



LESSON 6

Forests Are Important to You and Me

BIG IDEAS

- Humans value forests for their aesthetic, cultural, ecological, economic, educational, and recreational benefits. (Subconcept 23)
- Forests impact air and water quality, prevent soil erosion, and provide habitat for wildlife. (Subconcept 25)
- Humans depend on forests for products and services that they use every day. (Subconcept 28)
- Choices humans make today directly affect our ability to sustain forest ecosystems essential to meeting future needs. (Subconcept 60)

OBJECTIVES

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

- Discuss the importance of forests to our economy, environment, and social well-being.
- Describe the ecological roles of forests.
- Identify that humans depend on forests for products and services.

SUBJECT AREAS

Language Arts, Science, Social Studies

LESSON/ACTIVITY TIME

- Total Lesson Time: 80 minutes (60 minutes for non-technology option)
- Time Breakdown:
 - Introduction5 minutes
 - Activity 120 minutes
 - Activity 245 minutes
 - Conclusion10 minutes (non-technology option 35 minutes)

TEACHING SITE

Classroom

FIELD ENHANCEMENT CONNECTIONS

This lesson ties closely with Field Enhancement 2, *Are Forests Important Today?*

NUTSHELL

In this lesson, students discover reasons why Wisconsin forests are important to our quality of life. After participating in a guided imagery, students brainstorm ways that forests are vital to our existence. Once a list is generated, students watch an interactive media presentation on CD-ROM and participate in a mock game show. As a conclusion, they label a tree with reasons Wisconsin's forests are important to them, share this with the class, and create an "Important Forest" on a classroom wall.

BACKGROUND INFORMATION

Wisconsin is fortunate to have the forests that it has. With nearly half of the state covered in forests, they are not only a plentiful resource, but also an extremely important resource. Our forests contribute greatly to the quality of life we all enjoy by playing key roles in our ecologic, economic, and social well-being.

- Forests provide a variety of important ecological functions, including habitat for wildlife, removing carbon dioxide, producing oxygen, cooling the air, cycling matter, and reducing erosion of soil into our lakes, streams, and rivers.
- The **economy** of Wisconsin is highly dependent on our forests. Approximately one in five people employed in Wisconsin works for a forest-related industry, which includes the manufacture of products from forest materials.
- Forest recreation and related **tourism** provide the state a major economic boost. They provide important social outlets for relaxation and stress reduction.
- **Urban forests** (made up of the trees in an urban area) provide these same values, plus reduce noise, block winds, and provide a relaxed setting for human life.

VOCABULARY

Economy: The prosperity of an area based on the trading of money for products and services.

Environment: The air, water, soil, and organisms that surround and affect us.

Sustainable Management: Maintenance of forests to meet current and future ecological, economic, and social needs.

Tourism: An industry that makes money by providing services to people who come to an area for vacation.

Urban Forest: The trees and associated living organisms in an urban area.

The way we manage our forests has changed drastically as the need for balancing ecologic, economic, and social needs has emerged. Although, as individuals, each of us may place different levels of value on each of these needs, all are necessary to maintain our quality of life. Today we manage forests to provide for many needs – now and for the future. This type of management is referred to as **sustainable management**.

PROCEDURE INTRODUCTION

Tell your students that today they are going to discover why Wisconsin's forests are extremely important. Ask them to think about how forests were important to people who lived in Wisconsin in the past. Remind them of the explorer in the first lesson and ask them how forests were important to the Ojibwa villages the explorer visited. (*Forests provided all of their basic needs including food, materials for shelter, and materials for transportation [canoes].*) Remind your students of the European settlers in the second lesson and again ask them how forests

MATERIALS LIST

FOR EACH STUDENT

- Piece of paper
- Scissors
- Markers or crayons

FOR THE TEACHER

- Copy of Teacher Pages 🍁1A-C, *Doctor Treebody Script*
- Doctor Treebody costume (Suggested items include big glasses, a suit coat, tie)
- Copy of Teacher Key 🍁♂1, *That's My Forest Key*

FOR THE CLASS

- Computer with CD-ROM drive preferably hooked to a larger monitor or video projector
- Chalk/marker board


