



2

**CARING  
FOR THE  
FOREST**

# CARING FOR THE FOREST

## 2

### IN THIS LESSON YOU WILL FIND:

#### LESSON WHICH INCLUDES

- Plantation Game (K-8)
- Taking Care of Urban Forests (K-8)
- Tree Inventory (7-12)

#### LINK TO GOOGLE RESOURCES

#### OPTIONAL ACTIVITIES RELATED TO THIS THEME

- Why Would Anyone Cut Down a Tree? (book)
- From Seeds to Sky (video)
- Tree Cookies Lesson
- Learn About Your Land (UW-Extension self-paced course)

#### LEAF LESSONS THAT SUPPORT THIS THEME



Photo Credit: Wisconsin DNR



## CARING FOR THE FOREST

### PRIMARY OBJECTIVES

- Students will examine the need for sustainable forest management and understand what we do/don't do to the forest.
- Students will be able to explain why trees are cut down in forests.

### WISCONSIN DNR KEY TARGET MESSAGES

- Wisconsin has a plan to sustain the healthy, working forests vital to Wisconsin's well-being. (1)
- Diversity in both the forest resource and the forestry workforce is vital. (3)
- Everyone can help sustain Wisconsin forests (by being careful with fire, not spreading invasive species, using wood products rather than alternatives, planting and caring for a native tree, enjoying the outdoors responsibly and more). (8)

### WISCONSIN STANDARDS FOR ENVIRONMENTAL LITERACY AND SUSTAINABILITY

- Students develop and connect with their sense of place and well-being through observation, exploration, and questioning. (Strand 1: Connect, Standard 1)
- Students evaluate relationships and structures of natural and cultural systems and analyze their interdependence. (Strand 2: Explore; Standard 2)
- Students engage in experiences to develop stewardship for the sustainability of natural and cultural systems. (Strand 3: Engage; Standard 7)

### PREPARATION

- Read the lesson to familiarize yourself with what you need to explain and where you may need to elaborate.
- If you are presenting indoors and want to use the slideshow/videos:
  - Reach out to the teacher to make sure there is a projector and computer with internet available.
  - Select the slides that go with your desired activity and edit the slideshow accordingly.
  - Email the slideshow to the teacher and ask them to have it ready for your visit.
- You know how to care for the forests. Feel free to make this lesson your own!

# CARING FOR THE FOREST

## MATERIALS

Google resources to support this theme can be accessed at [uwsp.edu/wcee/wcee/leaf/leaf-curriculum/lessons-for-forestry-professionals/](http://uwsp.edu/wcee/wcee/leaf/leaf-curriculum/lessons-for-forestry-professionals/).

Please share the appropriate grade level slideshow with the educator so they have access to materials used in the activity and other recommended teacher resources.

- Team Level Forester Kit
- Slideshow\_Theme 2\_Caring for the Forest (Google resource)

### Plantation Game

- Grocery bag with various forest products (e.g., paper plates, cardboard, paper towels, napkins, toilet paper, pencils, etc.)
- Stuffed forest bird and stuffed forest animal

### Tree's Life Game

- Tree's Life Game Cards (see Student Resource 1a and Student Resource 1b or the printable Google resources).

### Tree Inventory

- Tree ID Documents
- LEAF Forester Guide Tree Inventory Data Sheet (see Student Resource 2a and Student Resource 2b or the printable Google resources)  
OR Tree ID Data Sheet (see Student Resource 3 or the printable Google resource)



Google resources to support this theme can be found at [leafprogram.org/fg](http://leafprogram.org/fg)



## MODIFICATIONS

### K-8 Audience

- For early elementary audiences (K-4), consider beginning by reading the story, "Why would anyone want to cut down a tree?" (Google resource).
- Use Plantation Game or Tree's Life Game.

### 7-12 Audience

- Use Tree Inventory.

### Urban Setting

- Use Tree's Life Game instead of Plantation Game.

