



Enriching Students.
Sustaining Forests.

The Wisconsin K-12 Forestry Education Program

Wisconsin K-12 Urban Forest Lesson Guide

LEAF is a partnership program between

Wisconsin Department of Natural Resources - Division of Forestry

and

Wisconsin Center for Environmental Education

College of Natural Resources
University of Wisconsin-Stevens Point



LEAF - Learning, Experiences, & Activities in Forestry

The Wisconsin K-12 Forestry Education Program

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LEAF was created to help promote forestry education in Wisconsin schools. In 2001, Wisconsin K-12 forestry education stakeholders evaluated the current status of and the needs for Wisconsin-based K-12 forestry education. A variety of programs existed, but voids were identified in delivery and dissemination of educational materials and services. To offer a more unified effort, stakeholders supported the development of a comprehensive program that would enhance existing efforts.

During the spring of 2001, legislation was written to establish the LEAF Program as a partnership between the Wisconsin Department of Natural Resources - Division of Forestry and the Wisconsin Center for Environmental Education at the College of Natural Resources, University of Wisconsin-Stevens Point. Funding for the program is provided through a surcharge on the sale of seedlings from Wisconsin Department of Natural Resources - Division of Forestry nurseries.

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CONTENTS

ACKNOWLEDGEMENTS.....	3
A RATIONALE FOR URBAN FOREST EDUCATION IN WISCONSIN.....	4
INTRODUCTION TO THE GUIDE.....	5
OTHER LEAF MATERIALS.....	5
LESSON FORMAT.....	6
K-4TH GRADE UNIT	
LESSON 1 - WHAT'S AN URBAN FOREST?	8
Students name places in their town where trees grow. They search for living and nonliving things in their classroom and schoolyard. Students use an Urban Forest Memory card game to learn how living and nonliving things interact. They write a story or draw a picture to describe the life of a raindrop in their town. Finally they review what they have learned by comparing similarities and differences between urban and rural forest ecosystems.	
LESSON 2 - URBAN FOREST BENEFITS	22
Students listen to a story, then either draw a picture or write a new story about the benefits of trees and differing points of view about trees. Students then create a rhyme or song about how trees make them feel. Finally, students consider how trees in rural forests are beneficial by comparing illustrations representing a tree in an urban forest and a tree in a rural forest.	
LESSON 3 - TAKING CARE OF URBAN FORESTS	30
Students explore the reasons for urban forest management through an interactive board game. They then consider if those same problems and solutions can be applied to rural forests.	
LESSON 4 - URBAN FOREST STEWARDSHIP	38
Students learn about the meaning of the word “steward” and discuss choices they would make in given situations. They learn about the people who influence urban forests through an Old Maid-type card game. They also create their own knight’s shield that shows why urban forests are important and what they can do to help them.	
5TH-8TH GRADE UNIT	
LESSON 1 - URBAN FOREST CONNECTIONS	50
Students combine their knowledge with information from dictionaries to define “urban forest” and “ecosystem.” They relate their school to an ecosystem and then create a web diagram to show the connections that parts of urban forests have. They extend that idea to the connections urban forests have to other ecosystems using the water cycle as an example. To conclude, students write a few paragraphs to describe and compare urban forest ecosystems and rural forest ecosystems.	
LESSON 2 - URBAN FOREST BENEFITS	60
Students participate in “Name That Benefit” to identify some of the benefits urban forests can provide. They also examine two different pictures and decide which matches various statements about urban forest benefits. To conclude, students list urban forest benefits and how the benefits also help people and ecosystems beyond the urban forest.	
LESSON 3 - MANAGEMENT DECISIONS AND BIODIVERSITY	70
Students participate in a group discussion that defines urban forest management and how different situations require different management. Students then learn about the impact of biodiversity on an urban forest using a map-reading and data-manipulation exercise. Students learn about potential management problems caused by invasive species and plot where exotic species come from on a world map. Finally, students present their opinions to the class in a group presentation, explaining if and how the problems of urban forests are problems in rural forests.	

CONTENTS

5TH-8TH GRADE UNIT (CONTINUED)

LESSON 4 - STEWARDSHIP CLOSE TO HOME.....88

Students learn what it means to be a steward, and participate in an exercise to illustrate the importance of teamwork in successful stewardship. They also work in groups to read and report on organizations and programs in Wisconsin that are working to help improve urban forests. Students brainstorm things they could do to be good stewards. To conclude, students do a web search to learn about other forest stewardship organizations that address forest concerns.