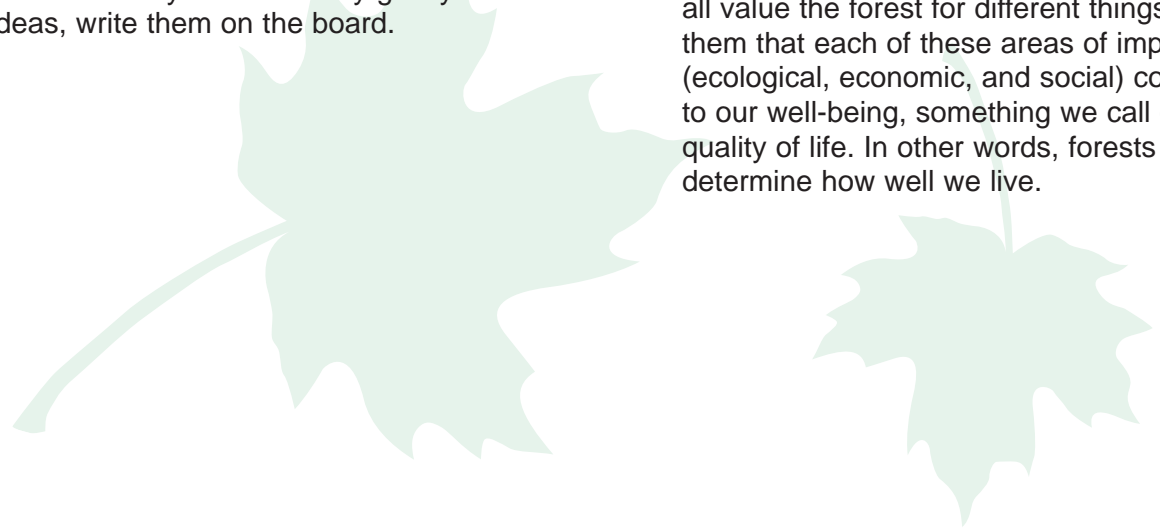
TEACHER PREPARATION

- Install CD-ROM on your computer using the instructions inside the case. Watch the CD-ROM and become familiar with it.
- Familiarize yourself with Teacher Pages 🍁1A-C, *Doctor Treebody Script*.

were important to these early settlers. (*Forests provided materials to build their homes, fuel to heat their homes, food, jobs, and money for a new economy.*) Ask your students to recount what happened to Wisconsin's forests from early settlement until today. (*Forests were cut down for lumber, the land was sold to farmers, farmers couldn't make it in many areas, and we eventually replanted the forests.*) Tell your students that Wisconsin's forests have indeed gone through many changes since the first Europeans arrived in Wisconsin. Throughout this time, forests were an important part of Wisconsin, even after the forests were gone. Tell students that you have a special guest who is going to talk to them about why Wisconsin's forests are important today.



ACTIVITY 1

1. To get into the spirit of things, turn around and put on the costume items you have brought to transform you into Doctor Treebody. Turn around and begin reading Teacher Pages  **1A-C**, *Doctor Treebody Script* to the students. The story describes what the students should do as you read the script aloud. If you do not dress up, you may instead tell students that you have a letter from Doctor Treebody. Have fun with this.
 2. At the end of the script, turn around again, remove your costume items, and once again become the teacher. Tell your students that they are going to participate in something called a brainstorm. Describe to the students that brainstorming is the gathering of everyone's ideas about a particular topic. As they come up with ideas, you will write them on the board. One person's idea often helps someone else come up with an even better one. Because of that, no idea is silly or wrong, it just helps contribute to all of the ideas.
 3. Write on the board, "Why are Wisconsin's forests important?" Ask students to raise their hands and tell you why they think Wisconsin's forests are important. Tell them that they may use ideas from Professor Treebody's video or ideas that they have. As they give you their ideas, write them on the board.
 4. Once you have created a list of ideas, tell students that each of these contribute to our well-being. Ask students if they can think of a way to categorize these items. Ask them to think about how they may have been categorized in the video. You may need to help them, so remind them that forests are important for:
 - the environment or their ecological importance
 - the economy (products, jobs, tourism)
 - things like recreation, which we will refer to as social
- Write "**Environment**," "**Economy**," and "**Social**" on the board.
5. Go through the list the students generated and ask them to share which category they think each item fits under. Some items may fit under more than one category, others may not be apparent. These might be things that just plain make life easier. For now, place these example items under social.
 6. Ask the students if one of these categories is more important to them than another. Their answers will vary. Ask them to explain why. Tell them that their examples show that we all value the forest for different things. Tell them that each of these areas of importance (ecological, economic, and social) contribute to our well-being, something we call our quality of life. In other words, forests determine how well we live.
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ACTIVITY 2