### Outdoor Setting

- All activities are meant to be used in an outdoor setting.

### Indoor Setting

- K-8: Plantation Game and Tree's Life Game can be modified for kids to participate within the classroom; move chairs and/or tables to create open spaces.
- 7-12: Utilize LEAF 9-12 Urban Guide Lesson 2: Working Together (Google resource).



## CARING FOR THE FOREST

### PLANTATION GAME

Ideal for GRADES K-8; Play in a large, outdoor space if possible.

#### Introduction

- Ask students what forests give us/what trees do for us. (POSSIBLE ANSWERS INCLUDE: SHADE, OXYGEN, CLEAN WATER, WILDLIFE, LUMBER, PAPER, CHEMICALS, CAMPSITES, FOOD, ETC.)
- Explain to students that they are going to play a game that will teach them about the life cycle of a pine plantation and the products and benefits people and wildlife get from them.
- Explain to students that the game will also help them understand how foresters do their job.

#### Planting

- Arrange the students in five rows, facing you.
- Have the rows of kids stand as close to each other as possible.
- Tell the kids to sit down because you just “planted” them.
- Tell the kids they are two-year-old seedlings from the Wisconsin DNR nursery that have been planted in a field.

#### Growing

- Ask the kids to stand up.
- Tell them to slowly extend their arms out from their sides until they touch the next person and then freeze in place.
- Ask students WHY they think they had to freeze in place like they stopped growing.
- Explain that the trees are now fighting each other for sunlight, water, and nutrients and are now “stuck” where they cannot grow anymore.
- Tell them to imagine they are 25-year-old trees with a DIAMETER of six inches.

#### Thinning

- Ask students what they think foresters can do to help the trees be able to grow again.
- Tell them that foresters thin the plantation.
- Explain that thinning is when foresters have loggers cut trees down in order to give the rest of the trees more room and resources to grow.
- Have students sitting in the second and fourth rows sit down. Explain to them that they are the trees that the loggers have cut down.

# CARING FOR THE FOREST



## Forest Products

- Ask the students what they think happens to the trees that have been cut down.
- Ask the students what products the trees may have been turned into. (POSSIBLE ANSWERS INCLUDE: PAPER PLATES, CARDBOARD, PAPER TOWELS, TOILET PAPER, PENCILS, ETC.)
- Pass out items from the grocery bag of forest products to the trees that have been cut down. Tell them they are now that item.

## Remaining Trees

- Explain to students that all remaining trees now have room to grow.
- Have students extend their arms all the way out to show this.
- Ask students to slowly rotate until they (gently) tap people in front of and behind them.
- Ask students what they think happened.
- Tell them they are now 35 years old, 50 feet tall and 12 inches in diameter. Tell them they are “stuck” again and cannot keep growing.
- Ask students what should be done. (THINNING)

## Thinning/Forest Products

- Ask every other student in the standing rows to sit down.
- Ask students what forest products they think these larger trees are used for. (POSSIBLE ANSWERS: LUMBER, SMALL LOG CABINS, ALONG WITH ALL THE OTHER ITEMS THAT SMALLER TREES WERE MADE INTO)
- Tell students that foresters keep harvesting trees from the forest about every 10 years until the trees are 90 years old and about 25 inches in diameter. Then loggers cut down almost all of the rest of the trees.
- Have all but the tallest student and one other student sit down. Ask what forest products the largest trees might get turned into. (POSSIBLE ANSWERS: BIG TIMBERS, BIG CABIN LOGS, TELEPHONE POLES)
- Remind the students that earlier you discussed that forests do more than just provide lumber. They are also homes for wildlife.
- Give the tallest student a stuffed bird and tell students that tree has a bird's nest in it.
- Give the other standing student the stuffed forest animal and tell them that they are a hollow tree providing a home to that animal.
- Tell students some trees will never be cut down because they are providing other special values that are important too.

