER OF BOARDS IN THE TREE
1	120
2	70
3	65
4	110

5) Give each student a copy of the worksheet and allow them time to fill these numbers in on Table One on their worksheets. When they are finished, explain to your students that you would like them to use the table to figure out how much money each of the trees is worth. Show your students how to use a calculator to multiply the number of boards in each tree by the price per board to get the total value of each tree. Give your students time to complete this part of the table.

6) Next have your students use their calculators to add up the total number of boards in all

four trees and the total value of all four trees. Have them write those numbers in the corresponding space on the table. When everyone has completed Table One, review the answers with your students and answer any questions they have.

7) Explain to your students that people commonly use black walnut trees to make beautiful furniture. Tell them that they are going to figure out how many rocking chairs could be made from the four trees and how many dining room tables could be made from the four trees. Show them Table Two on their worksheet which will help them calculate this. Tell your students to transfer the total number of boards from Table One to the first column on Table Two. (Note: they will write this number twice.) In each row, they will use a calculator to divide the total number of boards by the figure given in the third column, which is the number of boards in each product. The result will be the total number of rocking chairs or dining room tables that could be made from the four trees. Give your students time to complete this table. When everyone has completed Table Two, review the answers with your students and answer any questions they have.



Note: This lesson is an oversimplification of how wood is measured and cut. The goal of the lesson is for students to gain a basic understanding of the volume of wood in a tree and its potential value.



ASSESSMENT

Ask your students to imagine they are reporters for the local newspaper in Chippewa Falls. Have each of your students write a one-page newspaper article about how Paul used his level head to help recover the stolen trees. Suggest to your students that they may want to use some of the information from the lesson to help their readers understand just how valuable the trees were. Tell your students to be sure to answer the following questions: Who are the main players in the story? What events took place? Where, when, why, and how did it all happen?

CONCLUSION

When everyone understands Table Two, ask your students, "When Paul first told his parents he had seen something red on the farm, how did they respond?" (*They made a joke about it, suggesting that it may have been a UFO, or alien spaceship.*) The story explains how Paul helped solve the crime of the stolen trees. Ask your students, "Throughout the story, how did Paul's actions lead to the recovery of the stolen trees?" (*Paul was observant; he asked himself questions to try to explain the unusual things he observed, he used quick thinking when he camouflaged himself and marked the trees with his belt buckle, he moved quickly to report the crime to the police, he cooperated with the police to help them find the trees.*) Remind your students that in the end Paul's efforts paid off. The trees were recovered and Paul still had money to go to college one day. Paul was the hero of the story.

ANSWER KEYS

TABLE 1

TREE	NUMBER OF BOARDS IN EACH TREE	MULTIPLY (number of boards X price per board)	PRICE PER BOARD	VALUE OF EACH TREE
1	120	x	\$80.80	\$9696.00
2	70	x	\$80.80	\$5656.00
3	65	x	\$80.80	\$5252.00
4	110	x	\$80.80	\$8888.00
TOTAL NUMBER OF BOARDS:	365		TOTAL VALUE FOR ALL FOUR TREES:	\$29,492.00

TABLE 2

TOTAL NUMBER OF BOARDS	DIVIDE	NUMBER OF BOARDS IN EACH PRODUCT	HOW MANY PRODUCTS CAN BE MADE FROM THESE TREES
365	÷	4.2 boards per rocking chair	<u>86</u> CHAIRS
365	÷	12.5 boards per table (8-person dining room table)	<u>29</u> TABLES

TABLE 1

TREE	NUMBER OF BOARDS IN EACH TREE	MULTIPLY (number of boards X price per board)	PRICE PER BOARD	VALUE OF EACH TREE
1		X	\$80.80	
2		X	\$80.80	
3		X	\$80.80	
4		X	\$80.80	
TOTAL NUMBER OF BOARDS:		TOTAL VALUE FOR ALL FOUR TREES:		

TABLE 2

TOTAL NUMBER OF BOARDS	DIVIDE	NUMBER OF BOARDS IN EACH PRODUCT	HOW MANY PRODUCTS CAN BE MADE FROM THESE TREES?
	$\frac{\bullet}{\bullet}$	4.2 boards per rocking chair	_____ ROCKING CHAIRS
	$\frac{\bullet}{\bullet}$	12.5 boards per table (8-person dining room table)	_____ TABLES

ACTIVITY 7

THE ELM STREET TREE HOUSE CLUB

In Chapter 7 of *Wisconsin Forest Tales*, students read about a group of boys who plan to build a tree house, but the tree becomes a victim of Dutch elm disease. In this activity, students investigate Dutch elm disease and other alien invaders, share their findings with the class, and play a game using what they have learned.

BACKGROUND

In each ecosystem there is a natural balance that keeps everything running smoothly. The system can get out of balance when something new is introduced into the ecosystem. Since everything in an ecosystem is related in some way to everything else, a complicated series of cause and effect events can take place.

Gypsy moths are an invasive exotic species in Wisconsin. An invasive exotic species is a species that enters an area and causes harm by out-competing species already there. They cause problems for trees by stripping them of their leaves. Gypsy moths can eat all the leaves off one oak tree in a week. Trees are usually able to grow a new set of leaves before the growing season ends, but if trees face another stress (such as drought) at the same time, the trees may die. Defoliation makes trees more vulnerable to other pests and diseases. In addition, oak trees may not make any acorns for several years following defoliation. This has an impact on the amount of food available for wildlife. Leaves serve as a buffer against strong rainstorms. Without the leaves, water may pound the soil, causing erosion and runoff into nearby streams. Without shade from trees, water temperatures in streams and lakes increase and oxygen levels decrease, causing stress to aquatic life.

This example demonstrates the chain of events that can happen when an ecosystem gets out of balance. For this reason, we try to keep invasive exotic species under control to minimize their affect on our ecosystems.



LESSON OBJECTIVES

Upon completion of this activity, students will be able to:

- Describe four invasive exotic species present in Wisconsin.
- Describe actions that can help prevent the spread of invasive exotic species.