1. Tell students that they are going to now watch a video on CD-ROM. (***For a non-technology option, go to the Conclusion.**) As they watch the video, they should keep in mind why Wisconsin's forests are important. Tell them that at the end, they will divide into teams and participate in a mock game show called, "That's My Forest." Open the CD and click on the prompts to keep the video segments running. The CD will take approximately 30 minutes. There is a pre- and post-test on the CD. Please skip the pre-test, for the post-test will be used as a mock game show at the end of this activity. **NOTE:** After listening to the opening of the CD, the program will include a log-in page. You do not need to complete this. Just click on "I'm Finished." The program will proceed to the pre-test. To skip the pre-test, click on the red arrow in the lower right-hand corner.
2. When you have completed the CD-ROM to the point of the post-test, divide your class into three groups. Tell them that you are going to play a quiz game show called "That's My Forest." Tell the teams that they will see a question on the screen. They will have 30 seconds to come up with an answer and write the multiple choice letter on a piece of paper. At the end of the 30 seconds, you will ask each group to share their answer. After each group shares their answer, you will tell them which answer is correct and record a score for their group, then move to the next question (see Teacher Key 🍏🔑1, *That's My Forest Key*). At the conclusion of the game questions, tell the students that although a particular group may have won the game "That's My Forest," we are all winners. We are all winners, because Wisconsin's forests are all of our forests.

CONCLUSION

Give each student a piece of paper. Ask students to draw a tree with enough space in the crown to write in. Once they are finished, tell them that you would like them to write in the treetop three reasons why forests are important to them. Each of the three reasons should be from a different category – ecology, economy, and social well-being. Once students have finished writing their three reasons, have each student share aloud why Wisconsin's forests are important to them. Have each student begin by saying, "Wisconsin's forests are important to me because..." and then list their three things. When you have concluded this sharing, have students cut out their trees, collect them, and create a forest on a bulletin board or classroom wall of these trees. Add a title above them that says, "Wisconsin Forests Are Important Because..."

* Non-Technology Option

In the event that you do not have the equipment or time to do Activity 2, change the conclusion to have the students draw a picture of a Wisconsin forest. In the picture, ask them to depict as many ways as they can that forests are important. After they have drawn their pictures, have them share their pictures with the group and post them on the wall.

CAREERS

The career profile in this lesson is about Bruce Klang, Park Ranger, Wyalusing State Park, Wisconsin Department of Natural Resources. Career Profile 3F.PR is found on page 125. A careers lesson that uses this information begins on page 140.



SUMMATIVE ASSESSMENT

Have students generate a list on paper of why forests are important to their lives. After completing their list, have them write a five paragraph reflection. The first paragraph should introduce why forests are important to them. The second, third, and fourth paragraphs, respectively, should discuss how now having forests would affect our economy, environment, and social well-being. The final paragraph should serve as a conclusion and sum up why we need to use our forests wisely.

REFERENCES

Finan, A. S. (2000). Wisconsin Forests at the Millennium: An Assessment. Madison, WI: Wisconsin Department of Natural Resources. PUB-FR-161 2000.

Mittermaier, B. (2000). Wisconsin Forests Forever. Wisconsin Forest Resource Education Alliance.

RECOMMENDED RESOURCES

●●● WEBSITES ●●●

EEK! (Environmental Education for Kids), Wisconsin Department of Natural Resources

www.dnr.state.wi.us/eeek/

This website has a variety of forestry activities, information, and posters.

Wisconsin Paper Council

www.wipapercouncil.org/homepage.htm

Through the Fun & Learning link you can get to the Wisconsin Paper Council's educational page. They have teacher information, games, activities, and more about paper.

Primary and Secondary Wood Using Industry Vendor Lists – Wisconsin Department of Natural Resources

www.dnr.state.wi.us/org/land/forestry/usesof/woodindustry/primary.htm

www.dnr.state.wi.us/org/land/forestry/usesof/woodindustry/secondary.htm

These websites provide lists of primary and secondary wood-using industries in Wisconsin. You can search by materials used, products sold, number of employees, species used, city, county, and more. Look up your own town and see what forest products are made there. You might be surprised!

Wisconsin Wood Products Industry – Wisconsin Department of Natural Resources

www.dnr.state.wi.us/org/land/forestry/SmartForestry/planning_resources/2002woodindustry.pdf

This map shows locations of primary and secondary wood using industries in Wisconsin.

Department of Wood Science and Engineering – Oregon State University.

<http://wood.oregonstate.edu/teachers.htm>

Great resources about wood products. Find pictures and lists of products made from wood along with information on how tree parts such as cellulose are extracted and used.



BRUCE, PARK RANGER

Bruce keeps the park safe by relocating snakes and other animals that get into park buildings and shelters.