9TH-12TH GRADE UNIT

LESSON 1 - WHAT'S IT WORTH?.....102

Students review what urban forests and ecosystems are. They analyze data about the benefits and costs of maintaining trees in urban forests and fill out a worksheet. Then, in small groups, students read and discuss summaries of research about the benefits to humans from a social perspective. Finally, the class discusses which of the benefits they learned about also may relate to rural forests.

LESSON 2 - WORKING TOGETHER.....124

Students use an interactive game show activity to learn about urban forest management techniques. In a role-play activity, students learn how homeowners, business owners, and city foresters can work together to avoid conflict. Students then consider how the conflicts they encountered may impact rural forests.

LESSON 3 - ISSUES AND ACTION.....154

Students discuss the meaning of stewardship. They investigate an urban forest issue through a WebQuest. Students then create an action plan for addressing that issue in their own community. Finally, students use a Venn diagram to illustrate the overlap that issues have between urban and rural forests and evaluate the relevance of these issues to their own lives.

APPENDIX.....164

Glossary165

References167

Wisconsin Model Academic Standards168

Wisconsin Model Academic Standards (Charts).....179

Subject Areas182

Multiple Intelligences183

Lesson Connections to the *LEAF Conceptual Guide to K-12*

Urban Forest Education in Wisconsin185

LEAF Wisconsin K-12 Forestry Education Lesson Guide Overviews.....186

Lesson Feedback Form191

LEAF CONCEPTUAL GUIDE TO K-12 URBAN FOREST EDUCATION IN WISCONSIN.....192

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A RATIONALE FOR URBAN FOREST EDUCATION IN WISCONSIN

Wisconsin's forests and forestry are an important part of the economic, environmental, and social health of the state. In order for today's students to make responsible decisions about these forests in the future, they must have a basic understanding of forest functions and values. Included in Wisconsin's forests are the trees and other plants, animals, and nonliving components in our cities, towns, and villages. These forests are referred to as urban forests. As with Wisconsin's other forests, urban forests also provide economic, environmental, and social benefits students should know about.

In 2001, the Wisconsin Department of Natural Resources - Division of Forestry conducted a survey of Wisconsin residents in preparation for its State Forest Management Plan. Four questions about urban forests were included. Comments indicated views ranging from strong support of much needed attention to urban forests, to "I don't even know how to respond," to complete denial of urban forests as part of Wisconsin's forest system. Unfortunately, some citizens of Wisconsin do not understand the interconnectedness of the ecosystems and social systems in different regions of the state. For example, they turn a blind eye to the idea that what happens in Milwaukee can impact how forests are managed in northern Wisconsin and, in turn, forget that the forests of northern Wisconsin supply goods and services to the residents of our cities and towns. They may also not realize that the pollution-controlling qualities of trees, the ability of trees to reduce the amount of energy used in heating and cooling, and an array of other services trees provide in cities can have a positive impact on all ecosystems of Wisconsin and beyond.

Teachers in Wisconsin have access to concept-based forestry education materials developed by the LEAF Program. The *Wisconsin K-12 Forestry Lesson Guide* provides lessons that teach about the importance of forests in Wisconsin. The guide is based on the *LEAF Conceptual Guide to K-12 Forestry Education in Wisconsin*. Although urban forests are included in that guide, it was recognized that more specific materials should be created.

The *Wisconsin K-12 Urban Forest Lesson Guide* helps Wisconsin teachers educate students about the value of and need for our urban forests. Additionally, the *Wisconsin K-12 Urban Forest Lesson Guide* can help teachers in urban areas teach the importance of forests in general by using familiar urban forest surroundings to engage students and ultimately make the *Wisconsin K-12 Forestry Lesson Guide* units more effective.

INTRODUCTION TO THE GUIDE

The *Wisconsin K-12 Urban Forest Lesson Guide* provides educators with lessons designed to teach students about the importance of urban forests and the principles of their needs and management. Lessons are divided into three grade level groups: K-4, 5-8, and 9-12. There are three or four lessons in each grade level division. The urban forest-based lessons are intended to be used either as a complete unit, or in conjunction with the *Wisconsin K-12 Forestry Education Lesson Guide*. The urban forest lessons contain suggestions on how to use both resources to give students the most complete experience possible. In addition, the Wisconsin Model Academic Standards, subject areas, and multiple intelligences that each lesson encompasses are listed in the Appendix.

The *Wisconsin K-12 Urban Forest Lesson Guide* is based on principles outlined in the *LEAF Conceptual Guide to K-12 Urban Forest Education in Wisconsin*. The Conceptual Guide outlines urban forestry education concepts appropriate for Wisconsin's K-12 students and the grade level at which they should be taught. All information in the Conceptual Guide is organized under four themes: "What is an urban forest?" "Why are they important?" "How do we sustain them?" "What is the future?" The guide can be found beginning on page 192.

