

Listed below are LEAF lessons in the 5-6 grade lesson guide. They have been correlated to various formats of student learning standards. Included are: Wisconsin Model Academic Standards in Agriculture Education, Environmental Education, Social Studies, and Visual Arts; Common Core Standards for Mathematics and English Language Arts; Next Generation Science Standards. On the following pages, you will find the standards listed by lesson along with an explanation of how they are addressed by each lesson. Both current and previous versions of standards can be found on the LEAF website either in the original Lesson Guide pdfs or as addendums with the more recent standard formats.

## **LESSON 1: ME AS A TREE**

### **ENGLISH LANGUAGE ARTS SL.5.1 & SL.6.1**

#### **Speaking and Listening**

**Standard is:** Engage effectively in a range of collaborative discussions (one—on-one, in groups, and teacher-led) with diverse partners on grade 5/6 topics and texts, building on others' ideas and expressing their own clearly.

Students discuss the roles students and other community members play and relate it to trees.

### **ENGLISH LANGUAGE ARTS W.5.3**

#### **Writing**

**Standard is:** Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

In the Extension, students are asked to write in a journal.

### **ENGLISH LANGUAGE ARTS W.6.3**

#### **Writing**

**Standard is:** Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and well-structured event sequences.

In the Extension, students are asked to write in a journal.

### **ENGLISH LANGUAGE ARTS W.5.10 & W.6.10**

#### **Writing**

**Standard is:** Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or day or two) for a range of discipline – specific tasks, purposes, and audiences.

In the Extension, students are asked to write in a journal.

### **SCIENCE 5-LS1-1**

#### **Matter and Energy in Organisms and Ecosystems**

**Standard is:** Support an argument that plants get the materials they need for growth chiefly from air and water.

Students learn about the needs of trees and humans by labeling a diagram and find out how trees and humans fulfill those needs.

## SCIENCE MS-LS2-2

### Interdependent Relationships in Ecosystems

**Standard is:** Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

Students simulate the interactions among organisms within an ecosystem such as competition.

## LESSON 2: WHAT MAKES A FOREST?

### ENGLISH LANGUAGE ARTS SL.5.1 &SL.6.1

#### Speaking and Listening

**Standard is:** Engage effectively in a range of collaborative discussions (one—on-one, in groups, and teacher-led) with diverse partners on grade 5/6 topics and texts, building on others' ideas and expressing their own clearly.

Students discuss ecosystems and forest layers.

### ENVIRONMENTAL EDUCATION B.8.6

#### Energy and Ecosystems

**Standard is:** Describe major ecosystems of Wisconsin.

Students use a game to put together the components needed for a forest ecosystem.

### ENVIRONMENTAL EDUCATION B.8.11

#### Energy and Ecosystems

**Standard is:** Describe our society as an ecosystem.

Students put together a puzzle of individuals, communities, ecosystems, etc. using parts of human society as examples.

## LESSON 3: FORESTS ARE ALWAYS CHANGING

### ENGLISH LANGUAGE ARTS WHST6-8.7

#### Writing for Literacy in History/Social Studies, Science, and Technology

**Standard is:** Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

In the Summative Assessment, students write a report on the role that change plays in a particular ecosystem.

### ENGLISH LANGUAGE ARTS W.5.2

#### Writing

**Standard is:** Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

Students draw a changing forest, comic book style, and write a description of what is happening in the forest as time goes by.

## ENGLISH LANGUAGE ARTS W.6.2

### Writing

**Standard is:** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. Students draw a changing forest, comic book style, and write a description of what is happening in the forest as time goes by.

## ENVIRONMENTAL EDUCATION B.8.2

### Energy and Ecosystems

**Standard is:** Explain how change is a natural process, citing examples of succession, evolution, and extinction.

Students act out forest succession and understand that change is constant.

## ENVIRONMENTAL EDUCATION B.8.5

### Energy and Ecosystems

**Standard is:** Give examples of human impact on various ecosystems.

Students learn that harvest is a human-caused disturbance and how it can influence the forest ecosystem.