## Planting

- At this point, all students are sitting except for the two wildlife trees.
- Tell students that trees are a renewable resource.
- Ask students what a renewable resource is.
- Ask students what comes next in the process. (PLANT MORE TREES!)



## CARING FOR THE FOREST

### TREE'S LIFE GAME (URBAN FOREST FOCUS)

Modified from LEAF Urban Guide Lesson 3: Taking Care of Urban Forests  
Ideal for GRADES K-8. Play in a large, outdoor space if possible.

#### Preparation

- Mark out a course at the location of your presentation. The course can be made using cones or creating a path between trees.
- Print out and cut apart one set of the Tree's Life Game Cards (see Student Resource 1a and Student Resource 1b or the printable Google resources). Feel free to add additional cards of your own to the game (laminiate for future use).
- ADAPTATION FOR OLDER STUDENTS: Print one set of cards for every four to five students and have them complete the activity with minimal guidance.

#### Introduction

- Explain to students that there are things in the urban forest that make it challenging for trees to grow.
- Tell them they will play a game to learn about some of those things and see what can be done to help trees in urban forests (i.e., what can be done to manage urban forests).
- Break students into teams (no more than four or five students per team). Have teams decide on a team name.
- Explain that all teams are going to start at the same place (cone or tree) and all teams have the same goal – to be the first to get to the finish (cone or tree).
- Decide which team will go first.

#### Playing the Game

- Call out the name of the team that is up first, draw a Tree's Life Game Card (see Student Resource 1a and Student Resource 1b or the printable Google resources) and read it aloud.
- Have the students either take steps forward (toward the finish line) or backward (away from the finish line) based on what the card says.
- Students should never move back past the start; they should always stop when they get back to start (or just not move off start).
- Once that team is done moving, draw a card for the next team, and then the next, until all teams have had a chance to move.
- Repeat the process until one team makes it to the finish line.

# CARING FOR THE FOREST



## DISCUSSION

Ask students the following questions and discuss their answers.

- What were some of the challenges for urban trees that you learned about in the game?
- What were some solutions or ways to help urban trees that you learned about in the game?
- Can you think of other challenges/solutions for urban trees?
- Ask students what they think foresters do to manage urban forests. (POSSIBLE ANSWERS INCLUDE: PRUNING, PLANTING, MULCHING, WATERING, PROTECTING, INSPECTING, ETC.)
- Ask students how they think this is different from a rural forest. (POSSIBLE ANSWERS INCLUDE: RURAL FORESTS HAVE MORE TREES SO EACH TREE DOESN'T GET AS MUCH INDIVIDUAL ATTENTION; RURAL TREES OFTEN HAVE MORE SPACE, NUTRIENTS, WATER, ETC.)
- Ask students if rural forests still need to be managed. (POSSIBLE ANSWERS INCLUDE: SOMETIMES. RURAL TREES MAY STILL SURVIVE IF THEY AREN'T PART OF A MANAGED FOREST BUT TREES WILL BE HEALTHIER IF A FOREST IS MANAGED WELL. MANAGEMENT OF A RURAL FOREST WILL BE DIFFERENT THAN MANAGEMENT OF AN URBAN FOREST [FOR EXAMPLE, THINNING TAKES PLACE IN RURAL FORESTS MORE OFTEN].)



Photo Credit: Wisconsin DNR



## CARING FOR THE FOREST

### TREE INVENTORY

Ideal for GRADES 7-12; outdoor location at schoolyard or school forest.

#### Preparation

Determine what Tree ID materials will work best for your setting and print them for your presentation.