This is Bruce Klang. Bruce is a park ranger at Wyalusing State Park near Prairie du Chien, Wisconsin. A park ranger has a lot of duties, but the biggest one is to protect the

park and the people who use it. Sometimes Bruce has to stop people from damaging trees or hurting animals. Other times he has to help people who have gotten hurt or lost in the park. Bruce might also work in the park office answering questions and helping the people who come to enjoy the park.

In order for Bruce to be a park ranger, he went to college and studied wildlife and biology. He also had to take the same classes and pass the same test that police officers do. When he was growing up, he worked with groups that did projects outside to improve the environment.

Bruce says his favorite part of his job is meeting people who have an interest in the park – both the history of plants and animals, and the history of the people.

If you want to become a park ranger, Bruce says you should get a good education both in and out of school. Join groups like 4-H, Boy Scouts, Girl Scouts, or your local Rod & Gun Club, and see how you can help. Bruce also says that you should “Spend a lot of time outdoors with an open mind.”

DOCTOR TREEBODY SCRIPT

Hi! I'm Dr. Treebody, and I've got a story to tell you about why Wisconsin's forests are important. How important are they? Glad you asked. Why, they are so important that without them we wouldn't have habitat for wildlife, lumber for our homes, cool places to hike, or jobs for many people. They produce the oxygen we breathe and, oh yeah, did I mention toilet paper?

I've just spent the last year traveling through your forests. You see, that's what I do. I work for the Forest Importance Institute. The Institute studies the forests of the world, documents why they are important, and helps citizens understand how lucky they are to have forests.

Your teacher invited me to share a new virtual reality technology with you so you can see the cool things that Wisconsin's forests do for you. The machine is called the Brainwave 4000. How the "4000" works is that you have to close your eyes and listen to words that are read. As you listen, I would like you to turn on the Brainwave 4000 in your head. The backs of your eyelids are like a big stereo movie screen. As I talk to you, you will see the pictures you already have in your head. Sounds funny, but your head is full of pictures. Pictures you've seen in magazines, on television, or from real life experiences. So put a new battery in, turn on your Brainwave 4000, and sit back and watch the show.

All right, got your "Brainwaves" on? Here we go.

Climb up here with me and stand on these big rocks on this cliff. Look at that big valley. Hey, be careful. Don't lean too far over; you just might fall off. Look at the tops of those trees. They seem to go on forever. Did you see that large hawk land on that tree? Let's walk down into the woods. If you blink your right eye twice, the Brainwave 4000 will take us directly into the forest.

Did everyone blink your right eye twice?

We're in a Wisconsin forest. Look at the trees – oaks, maples, and pines. Anyone see more than trees? I've seen white-tail deer, black bears, and wild turkeys here before, and small animals like chipmunks, chickadees, and blue spotted salamanders. This forest is great wildlife habitat. It provides everything they need to live.

Hey, did you know that forests provide things we need to live too? Take a look at this tree leaf I have in my hand. This leaf is a factory. No, it doesn't make cars or light bulbs, but it makes something we need even more. As the sun shines on the leaf, a process inside the leaf called photosynthesis takes place. The leaf takes in carbon dioxide, which is a gas all animals breathe out, and gives off oxygen, which is a gas we all need to live.

DOCTOR TREEBODY SCRIPT

Everyone take a deep breath. Wow, that was made by a tree.

The leaves on this tree do other things too. Feel how cool it is under this tree compared to out there in the sun. The shade of this tree is like an air conditioner. Oh, it's starting to rain. We seem to be under a big umbrella. It is raining hard now. The leaves slow down the rain and the water drips off the leaves. It lands on last year's leaves on the ground under the tree. Amazing how hard it is raining and yet this year's leaves and last year's help keep the rain from washing away the soil under the tree.

Seems this forest does a lot to help our environment. This is pretty important stuff, don't you think? But that's just part of the reason forests are important. Not only are they important to the environment, they also are important to our economy.

I know that's a big word you might not know. Let's look at forests and how they relate to the economy. Pull on your left ear to reset the Brainwave 4000 and watch closely. I bet you'll figure out what we mean by economy.

Did you pull your left ear?

Hey, how many of you use products that come from forests? There are about 5,000 things that come from trees alone. We don't have time to look at all of these, but let's look at a few. The first thing that probably comes to mind is lumber. How many of you live in a house or apartment? Blink your right eye three times and the Brainwave 4000 should take you to your home. What is it built from? Although you may not be able to see it on the outside, lumber is a key part of your house – from the walls and doors to the roof.

Lumber is just one thing that comes from forests, we only have 4,999 more to go. Let's go in your bathroom. Sure, you've got toilet paper, but that's not all. Let's take a peek in your medicine cabinet. I see four things made from forests right here. Do you see them? You've got mouthwash, toothpaste, shampoo, and shaving cream. These items are made from the sap of trees or from fibers found in the cell walls of trees.