## ENVIRONMENTAL EDUCATION B.8.8

### Energy and Ecosystems

**Standard is:** Explain interactions among organisms or populations of organisms.

Students act out succession and learn the effects one species of tree has on whether another is able to grow in an area.

## SCIENCE MS-LS2-4

### Matter and Energy in Organisms and Ecosystems

**Standard is:** Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

Students use a simulation to illustrate the changes that forest succession creates.

## SCIENCE MS-LS2-5

### Interdependent Relationships in Ecosystems

**Standard is:** Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

Students use a simulation to illustrate the changes and competition that forest succession creates.

## SCIENCE MS-LS1-5

### Growth, Development, and Reproduction of Organisms

**Standard is:** Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.

Students learn that environmental conditions that exist and the characteristics of a species can determine whether or not species grow in an area.

## LESSON 4: ECOSYSTEM EXTRAVAGANZA

### ENGLISH LANGUAGE ARTS SL.5.1 &SL.6.1

#### Speaking and Listening

**Standard is:** Engage effectively in a range of collaborative discussions (one—on-one, in groups, and teacher-led) with diverse partners on grade 5/6 topics and texts, building on others' ideas and expressing their own clearly.

Students participate in various discussions throughout the lesson.

### ENGLISH LANGUAGE ARTS W.5.3

#### Writing

**Standard is:** Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

In the Summative Assessment, students are asked to draw a food web and write a paper about how producers and consumers fit into water and carbon cycles.

### ENGLISH LANGUAGE ARTS W.6.3

#### Writing

**Standard is:** Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and well-structured event sequences.

In the Summative Assessment, students are asked to draw a food web and write a paper about how producers and consumers fit into water and carbon cycles.

### ENVIRONMENTAL EDUCATION B.8.1

#### Energy and Ecosystems

**Standard is:** Describe the flow of energy in a natural and a human-built ecosystem using the laws of thermodynamics (energy).

Students learn about the process of photosynthesis. They use a worksheet to examine how energy flows and is given off by producers and consumers.

### ENVIRONMENTAL EDUCATION B.8.7

#### Energy and Ecosystems

**Standard is:** Illustrate the conservation of matter using biogeochemical cycle; e.g., carbon, nitrogen, phosphorous.

Students read descriptions of the steps in biogeochemical cycles. They label illustrations based on the descriptions.

### ENVIRONMENTAL EDUCATION B.8.8

#### Energy and Ecosystems

**Standard is:** Explain interactions among organisms or populations of organisms.

Students fill out a worksheet to demonstrate the flow of energy between different types of organisms.

## MATHEMATICS 6.RP.3C

### Ratios and Proportional Relationships

**Standard is:** Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

Students understand percent and solve problems given a whole part and multiplying by 10%.

## SCIENCE 5-PS3-1

### Matter and Energy in Organisms and Ecosystems

**Standard is:** Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

Students use discussion and a worksheet to learn about the energy flow in an ecosystem from the sun to consumers.

## SCIENCE MS-LS1-6

### Matter and Energy in Organisms and Ecosystems

**Standard is:** Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.

Students use discussions and a worksheet to learn about the flow of energy and matter in an ecosystem from the sun to consumers.

## SCIENCE MS-LS2-3

### Matter and Energy in Organisms and Ecosystems

**Standard is:** Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.

Students label drawings of the carbon and water cycles and study the energy cycle through the example of producers and consumers in a forest ecosystem.

## SCIENCE 5-LS1-1

### Matter and Energy in Organisms and Ecosystems

**Standard is:** Support an argument that plants get the materials they need for growth chiefly from air and water.

Students label drawings of the carbon and water cycles through the example of a forest ecosystem.

## SCIENCE 5-LS2-1

### Matter and Energy in Organisms and Ecosystems

**Standard is:** Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

Students label drawings of the carbon and water cycles through the example of a forest ecosystem.

## SCIENCE 5-ESS2-1

### Earth's Systems

**Standard is:** Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

Students label drawings of the carbon and water cycles.

## SCIENCE MS-ESS2-4

### Earth's Systems

**Standard is:** Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.  
Students label drawings of the carbon and water cycles.