TIME

Introduction.....5 minutes
Activity.....30 minutes
Conclusion.....30 minutes

MATERIALS

- Overhead projector
- Four copies of the Investigation Worksheet
- Two copies of the Alien Invader Cards
- Overhead transparency of the Alien Invader Cards
- One copy of each Alien Profile
- Scissors

SUBJECT AREAS ADDRESSED

Language Arts
Science

INTRODUCTION

Review the story from Chapter 7 of Wisconsin Forest Tales with your students. Ask your students what the boys in the story were planning to do with the elm tree in the Butlers' backyard. (*The boys wanted to build a tree house for the Elm Street Tree House Club.*) Ask what happened to the tree in the story. (*The boys noticed that some of the leaves were yellow and wilted. They later found out the tree had Dutch elm disease and needed to be cut down.*) Ask how this made the boys feel. (*They felt disappointed that they wouldn't be able to build a tree house. They also were disappointed that many other trees in their neighborhood had to come down.*) Ask what was lost when the trees were taken. (*The cool shade that had protected their skin, their homes, and their lawns from the hot sun. The roots that protected the soil from washing away and places for animals to make their homes.*)

Put the transparency showing drawings of the alien invaders on the overhead projector. Uncover the drawing representing the fungus that causes Dutch elm disease. Tell your students that in this story, Dutch elm disease was the problem. Remind your students that Dutch elm disease is caused by a fungus that came from another part of the world. Tell your students that scientists call this fungus an invasive exotic, but you could also think of it as an alien invader. Dutch elm disease is not the only alien invader to damage our trees in North America. Uncover the drawings of the emerald ash borer and the Asian longhorned beetle. Explain that the larvae of these insects can chew through enough wood to cause a tree to die. Next, uncover the drawings of the gypsy moth and explain that the larvae of this insect can eat enough leaves off of trees to cause serious and lasting impacts.



ACTIVITY

1) Divide your students into four groups and assign each group one of the following alien invaders to investigate: emerald ash borer,

gypsy moth, Asian longhorned beetle, or Dutch elm disease.

2) Hand out one blank Investigation Worksheet to each group. Explain to your students that you are going to ask them to find out more about the alien invader that was assigned to their group.

3) Give each group the Alien Profile for the alien invader they were assigned. Explain to your students that their job will be to use the Alien Profile to fill in all the boxes on their Investigation Worksheet.

The information they gather will include:

- Description: How to recognize the alien
- Target: Which tree(s) the alien attacks
- Strategy: How the alien harms the tree
- Arrival: How the alien invaded North America
- Infiltration: How the alien spreads to other areas
- Defense: How we can help prevent the spread of the alien (**Note:** their worksheet requires them to list three defenses)

Help your students break down the task of filling out their worksheet. Encourage them to divide the questions among the group members so each member works on one or two questions, or suggest that they work in pairs within their group. Explain that the worksheets are later going to be cut into information cards and used to play a game called *Identify the Culprit*. Tell your students to be careful not to use the name of their invader on the cards. If they do, they will give the answer away. Give your students time to work. In the meantime, be sure you have two sets of the four Alien Invader Cards cut apart.

4) Once your students have had time to start on their investigations, tell them that you are going to ask each group to give a summary to the class on their findings. Ask the groups to think about whether they will have each person share about the question(s) they answered, or if one person will present all the information on behalf of the group.

5) When every group has completed their Investigation Worksheets, tell your class it is time to hear each group present their information. Allow each group to use the drawings of their invader from the overhead during their briefing. Remind your students to listen carefully during

each presentation. Explain that they will need to know as much as possible about each alien invader in order to play the game *Identify the Culprit*. Begin having each group give their presentations. When all the presentations are over, ask each group to cut their worksheets apart into eight cards. Collect all the cards into one container and mix them up.

6) It is time to play *Identify the Culprit*. Make a row with each of the two sets of alien invader cards on either side of a table at one end of the room. Divide the class into two groups. Have each group line up on the opposite end of the room from the table. Hand out 16 cards to each group. Explain to your students that in relay race fashion, they will take turns picking one of their 16 cards and walking to their set of alien name cards on the table. They will then match the information on their card to the alien it refers to and set the card down below the alien invader card. When they have finished, they will return to the group and slap the hand of the next teammate.

Play the game until both groups have completed placing their cards under the corresponding alien invader card. When everyone is finished, check the work of the first group to finish. If they got all their cards in the correct location, they win. If any of their cards are not in the correct position, check the work of the second group. If the second group got all their cards in the correct position, they win. If neither team got all of them correct then have your class do the race again.



CONCLUSION

Discuss with your students how the alien invaders are capable of killing trees. Have your students reflect on a tree that has meaning to them. Ask them how they would feel if an alien invader killed their special tree. Ask them what benefits they would lose if this tree died. Have your students write a poems about their tree and the things they appreciate about it. When everyone is finished, ask several students to share their poem for the class. Ask questions like: Where is your special tree? Why did you choose

this tree? Would anyone besides you be sad or disappointed if the tree died?



ASSESSMENT

Explain to your students that emerald ash borers, gypsy moths, Asian longhorned beetles, and Dutch elm disease are not the only invasive exotic species threatening Wisconsin's forests. Ask your students to uncover an invasive exotic which is threatening Wisconsin's forests and is not described in this activity. Assign your students to write their own Alien Profile describing the invasive exotic they uncovered. Each profile should include at least three of the following pieces of information concerning the exotic they chose.

- Description: How to recognize the alien.
- Target: Which tree(s) the alien attacks.
- Strategy: How the alien harms the tree.
- Arrival: How the alien invaded North America.
- Infiltration: How the alien spreads to other areas.
- Defense: How we can help prevent the spread of the alien.

MORE INFORMATION

Emerald Ash Borer

www.dnr.state.wi.us/org/land/Forestry/FH/Ash/index.html

Gypsy Moths

www.dnr.state.wi.us/org/caer/ce/eeek/critter/insect/moth.htm

Asian Longhorned Beetle

www.dnr.state.wi.us/org/land/Forestry/FH/exotics/index.html#3

Dutch Elm Disease

www.sdeda.ca/kids/factsheet.pdf

Invasive Exotic Species

www.dnr.state.wi.us/invasives



ALIEN PROFILE: ASIAN LONGHORNED BEETLE

Description: How to recognize an Asian longhorned beetle

Named for their long antennae, adult beetles have black armor covered with white spots. They lay eggs on trees. The eggs hatch into larvae, which look like small white worms. Larvae tunnel into the tree to go through metamorphosis and emerge later as adult beetles.