- Wisconsin DNR Community Tree Map (interactive map; not printable) <https://pg-cloud.com/Wisconsin/>
- LEAF Tree Identification Terms (Google resource)
- Wisconsin Urban Tree Key (Google resource)
- LEAF Tree ID Key (Google resource)
- LEAF Winter Tree ID Key (Google resource)
- LEAF Tree ID Data Sheet (see Student Resource 3 or the printable Google resource)
- LEAF Forester Guide Tree Inventory Data Sheet (see Student Resource 2a and Student Resource 2b or the printable Google resources)

#### Introduction

Explain to students what a tree inventory is and its purpose. A tree inventory is used to record information about and characteristics of individual trees including: location of the tree, name of the tree species, tree diameter, tree height, tree health.

#### Tree ID/Inventory Tools

Show tools you use to help you with tree ID and tree inventories, and explain how they work. Include tree ID documents you have elected to use, DBH tape and Biltmore sticks.

#### Begin Tree ID/Inventory

- Demonstrate the process to identify and inventory trees.
- Have students participate and practice using the tools. If you don't have enough DBH tapes or biltmore sticks, send an email to LEAF at [leaf@uwsp.edu](mailto:leaf@uwsp.edu) to check out materials.
- It is not expected that you complete an entire inventory. The goal is to teach educators and students HOW so they can complete their own inventory.

#### Debrief

- Discuss how data from a tree inventory can be utilized including: tree needs and care, tree management, plans for future planting, etc.

#### Additional Tools and Resources

- Wisconsin DNR Inventory Basics ([dnr.wi.gov](http://dnr.wi.gov))
- Wisconsin DNR Wisconsin Community Canopy Coverage ([dnr.wi.gov](http://dnr.wi.gov))
- MyTree and other online tree tools from i-Tree ([itreetools.org](http://itreetools.org))

#### Extension Activity: Working Together

LEAF Urban Guide 9-12 Unit,  
Lesson 2 (Google resource)

Students participate in an interactive game to learn about urban forest management techniques and how homeowners, business owners, and city foresters can work together to avoid conflict.

# CARING FOR THE FOREST



## REVIEW KEY MESSAGES

- Anyone can be involved in caring for trees/forests.
- Caring for trees is an important part of forest management.
- Both rural and urban forests can benefit from forest management.
- Rural forests are managed differently than urban forests.

## OPTIONAL ACTIVITIES RELATED TO THIS THEME

- Why Would Anyone Cut Down a Tree? Book by Roberta Burzynski from the USDA Forest Service (Google resource)
- Wisconsin Young Forest Partnership "From Seeds to Sky" video available on WIDNRTV YouTube channel
- Tree Cookies Lesson
  - Bring tree rings along on your visit
  - Explain how tree rings form
  - Students examine tree rings
  - Learn how trees grow and deal with wounds
- Learn About Your Land (UW-Extension self-paced course)

## RECOMMENDED TEACHER RESOURCES

All recommended teacher resources are included in the Theme 2 Slideshow Presentation (Google resource). Resources can also be downloaded from the LEAF website ([uwsp.edu/wcee/wcee/leaf/leaf-curriculum](http://uwsp.edu/wcee/wcee/leaf/leaf-curriculum)). Please share the slideshow or link to the website with the educators you work with.

- LEAF Urban Forest Lesson Guide K-4 Unit, Lessons 1-4
- LEAF Urban Forest Lesson Guide 5-8 Unit, Lessons 1-4
- LEAF Urban Forest Lesson Guide 9-12 Unit, Lessons 1-4
- LEAF 2-3 Guide, Lesson 5: Decisions, Decisions
- LEAF 4 Guide, Lesson 7: Sustaining our Forests
- LEAF 5-6 Guide, Lesson 6: What Is Management?
- LEAF 7-8 Guide, Lesson 3: How Forests Are Managed
- LEAF 7-8 Guide, Lesson 4: Forest Management Issues
- LEAF 9-12 Guide, Field Enhancement 4: Timber Cruise

## ADDRESS QUESTIONS

- Are there any questions from the presentation?
- Collect notecards/sticky notes and answer questions.