OTHER LEAF MATERIALS

As Wisconsin's K-12 forestry education program, LEAF's mission is to provide Wisconsin's educators with high quality forestry education materials for use in the classroom and field. These materials are supported by workshops, special events, and curriculum consulting.

LEAF WISCONSIN K-12 FORESTRY EDUCATION LESSON GUIDE

This guide teaches about general forest topics. It is comprised of six grade-specific units. Descriptions of the units and lessons begin on page 186.

LEAF WISCONSIN K-12 WILDLAND FIRE LESSON GUIDE

This guide teaches about the positive and negative impacts of wildland fire in Wisconsin. Each grade-specific lesson focuses on a different fire-related topic.

VISIT OUR WEBSITE AT www.uwsp.edu/leaf

The LEAF website is a great source for information and resources. On it, you will find:

- Workshop and special event lists
- Online resources
- Online tree identification key
- LEAF lesson enhancements
- Educator opportunities
- Field experience providers
- School forest information

LESSON FORMAT

LESSON NUMBER

Lesson Title

NUTSHELL

Brief summary of the lesson.

BIG IDEAS

The subconcepts covered in the lesson as defined by the *LEAF Conceptual Guide to K-12 Urban Forest Education in Wisconsin*.
(Subconcept Number)

OBJECTIVES

Knowledge and skills students acquire as a result of doing the activity.

SUBJECT AREAS

List of subjects addressed in the lesson.

LESSON/ACTIVITY TIME

Total time required to complete the lesson and breakdown of time required for each lesson component.

TEACHING SITE

Recommended location for teaching.

BACKGROUND INFORMATION

Information that supports, accentuates, and expands on the information addressed in the Procedure.

PROCEDURE INTRODUCTION

A short discussion or activity that sets the mood for the rest of the lesson.

ACTIVITIES

Step-by-step instructions for the process involved in teaching the concepts.

CONCLUSION – BEYOND THE URBAN FOREST

A wrap-up comparing urban forests to rural forests and a review of concepts of the lesson. The conclusion serves as the summative assessment for the lesson.

MATERIALS LIST

Items needed to complete the activity. Listed as per student, group of students, class, and/or teacher.

TEACHER PREPARATION

Preparation needed before teaching the lesson.

VOCABULARY

Key terms used or introduced in the activity.

LEAF LINKS

Suggested lessons from the *LEAF Wisconsin K-12 Forestry Lesson Guide* that may help prepare students for the urban forest lesson or offer further information related to the objectives.

KEY TO SYMBOLS USED THROUGHOUT THE LESSONS

-  Teacher Page
-  Student Page
-  Teacher Page (Key)
- ↑ Upper Level Learners
- ↓ Lower Level Learners

LESSON FORMAT SPECIAL FEATURES

PICTURES OF URBAN AND RURAL FORESTS

Pictures of urban and rural forests intended to help students visualize what each of those forests look like are available on the LEAF website. The photographs are not grade-specific and can be used in addition to any lesson if students need clarification. Go to www.uwsp.edu/leaf and navigate to the educator supplemental resources section.

UPPER AND LOWER DIVISIONS

Lessons in the K-4 and 5-8 sections may include activities for different levels of learners. Some activities are recommended for both lower and upper level learners because they provide a foundation of understanding for the rest of the lesson. Other activities may only be appropriate for one level based on the difficulty. Use your judgment as an educator whether your students will benefit from the upper or lower level recommendations.

WEBSITE CONNECTION

Resources are available on the LEAF website that are required or will enhance lessons in this guide. In lessons that have specific resources associated with them, you will find reference to these materials. The LEAF web pages will be updated and enhanced over time, so visit often for the newest materials.

CONCLUSION – BEYOND THE URBAN FOREST

The concluding activity in each lesson asks students to reflect on what they learned and hypothesize about how those things relate to the rural forests beyond the urban forest. This section also acts as a summative assessment tool.

LEAF LINKS

LEAF Links are found at the end of each lesson. They are suggested lessons from the *LEAF Wisconsin K-12 Forestry Lesson Guide*. They may help prepare students for the urban forest lesson they are included with, or may offer further information related to the objectives of the lesson. Suggested modifications to make the lesson more meaningful in an urban context may also be included. In all capitals you will find the title of the *LEAF Wisconsin K-12 Forestry Lesson Guide* lesson. In italics text after it is a brief description of that lesson. In plain text is the explanation of how that lesson can be used in conjunction with the urban forest lesson.

RECOMMENDED RESOURCES

A list of additional books, websites, or materials that will enhance the lessons is included at the end of each grade level section.

REFERENCES

A list of materials used in creating the lessons is included at the end of the entire document.