Target: Which tree(s) the alien attacks

Asian longhorned beetles prefer maple trees. However, birch, horse chestnut, poplar, willow, elm, ash, and black locust have also been known to sustain attacks by these black and white invaders.

Strategy: How the alien harms the tree

Larvae tunnel into the wood, causing branches to die. If enough tunneling is done on one tree, the tree can die.

Arrival: How the alien invaded North America

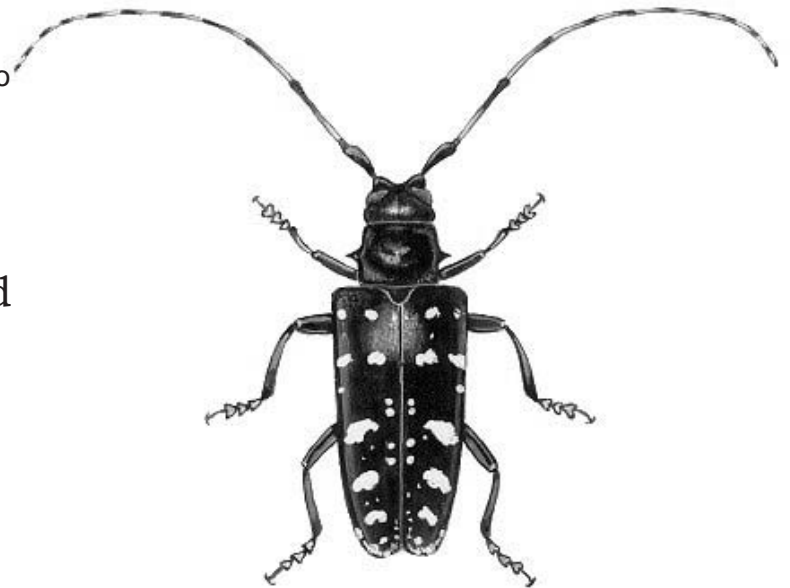
As the name tells you, Asian longhorned beetles came from Asia. They probably arrived in North America burrowed into some kind of wooden shipping crate. Asian longhorned beetles were first detected in Brooklyn, New York in 1996.

Infiltration: How the alien spreads to other areas

Since Asian longhorned beetles hide below the bark of the tree for most of their lives, they are difficult to detect. The beetle can easily hitch a ride in firewood or in trees from nurseries without people being aware of it.

Defense: How we can help prevent the spread of the alien

Wooden packing materials need to be checked for the presence of Asian longhorned beetles and treated to kill any insects in the wood. Infested trees need to be cut down and chipped or burned to get rid of the beetle. People must be careful not to take wood materials from infested areas to uninfested areas.



ALIEN PROFILE: EMERALD ASH BORER

Description: How to recognize an emerald ash borer

Named for their color, adults have a metallic green color on their backs. They measure only a half-inch long at most. The adults lay eggs that hatch into larvae. The white worm-like larvae have a pair of brown pincers. These larvae spend the winter changing into adult beetles.

Target: Which tree(s) the alien attacks

Emerald ash borers feed exclusively on ash trees. Ash trees can be commonly found in the city and in the country all over Wisconsin.

Strategy: How the alien harms the tree

The eating habits of emerald ash borer larvae cause severe damage to an ash tree. They chew through the part of the wood that transports water and nutrients to the branches and leaves. Without water and nutrients the tree can die.

Arrival: How the alien invaded North America

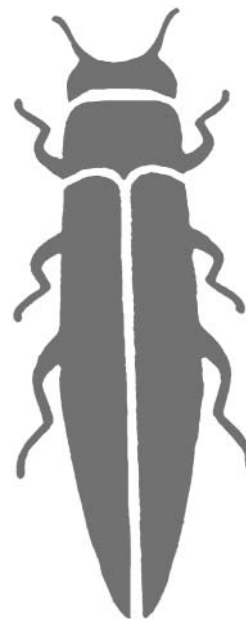
Emerald ash borers originally came from Asia. At some point, there must have been larvae hiding in some wood that was shipped from Asia to North America. Scientists first discovered the emerald ash borer in Michigan in 2002. As of 2005, emerald ash borers had not yet spread to Wisconsin.

Infiltration: How the alien spreads to other areas

Larvae hide in logs and firewood without people knowing about it. When people move the logs or firewood from one region to another, they can accidentally help to spread the beetles to a new location.

Defense: How we can help prevent the spread of the alien

Never bring firewood from a known emerald ash borer-infested area into Wisconsin. Keep an eye on the ash trees near your surroundings. Help keep trees healthy by watering them if the weather has been dry. Report any suspected emerald ash borer infestations.



ALIEN PROFILE: GYPSY MOTH

Description: How to recognize a gypsy moth

Adult gypsy moths grow to be 1 to 1.5 inches long. They have brown and black wings. Adults lay eggs in masses, which eventually hatch into caterpillars. Covered with long stiff hairs, gypsy moth caterpillars are mostly black. As they grow, they get pairs of blue and red spots on their backs. The grown caterpillars go through metamorphosis and turn into adult gypsy moths.

Target: Which tree(s) the alien attacks

Gypsy moths chew the leaves of alder, apple, aspen, birch, basswood, hawthorn, white birch, tamarack, oak, and witch hazel trees.

Strategy: How the alien harms the tree

Gypsy moths do the most damage while they are caterpillars. Gypsy moth caterpillars can eat all the leaves off of trees. For instance, all the leaves on an oak tree can be gone in one week. This makes the trees weak and slows down their growth. In some cases, the tree dies.

Arrival: How the alien invaded North America

In the late 1800s, a professor wanting to breed a hardy silkworm, brought gypsy moths to the U.S. Some of the gypsy moths escaped from a jar that fell from his window in Massachusetts. Soon a Gypsy moth population grew in the surrounding area. It took over 120 years, but eventually gypsy moths spread throughout the eastern U.S.