## CARING FOR THE FOREST

### LETTER TEMPLATE – CONFIRMATION LETTER

**Theme 1: What Does a Forester Do?**  
**Theme 2: Caring for the Forest**

Dear (Insert Your Name),

This letter confirms that I am scheduled to present “What Does a Forester Do?” and “Caring for the Forest” to your (insert grade level) class on (insert program date and time).

During my program students will:

- Examine the job of a forester.
- Understand how to become a forester and the skills needed to be a forester.
- Explore forestry-related careers.
- Examine the need for sustainable forest management and the forester’s role in it.
- Explain why trees are cut down in forests.

Please review the information I have provided above and contact me if anything is incorrect.

If you would like to do any advanced preparation, feel free to have each student write a question for me on a notecard or sticky note. If time permits, I will answer these questions following the presentation.

I will check in at the office when I arrive. Please let someone in the office know that I am coming. I plan to arrive 10 to 15 minutes before the program is scheduled to begin to set up for the activities. I look forward to working with you soon!

Sincerely,

(Insert Your Name)

# CARING FOR THE FOREST



## LETTER TEMPLATE – FOLLOW-UP LETTER

**Theme 1: What Does a Forester Do?**  
**Theme 2: Caring for the Forest**

Dear (Insert Your Name),

Thank you for inviting me into your classroom to help students understand the role of a forester and how people care for forests. I hope you and your students enjoyed the program.

If you would like to extend student learning and engagement related to forestry and caring for the forests following my visit, please consider these LEAF activities which can be found in the LEAF Wisconsin K-12 Forestry Lesson Guides on the LEAF website.

Link: [www.uwsp.edu/wcee/wcee/leaf/leaf-curriculum/](http://www.uwsp.edu/wcee/wcee/leaf/leaf-curriculum/)

### **Theme 1: What Does a Forester Do?**

- LEAF 2-3 Field Enhancement 1: I Can Be a Forester
- LEAF 5-6 Lesson 6: What Is Management?
- LEAF 7-8 Lesson 3: How Forests Are Managed

### **Theme 2: Caring for the Forest**

- LEAF 2-3 Lesson 5: Decisions, Decisions
- LEAF 4 Lesson 7: Sustaining Our Forests
- LEAF 5-6 Lesson 6: What Is Management?
- LEAF 7-8 Lessons 3 and 4: How Forests Are Managed and Forest Management Issues
- LEAF 9-12 Field Enhancement 4: Timber Cruise

I also recommend the lessons from the LEAF Urban Forest Lesson Guide which can be accessed at the link shared above.

Please let me know if I can be of further assistance.

Sincerely,

(Insert Your Name)

## TREE'S LIFE GAME CARDS

You are not planted too close to a house.

**MOVE AHEAD 3 SPACES.**

Your shade cooled someone's house.

**MOVE AHEAD 2 SPACES.**

Your fruit is food for birds and they help you spread your seeds.

**MOVE AHEAD 2 SPACES.**

You are properly taken care of by a family.

**MOVE AHEAD 3 SPACES.**

You are a tree that grows well in Wisconsin weather.

**MOVE AHEAD 2 SPACES.**

Someone hung a bird house in your branches to help wildlife.

**MOVE AHEAD 3 SPACES.**

You survived an ice storm because you were pruned.

**MOVE AHEAD 2 SPACES.**

You were inspected for insects that could hurt you, and there were none.

**MOVE AHEAD 3 SPACES.**

People prevented pollution from getting into the water.

**MOVE AHEAD 2 SPACES.**

Someone put a fence around you when you were young to protect you.

**MOVE AHEAD 3 SPACES.**

You were planted in good soil.

**MOVE AHEAD 2 SPACES.**

You have plenty of room to grow.

**MOVE AHEAD 3 SPACES.**

Someone hired an arborist to take care of you.

**MOVE AHEAD 2 SPACES.**

Someone watered you during a dry summer.

**MOVE AHEAD 3 SPACES.**

You were planted!