I'm kind of hungry. Let's check out your kitchen. Look in your freezer. There's a box of double fudge nut ice cream. I love ice cream and, believe it or not, ice cream too, has fibers from the cell walls of trees. You've got apples, pears, peaches, and plums – these all come from trees. Hey, mind if I snoop a little more in your cupboards?

DOCTOR TREEBODY SCRIPT

Wow, look here – napkins, paper plates, and a cutting board. These are all made from trees right here in Wisconsin. Do you get the picture, or do I need to show you the other 4,985 things? Looks like Wisconsin’s forests are really important for products. Making those products means jobs.

Speaking of jobs, does anyone have family that works in the forest products industry? Wiggle your nose three times and the Brainwave 4000 will reset. See those people working in the forest products industry? Over there is a logger who harvests the trees. That trucker hauls them to the sawmill. Blink your right eye two times. Wow, that lumber from the sawmill is being unloaded into a factory that makes windows, furniture, toothpicks, or the stuff we found in your kitchen. Stick out your tongue and move it up and down. The Brainwave 4000 turns into a job counting calculator. Stick your thumb up and ask the Brainwave 4000 how many Wisconsin people work in forest product jobs. Look at that! The digital readout says that more than 99,000 people in Wisconsin make their living from forest products. That’s nearly one out of every five people who work in Wisconsin. Put your thumb up again. Ask the Brainwave 4000 how much money is paid out to these 99,000 jobs in wages. Amazing, the digital readout says more than \$3.6 billion dollars are paid out in wages each year. That’s a whole lot of money.

Oh, I forgot something else cool about forests. Touch your left elbow to your right knee. That sets the Brainwave 4000 to vacation time. Anyone ever go on vacation in northern Wisconsin? Look over there; people are camping, fishing, canoeing, and hiking, and it is all taking place in the forest. Forests help what we call tourism. Tourism is the industry related to people taking vacations in our state. Isn’t it beautiful and relaxing here in this forest? If you spend much time here you just might end up mountain biking, snowmobiling, riding all-terrain vehicles, hunting, or birdwatching.

I don’t know about you, but I think forests in Wisconsin are pretty darn important. I’ve been all over the world, and not every state and country has forests that provide all the things Wisconsin’s forests do. Next time someone asks you about forests, have them turn on their Brainwave 4000 and show them how important forests are. Well, got to go. Put your left hand on top your head and open your eyes. Your Brainwave 4000 is now shut off.

THAT'S MY FOREST KEY

QUESTION 1: One acre of trees, which is an area about the size of a football field, can provide enough oxygen daily for:

- A. You and 17 friends
- B. You and 100 friends
- C. Just you
- D. I don't know

QUESTION 2: What do trees do for us?

- A. Give off oxygen and take in carbon dioxide
- B. Cool our surroundings by as much as 10 degrees
- C. Provide products such as clothing, football helmets, and cardboard boxes
- D. All of the above

QUESTION 3: How much of Wisconsin is covered with trees?

- A. Almost one-quarter
- B. Nearly half
- C. Over two-thirds
- D. I don't know

QUESTION 4: Wisconsin's forests provide homes for which of the following wildlife?

- A. Barred owl
- B. White-tail deer
- C. Fox snake
- D. All of these

QUESTION 5: How many different products are made from trees?

- A. 50
- B. Hundreds
- C. Thousands
- D. I don't know

QUESTION 6: Which of the following fun things could people do in a forest?

- A. Hunting and fishing
- B. Camping and hiking
- C. Skiing and snowmobiling
- D. All of these

QUESTION 7: What is the most important job for Wisconsin's professional forester?

- A. Build trails and campgrounds
- B. Manage forests sustainably to meet human needs and keep the environment healthy
- C. Control wildlife populations
- D. I don't know

QUESTION 8: What factors determine the types of forests found in Wisconsin?

- A. Soils and climate
- B. Species of animals
- C. Diseases and pests
- D. I don't know

QUESTION 9: Sustainable forestry provides which of the following benefits?

- A. Environmental
- B. Economic
- C. Social
- D. All of the above

QUESTION 10: The cutting of trees provides many benefits for Wisconsin's forests.

- A. Agree
- B. Undecided
- C. Disagree
- D. I need more information

NOTE: Question 10 may cause controversy within your group. Your students' answers will vary and will be based on their beliefs and values. Based on the knowledge and experience of a 4th grade student, answer "D. I need more information" is a good choice. Learning more is key to making informed decisions.