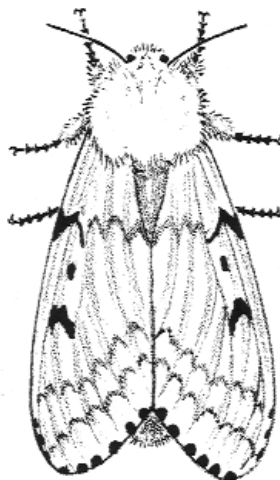
Infiltration: How the alien spreads to other areas

After the caterpillars hatch out of their eggs, they spread out. From the top of a tree, caterpillars spin themselves a thread and dangle from it. Then they wait for a breeze to blow them to another tree.

People can transport gypsy moths from one area to another without knowing it. Accidental spread can happen easily when clumps of eggs attach to things like cars, firewood, plants, and outdoor furniture.

Defense: How we can help prevent the spread of the alien

Look for and remove eggs on vehicles and equipment before you go on a trip and again before you return. Look for and remove eggs from your trees, buildings, and outdoor furniture every fall. Allow state and federal investigators to trap gypsy moths on your property. Report any gypsy moths you find to the Wisconsin Department of Agriculture.



FEMALE



MALE

Photos: Cooperative Extension Service, University of Maryland System

ALIEN PROFILE: DUTCH ELM DISEASE

Description: How to recognize Dutch elm disease

Dutch elm disease is caused by a fungus that is carried by the elm bark beetle.

Target: Which tree(s) the alien attacks

Dutch elm disease attacks only elm trees. Elm trees grow in cities and forests all over Wisconsin.

Strategy: How the alien harms the tree

The fungus damages the water transporting system in elm trees. Without water, the leaves turn yellow, wilt, and the tree dies.

Arrival: How the alien invaded North America

The disease came to America in wood that was brought into the United States from Europe during the early 1900s.

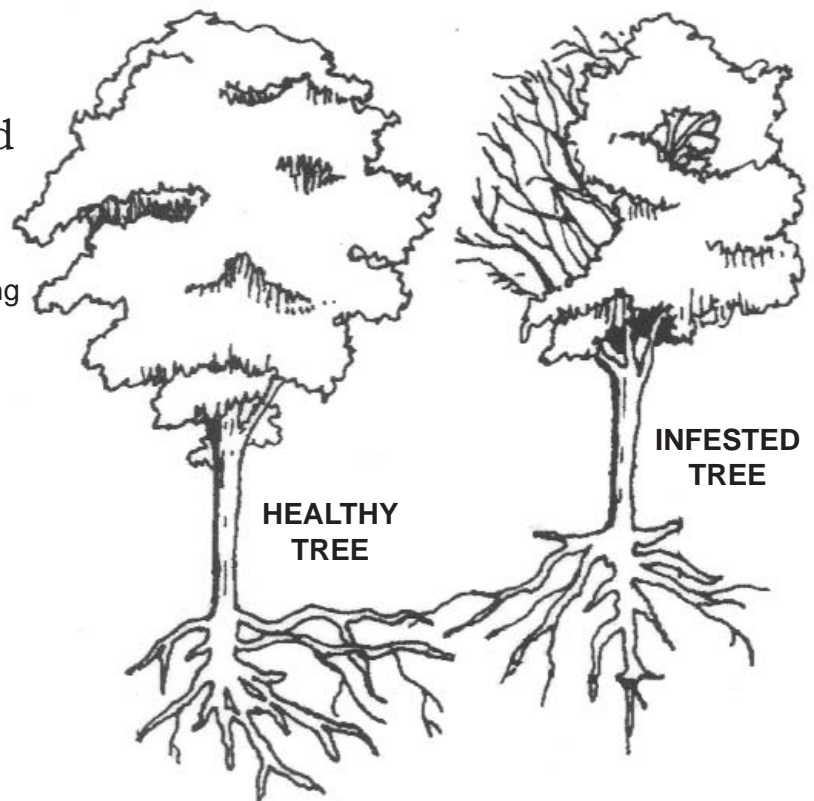
Infiltration: How the alien spreads to other areas

Dutch elm disease spreads when the fungus hitches a ride with elm bark beetles. The bark beetles move from tree to tree, spreading the

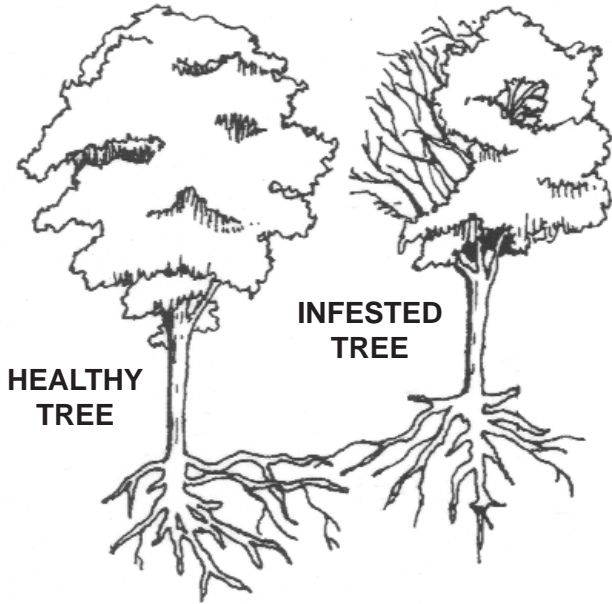
disease-causing fungus. The fungus also spreads directly from tree to tree when the roots of two elm trees connect.

Defense: How we can help prevent the spread of the alien

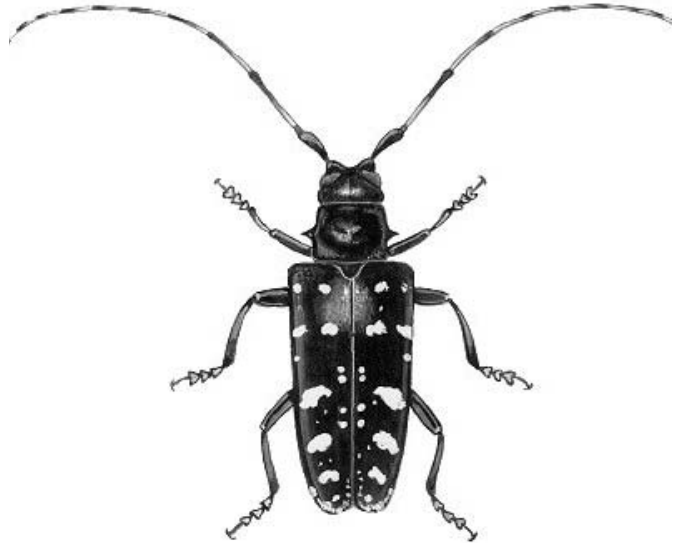
Don't transport firewood containing elm logs. If you do, you may accidentally spread Dutch elm disease to a new area. Take special care of elm trees so they stay healthy and resistant to disease. Don't prune elm trees during the growing season because this will attract elm bark beetles to the tree and make the tree more susceptible to infection.