**MOVE AHEAD 2 SPACES.**

Someone pruned off your broken branch.

**MOVE AHEAD 3 SPACES.**

You have mulch on your roots to protect them.

**MOVE AHEAD 2 SPACES.**

You are the right size for your spot.

**MOVE AHEAD 3 SPACES.**

## TREE'S LIFE GAME CARDS

<p>Someone fertilized you.</p> <p><b>MOVE AHEAD 2 SPACES.</b></p>	<p>Your are a short tree planted under power lines so you fit there.</p> <p><b>MOVE AHEAD 3 SPACES.</b></p>	<p>Someone mowed the lawn around you carefully so your trunk did not get hit.</p> <p><b>MOVE AHEAD 3 SPACES.</b></p>
<p>Someone carved their initials in your trunk.</p> <p><b>MOVE BACK 1 SPACE.</b></p>	<p>You were planted under power lines and have grown too tall to fit there.</p> <p><b>MOVE BACK 2 SPACES.</b></p>	<p>Someone hung on your small branch and broke it off.</p> <p><b>MOVE BACK 2 SPACES.</b></p>
<p>Someone cabled their bike to you and hurt your bark.</p> <p><b>MOVE BACK 1 SPACE.</b></p>	<p>You were pruned at the wrong time of year and got a disease.</p> <p><b>MOVE BACK 2 SPACES.</b></p>	<p>A car backed into you.</p> <p><b>MOVE BACK 1 SPACE.</b></p>
<p>People hit you with a lawnmower.</p> <p><b>MOVE BACK 2 SPACES.</b></p>	<p>An insect attacked you.</p> <p><b>MOVE BACK 1 SPACE.</b></p>	<p>You were planted too deep in the ground.</p> <p><b>MOVE BACK 2 SPACES.</b></p>
<p>You can't live in the soil you were planted in.</p> <p><b>MOVE BACK 2 SPACES.</b></p>	<p>The road was widened and your roots were cut off.</p> <p><b>MOVE BACK 1 SPACE.</b></p>	<p>A new house was built on your roots.</p> <p><b>MOVE BACK 2 SPACES.</b></p>
<p>There is too much pollution.</p> <p><b>MOVE BACK 1 SPACE.</b></p>	<p>There is not enough space for you to grow.</p> <p><b>MOVE BACK 1 SPACE.</b></p>	<p>There is concrete too close to your roots.</p> <p><b>MOVE BACK 2 SPACES.</b></p>

# LEAF FORESTER GUIDE TREE INVENTORY DATA SHEET

Tree #/ID	Location	Tree Type Conifer or Broadleaf	Branching Pattern Opposite or Alternate	Tree Name	Tree Diameter (breast height)	Tree Height	Tree Health Overall tree health crown, trunk, bark, foliage, etc. 5=Excellent, 4=Good, 3=Fair, 2=Poor, 1=Dead

Adapted from LEAF 7-8 Field Enhancement 1: Tree ID Data Sheet

## LEAF FORESTER GUIDE TREE INVENTORY DATA SHEET

Tree #/ID	Location	Tree Type Conifer or Broadleaf	Branching Pattern Opposite or Alternate	Tree Name	Tree Diameter (breast height)	Tree Height	Tree Health  Overall tree health crown, trunk, bark, foliage, etc. 5=Excellent, 4=Good, 3=Fair, 2=Poor, 1=Dead

Adapted from LEAF 7-8 Field Enhancement 1: Tree ID Data Sheet

Group Member Names: \_\_\_\_\_

**TREE ID DATA SHEET**

Tree #	Tree Type		Branching Pattern		Tree Name	Wildlife Observations (nest, droppings, food remains, etc.)	Describe the Tree Bark (rough, scaly, dark, smooth, light, etc.)	Sketch the Overall Shape of the Tree
	Conifer	Broadleaf	Opposite	Alternate				
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								