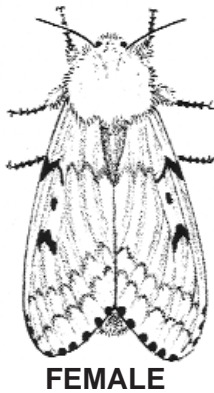
Dutch Elm Disease



Asian Longhorned Beetle



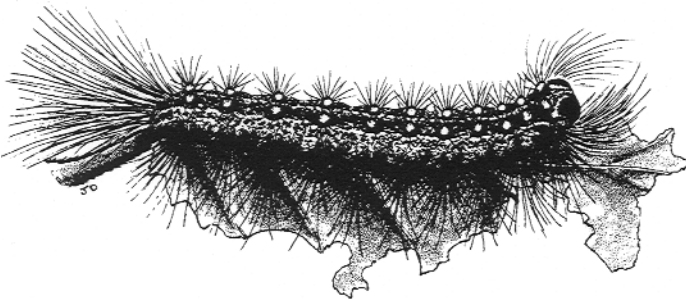
Gypsy Moth



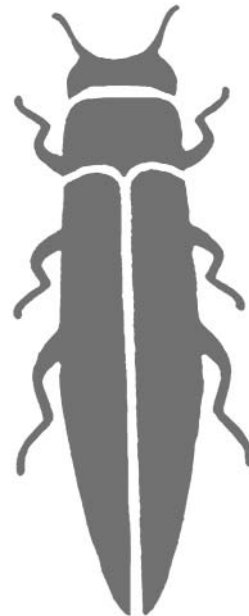
FEMALE



MALE



Emerald Ash Borer



INVESTIGATION WORKSHEET

Work with your group to fill in the following information about your alien invader. These cards will be used to play *Identify the Culprit*. Be careful not to use the name of your invader on these cards. If you do, you will give the answer away.

What the alien invader looks like:

Type(s) of tree the alien invader attacks:

How the alien invader hurts trees:

How the alien invader got to North America:

How the alien invader spreads to other areas:

One way we can help prevent the spread of the alien invader is:

One way we can help prevent the spread of the alien invader is:

One way we can help prevent the spread of the alien invader is:

ACTIVITY 8

GRANDMA'S WALK

In Chapter 8 of Wisconsin Forest Tales, students read about a class that creates a nature trail. In this activity, students work together to make an interpretive trail that tells the story of the history of Wisconsin's forests.

BACKGROUND

What is Interpretation?

"Thousands of naturalists, historians, archeologists and other specialists are engaged in the work of revealing something of the beauty and wonder, the inspiration and spiritual meaning that lie behind what the visitor can with his senses perceive. This function of the custodians of our treasures is called Interpretation." ~Freeman Tilden

In this lesson, your students will develop an interpretive trail describing the history of

Wisconsin's forests and lead another group of students through their trail. Beyond simply communicating facts, your students will be challenged to interpret historical information for their audience. To do this, they will need to find ways to connect with their audience on a personal level.

In Interpreting Our Heritage, Freeman Tilden defined interpretation as "an educational activity which aims to reveal meanings and relationships through the use of original objects, by firsthand experience, and by illustrative media, rather than simply to communicate factual information."

In six principles, Tilden captures the essence of Interpretation.

1. Interpretation needs to relate what is being described to something within the personality or experience of the audience.
2. Though interpretation includes information, interpretation goes further. It is revelation based upon information.
3. Interpretation is an art which combines many arts and is in some way teachable.
4. The chief aim of interpretation is not instruction, but provocation.
5. Interpretation should aim to present a whole rather than a part, and address itself to the whole man rather than any phase.
6. Interpretation addressed at children needs to be designed specifically for children.

While teaching this lesson, your most important job will be to offer guidance to your students as

LESSON OBJECTIVES

Upon completion of this activity, students will be able to:

- List several important events in the history of Wisconsin's forests.

TIME

Introduction.....10 minutes
Activity.....90 minutes
Conclusion.....15 minutes

MATERIALS

- Transparency and overhead projector or Chalk/Marker board
- Posterboard or cardboard for making signs
- Markers or paints
- Writing paper and pencils
- Assorted props

SUBJECT AREAS ADDRESSED

Language Arts
Social Studies

they use their creativity to make meaningful connections between their audience and the history of Wisconsin's forests.



INTRODUCTION

Now that your students have completed the book Wisconsin Forest Tales, take some time to review each chapter with your class. Ask questions to jog their memories about what they have read. Here are some examples: In "Saenomehsaeh Finds a Way," why did the Menominee people burn the forest? (*The Menominee used fire to clear the forest and make room for grass and shrubs to grow. They needed to do this to attract more deer for hunting.*) How did John McDonald save Boss Larson's life in "Roll Out or Roll Up"? (*He alerted the crew when he noticed logs slipping on the load. He even pushed Boss Larson out of harm's way.*) How did Susanna help Papa make it safely through the smoke in "Calling Papa Home"? (*She climbed to the top of their roof and rang the bell using her father's logger's mark.*) In "Dreaming of Wisconsin" what led the Meyer family to move from Chicago, Illinois to Chippewa Falls, Wisconsin? (*The Meyers, like many families, believed false advertising that claimed wheat grew taller than a man in Wisconsin.*) Looking back at "Writing Home," what kinds of jobs did CCC men do to help Wisconsin? (*They planted trees, prevented soil erosion, fought fires and built bridges.*) Why were the stolen trees so important to Paul and his family in "Timber-r-r Thieves"? (*They were important because they were very valuable. Paul's family had planned on selling the trees to pay for Paul's college education.*) In "Elm Street Tree House Club" what benefits were lost when Dutch elm disease killed street trees? (*Trees help by preventing soil erosion, cleaning the air, providing homes for animals, providing shade and beauty, and providing places for tree houses.*)



ACTIVITY

1) Remind your students that in Chapter 8 of Wisconsin Forest Tales, Molly's class worked together to create a nature trail in their school forest. Tell your students that they are going to work together to create a special trail as well. This time instead of creating a trail that tells about the animals and plants in a particular area, your students will create a trail that tells the story of Wisconsin's forests throughout history. Wisconsin Forest Tales will be the starting point for your students' creativity. Tell your students that the theme of their interpretive trail will be: **Many different people and events helped Wisconsin's forests become what they are today.**

2) Remind your students of the character named Sydney from Chapter 8. Ask your students what her main role was in helping her class create their nature trail. (*Sydney helped everyone get organized.*) Tell your students that in order to be successful at creating their interpretive trail, they will need to stay organized. Write the theme on the chalkboard or project it on the overhead. Next make a heading for each of the previous seven chapters. Divide your students into seven groups and assign a chapter to each group. Make a note of those assignments on the board or overhead. Then go over the "To Do List" so your students understand what they must accomplish with their group.

3) Give your students time to look back through their assigned chapter for ideas of objects that could be collected and put on display. They should brainstorm within their group for ideas. Have each group come up with one or two objects that can be easily collected to represent their chapter. You may need to assign the collection of objects as homework, so that students can look for objects at home. Here are some ideas to suggest if your students get stuck:

Chapter 1: Maple or aspen leaves, grass, water, sand

Chapter 2: Pine boughs, hay, log, wool socks

Chapter 3: Blanket, bell

Chapter 4: Potatoes, rocks

Chapter 5: Trowel, seedling, rocks, books

Chapter 6: Walnuts, black walnut leaf, mud, rock, belt buckle

Chapter 7: Elm leaf, scrap of two-by-four, tape measure, yellow leaves, dead branch, seedling

4) Once the groups have decided on their objects, give them time to figure out how they are going to use those objects to interpret their part of Wisconsin's history. Students may choose to become a character from the book, use an expressive voice to retell the story from the chapter in their own words, or use some other creative means like a skit, a song, a poem, etc. Encourage your students to involve the senses of their audience and to allow their audience to touch the objects. Remind your students to consider asking thought-provoking questions or dressing up on the day of the presentation.

5) As the teacher, you may give the introduction to the interpretive trail, or allow a student or group of students to do it. The introduction, however, should catch the attention of the audience. This can be accomplished through something humorous, a rhetorical question, a quotation, or other creative means. The introduction should also introduce the theme of the program and set the audience's expectations. You also need to develop a conclusion to bring closure to the experience for the audience. Maybe it is a review of the seven stations visited, another quote, or a question to ponder.

6) Once the students have chosen objects and discussed how to use those objects to tell a story, have your students create signs explaining how the objects fit into the history of Wisconsin's forests. When this is complete, help your students set up the interpretive trail in your classroom or possibly somewhere outside on the school grounds. Put the items in the order of the chapters in the book so your students are also telling the history of forests in Wisconsin. Before you invite another class to see your trail, have your students practice leading their part of the trail for their classmates. After the introduction, start with the group who worked on Chapter 1. Continue to allow each group to practice until everyone feels comfortable and there is a flow to the entire presentation.

7) Finally, work as a group to brainstorm a name for your trail. You could also draw a map of your trail and ask each group to label their station

on the map. Once all of your preparations are complete, invite another class to go through your interpretive trail.



CONCLUSION

Now that your students have created an interpretive trail and led another group of students through it, it is time to reflect. In Chapter 8, Molly made entries in her diary expressing her feelings about the events of the day. Now it is your students' turn. Ask each of your students to write a diary entry expressing their feelings about their class project. Write the following questions on the board to get them thinking: Looking back at the history of forests in Wisconsin, how do you feel about how our ancestors treated forests? What was your favorite part of putting the interpretive trail together? You have learned that people's actions have an affect on our forest ecosystem. What are some changes you want to make in your life to help Wisconsin maintain healthy forests for future generations?



ASSESSMENT

Have each student make a timeline showing the history of Wisconsin's forests from before European settlement until today. Each timeline should have at least eight points. Ask your students to show as much detail as possible.

Place on an overhead projector or chalk/marker board.

THEME FOR INTERPRETIVE TRAIL:

Many different people and events have helped shape Wisconsin's forests and brought them to their present state.

Chapter 1: Saenomehsaeh Finds a Way

Team Members:

Chapter 2: Roll Out or Roll Up

Team Members:

Chapter 3: Calling Papa Home

Team Members:

Chapter 4: Dreaming of Wisconsin

Team Members:

Chapter 5: Writing Home

Team Members:

Chapter 6: Timber-r-r Thieves

Team Members:

Chapter 7: The Elm Street Tree House Club

Team Members:

To Do List:

1. Review your chapter. Brainstorm objects you could collect to represent the period of time described in your chapter.
2. Narrow your list of ideas down to one or two objects.
3. Find a creative way to interpret your period of history for an audience. Use your collected objects in your presentation.
4. Create a sign explaining how your objects fit into the history of Wisconsin's forests.
5. Work with the entire class to set up an interpretive trail.
6. Practice leading your station for your classmates.
7. As a class, brainstorm a name for your trail and create a trail map.
8. Invite another class to see your trail presentation.

APPENDIX

REFERENCES

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CONNECTIONS BETWEEN FOREST TALES ACTIVITIES AND THE FOURTH GRADE UNIT OF THE LEAF LESSON GUIDE.

FOREST TALES ACTIVITIES

LEAF LESSONS

	ACTIVITY 1: SAENOMEH- SAEH FINDS A WAY	ACTIVITY 2: ROLL OUT OR ROLL UP	ACTIVITY 3: CALLING PAPA HOME	ACTIVITY 4: DREAMING OF WISCONSIN	ACTIVITY 5: WRITING HOME	ACTIVITY 6: TIMBER-R-R THIEVES	ACTIVITY 7: THE ELM STREET TREE HOUSE CLUB	ACTIVITY 8: GRANDMA'S WALK
LESSON 1: NATIVE AMERICANS AND THE FOREST	X							
LESSON 2: FORESTS BUILT OUR STATE								
LESSON 3: HELP WANTED - LUMBERJACKS		X						
LESSON 4: BROKEN DREAMS				X				
LESSON 5: I SAW IT ON THE 6 O'CLOCK NEWS			X		X			X
LESSON 6: FORESTS ARE IMPORTANT TO YOU AND ME							X	
LESSON 7: SUSTAINING OUR FORESTS								X
CAREERS EXPLORATION								
FIELD ENHANCEMENT 1: UNLOCKING A FOREST'S PAST					X			
FIELD ENHANCEMENT 2: ARE FORESTS IMPORTANT TODAY?						X		
FIELD ENHANCEMENT 3: CARING FOR THE FUTURE OF FORESTS							X	

RECOMMENDED RESOURCES

Activity 1: Saenomehsaeh Finds a Way

Activity Guides

Keepers of the Earth: Native American Stories and Environmental Activities for Children by Michael J. Caduto, Fulcrum Publishing Company, 1988.

This book contains Native American stories from several different groups. Following the stories are questions and discussion ideas as well as indoor and outdoor activities that can be done in or near school or home.

Keepers of Life: Discover Plants Through Native American Stories and Earth Activities for Children by Michael J. Caduto, Fulcrum Publishing Company, 1994. The Native American stories in this book focus on plants. Through the stories and activities, children learn about botany, plant ecology, and the natural history of North American plants.

Keepers of the Animals: Native American Stories and Wildlife Activities for Children by Michael J. Caduto, Fulcrum Publishing Company, 1991. The Native American stories in this book focus on wildlife. The book uses the stories as well as interdisciplinary activities to teach about wildlife ecology and environmental issues concerning animals.

Field Guide

A Field Guide to Trees and Shrubs: Northeastern and North-central United States and Southeastern and South-central Canada by George A. Petrides and Roger Tory Peterson, Houghton Mifflin, 1973.

Use this book to look up specific information about trees that live in Wisconsin. This information may be helpful to students as they create their legends.

Activity 2: Roll Out or Roll Up

Books

Lumberjack Lingo: A Dictionary of the Logging Era by L. G. Sorden and Jacque Vallier, NorthWord, 1986.

This comprehensive dictionary compiles the definitions of thousands of slang words created by lumbermen to communicate with one another. This book serves as a great resource for teachers, however is not recommended for students.

Marven of the Great North Woods by Kathryn Lasky, Voyager Books, 2002.

In this story, a Jewish boy named Marven is sent away by his parents to work in a lumber camp to escape the influenza epidemic. At the camp, an unlikely friendship forms between 10-year-old Marven and a French lumberjack. Read this beautifully illustrated tale of adventure to your 4th graders out loud, or allow them to read it independently. Either way, you are sure to enjoy this tale, which is based on a true story.

Activity 3: Calling Papa Home

Websites

The Great Peshtigo Fire of 1871

www.Peshtigofire.info

Learn more about what caused the fire and read about people who survived the fire. Also get more information about what Peshtigo is like today and how the fire is commemorated in their local museum and through their annual Historical Day.

Forest Fire Program

www.dnr.wi.gov/org/land/forestry/fire

Find information about Wisconsin's forest fire program. Use links to learn more about fire suppression equipment, fire departments, fire prevention, and many other related topics.

Book

Wildlife: The 1871 Peshtigo Firestorm by Jacqueline A. Ball, Bearport Publishing, 2005.

This nonfiction book is written as a high interest story from the perspective of someone who survived the fire. Thirty-two colorful pages include maps, diagrams, Internet sites, fact boxes, and a glossary.

Activity 4: Dreaming of Wisconsin

CD Rom

The Changing of the Land: A Wisconsin Forest History Unit, Central Wisconsin Environmental Station, 2002.

This CD ROM contains lesson plans dealing with the history of Wisconsin's forests. The lesson called "Farming the Cutover and Wisconsin Ghost Towns" ties closely with this Wisconsin Forest Tales activity.

Activity 5: Writing Home

CD Rom

The Changing of the Land: A Wisconsin Forest History Unit, Central Wisconsin Environmental Station, 2002.

This CD ROM contains lesson plans dealing with the history of Wisconsin's forests. The lesson called "Rebuilding Our Forests" ties closely with this Wisconsin Forest Tales activity.

Activity 6: Timber-r-r Thieves

Book

The Giving Tree by Shel Silverstein,
HarperCollins, 1964.

Discover the many values of a tree to a boy throughout his life.

Website

International Paper - Life of a Forest

www.iplifeoftheforest.com

Find information on the values of forests as well as how to get educational materials. A number of forest topics addressed.

Activity 7: The Elm Street Tree House Club

Websites

Wisconsin Department of Natural Resources: Emerald Ash Borer

www.dnr.state.wi.us/org/land/Forestry/FH/Ash

Learn more about the biology of the emerald ash borer. You can also get more information about host trees, signs and symptoms of infestation, how you can help, and links to other sources of information.

Wisconsin Department of Natural Resources: Alien Profile-Gypsy Moth

www.dnr.state.wi.us/org/org/caer/ce/eeek/critter

Click on "Alien Invaders," then "Gypsy Moth." This page, designed to be student-friendly, contains more information about gypsy moths. There are also helpful links including a link to the Moth Mania Quiz.

Wisconsin Department of Natural Resources: Asian Longhorned Beetle

www.dnr.state.wi.us/org/land/Forestry/FH

Click on "Other Exotic Threats," then "Asian Longhorned Beetle" to find information about the identification, life cycle, management techniques, and photographs of Asian longhorned beetles.

Saskatchewan Dutch Elm Disease Association

www.sdeda.ca

Click on "Kids Page" to find several kid-friendly activities and a fact sheet about Dutch elm disease.

Invasive Exotic Species

www.dnr.state.wi.us/invasives

Find information on many invasive exotic species in Wisconsin on this DNR website.

Activity 8: Grandma's Walk

Book

The Interpreters Guidebook by Kathleen Regnier, Michael Gross, and Ron Zimmerman, UWSP Foundation Press, Inc, 1992.

This book contains helpful hints for brainstorming ideas and developing effective interpretive presentations. In the resource section you will find a long list of ideas for props that can be used in nature and historical interpretation.

Website

Wisconsin Historical Society

www.wisconsinhistory.org

Students can click on the "Just For Fun" link and find a timeline. The timeline tells about the history of Wisconsin through stories and pictures.

WISCONSIN MODEL ACADEMIC STANDARDS

Activity 1: Saenomehsah Finds a Way

Language Arts B.4.1 - Writing

Standard is: Create or produce writing to communicate with different audiences for a variety of purposes.

- Write creative pieces (poetry, fiction, and plays) employing basic aesthetic principles appropriate to each genre.

Students create and write a legend to explain how something from nature became connected to American Indian culture.

Social Studies B.4.10 - History

Standard is: Explain the history, culture, tribal sovereignty, and current status of the American Indian tribes and bands in Wisconsin.

Students participate in a discussion and explain parts of American Indian history and culture.

Activity 2: Roll Out or Roll Up

Language Arts B.4.1 - Writing

Standard is: Create or produce writing to communicate with different audiences for a variety of purposes.

- Write creative pieces (poetry, fiction, and plays)

employing basic aesthetic principles appropriate to each genre.

Students create a fictional story telling about their first day on the job at a lumber camp.

Visual Art Creating K.4.3 - Making Connections

Standard is: Use what they are learning about life, nature, the physical world, and people to create art.

Students imagine they live in a lumber camp and create pictures of themselves as a lumber worker.

Activity 3: Calling Papa Home

Social Studies A.4.2 - Geography

Standard is: Locate on a map or globe physical features such as continents, oceans, mountain ranges, and land forms, natural features such as resources, flora, and fauna; and human features such as cities, states, and national borders.

Students locate physical features such as a river, and human features such as counties and cities on maps.

Social Studies A.4.7 - Geography

Standard is: Identify connections between the local community and other places in Wisconsin, the United States, and the world.

Students identify connections between Peshtigo, Wisconsin and their hometown by locating Peshtigo on the map, plotting a route to get from their hometown to Peshtigo, and discussing who has personal connections to the area or to people in the area burned by the Peshtigo fire.

Social Studies B.4.1 - History

Standard is: Identify and examine various sources of information that are used for constructing an understanding of the past, such as artifacts, documents, letters, diaries, maps, textbooks, photos, paintings, architecture, oral presentations, graphs, and charts.

Students examine maps to gain a greater understanding of the Peshtigo Fire of 1871.

Visual Art Communicating E.4.4 - Visual Communication and Expression

Standard is: Communicate basic ideas by producing visual communication forms useful in everyday life, such as sketches, diagrams, graphs, plans, and models.

Students create posters to communicate with other classes about ways to help prevent forest fires.

Activity 4: Dreaming of Wisconsin

Language Arts B.4.2 - Writing

Standard is: Plan, revise, edit, and publish clear and effective writing.

Students plan effective writing for a persuasive brochure and create a final product.

Science F.4.4 - Life and Environmental Science

Standard is: Using the science themes, develop explanations for the connections among living and nonliving things in various environments.

Students develop explanations for connections between trees and nonliving things by discussing ways trees benefit humans, animals, and the environment.

Arts E.4.4 - Visual Communication and Expression

Standard is: Communicate basic ideas by producing visual communication forms useful in everyday life, such as sketches, diagrams, graphs, plans, and models.

Students produce sketches to communicate how Wisconsin forests changed throughout history.

Activity 5: Writing Home

Language Arts B.4.1 - Writing

Standard is: Create or produce writing to communicate with different audiences for a variety of purposes.

- Write expressive pieces in response to reading, viewing, and life experiences (narratives, reflections, and letters) employing descriptive detail and a personal voice.

Students employ descriptive detail and personal voice to write a letter in response to the chapter they read.

Activity 6: Timber-r-r Thieves

Mathematics A.4.3 - Mathematical Processes

Standard is: Connect mathematical learning with other subjects, personal experiences, current events, and personal interests.

Students connect mathematical learning to a story they have read by calculating the value of the trees in the story.

Mathematics B.4.7 - Number Operations and Relationships

Standard is: In problem-solving situations involving money, add and subtract decimals.

Students add dollars and cents decimals to find the total monetary value of four trees.

Mathematics D.4.1 - Measurement

Standard is: Recognize and describe measurable attributes, such as length, liquid capacity, time, weight (mass), temperature, volume, monetary value, and angle size, and identify the appropriate units to measure them.

Students recognize measurable attributes like diameter, height, volume, and monetary value and use appropriate units to measure them.

Activity 7: The Elm Street Tree House Club

Language Arts A.4.4 - Reading/Literature

Standard is: Read to acquire information.

- Summarize key details of informational texts, connecting new information to prior knowledge.

Students read profiles of invasive exotic species to acquire information and summarize key details for their classmates.

Language Arts B.4.1 - Writing

Standard is: Create or produce writing to communicate with different audiences for a variety of purposes.

- Write creative pieces (poetry, fiction, and plays) employing basic aesthetic principles appropriate to each genre.

Students write a poem about a tree that has meaning to them.

Environmental Education A.4.4 - Questioning and Analysis

Standard is: Communicate their understanding to others in simple terms.

Students communicate their understanding about an invasive exotic species to their classmates in simple terms.

Environmental Education C.4.1 - Environmental Issue Investigation Skills

Standard is: Identify environmental problems and issues.

Students identify invasive exotic species as an environmental problem.

Environmental Education E.4.1 - Personal and Civic Responsibility

Standard is: Identify and describe examples of their environmental civic responsibilities and the actions they take to meet them.

Students identify and describe actions they can take to prevent the spread of invasive exotic species.

Activity 8: Grandma's Walk

Language Arts C.4.1 - Oral Language

Standard is: Orally communicate information, opinions, and ideas effectively to different audiences for a variety of purposes.

Students communicate information about the history of Wisconsin's forests to other students through an interpretive presentation.

Social Studies B.4.7 - History

Standard is: Identify and describe important events and famous people in Wisconsin and United States history.

Students identify and describe important events in the history of Wisconsin's forests.

WISCONSIN FOREST TALES

Activity Booklet