## LESSON 5: WE ALL NEED TREES

### ENGLISH LANGUAGE ARTS SL.5.1 &SL.6.1

#### Speaking and Listening

**Standard is:** Engage effectively in a range of collaborative discussions (one—on-one, in groups, and teacher-led) with diverse partners on grade 5/6 topics and texts, building on others' ideas and expressing their own clearly.  
Students discuss the values of trees.

### ENGLISH LANGUAGE ARTS WHST.6–9.6

#### Writing for Literacy in History/Social Studies, Science, and Technology

**Standard is:** Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.  
Students create a video, radio, or live commercial about the value of trees during the Conclusion.

## SCIENCE MS-PS1-3

### Structure and Properties of Matter

**Standard is:** Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.  
Students investigate the products that are made from forest materials that they may use.

## SCIENCE MS-LS2-5

### Interdependent Relationships in Ecosystems

**Standard is:** Evaluate competing design solutions for maintaining biodiversity and ecosystem services.  
Students consider the ecosystem services like water purification and air purification as products of the forest that humans value.

## LESSON 6: WHAT IS MANAGEMENT?

### ENGLISH LANGUAGE ARTS SL.5.1 &SL.6.1

#### Speaking and Listening

**Standard is:** Engage effectively in a range of collaborative discussions (one—on-one, in groups, and teacher-led) with diverse partners on grade 5/6 topics and texts, building on others' ideas and expressing their own clearly.  
Students discuss how forest management differs depending on landowner goals.

## ENGLISH LANGUAGE ARTS WHST6-8.7

### Writing for Literacy in History/Social Studies, Science, and Technology

**Standard is:** Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

In the Summative Assessment, students write a report on forest management for public landowners.

## ENVIRONMENTAL EDUCATION B.8.5

### Energy and Ecosystems

**Standard is:** Give examples of human impact on various ecosystems.

Students learn about the historic results of human impact on forest ecosystems in Wisconsin. Students choose management options and learn their consequences both good and bad.

## SCIENCE 3-5ETS1-2

### Engineering Design

**Standard is:** Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

Students use a story concept to determine which is the best solution to a problem based on the criteria given.

## SCIENCE MS-ETS1-1

### Engineering Design

**Standard is:** Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.

Students use a story to simulate the different goals of landowners in forest management and how those different goals can be a challenge.

## SCIENCE MS-ESS3-4

### Human Impacts

**Standard is:** Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

Students use a simulation to determine how changes in demand caused by human populations will impact forests.

## SOCIAL STUDIES B.8.3

### History: Time, Continuity, and Change

**Standard is:** Describe the relationships between and among significant events, such as the causes and consequences of wars in United States and world history.

Students place historical Wisconsin events on a timeline and consider how those events shaped Wisconsin and why they occurred.

## LESSON 7: WHO OWNS IT?

### ENGLISH LANGUAGE ARTS SL.5.1 & SL.6.1

#### Speaking and Listening

**Standard is:** Engage effectively in a range of collaborative discussions (one—on-one, in groups, and teacher-led) with diverse partners on grade 5/6 topics and texts, building on others' ideas and expressing their own clearly.

Students discuss the roles different groups and individuals play in making land use decisions.

### ENGLISH LANGUAGE ARTS W.5.1

#### Writing

**Standard is:** Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

Students write about and defend their ideas for change to room arrangement.

### ENGLISH LANGUAGE ARTS W.6.1

#### Writing

**Standard is:** Write arguments to support claims with clear reasons and relevant evidence.

Students write about and defend their ideas for change to room arrangement.

### MATHEMATICS 6.RP.3C

#### Ratios and Proportional Relationships

**Standard is:** Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

Students compare the amount of land owned by different types of owners on a plat map and calculate percentage of ownership.

### SCIENCE 5-ES3-1

#### Earth's Systems

**Standard is:** Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

Students participate in a mock school board meeting to understand the role individuals play in community decisions.

### SCIENCE MS-ETS1-1

#### Engineering Design

**Standard is:** Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.

Students participate in a mock school board meeting to understand the role individuals of different opinions and knowledge play in forest management decisions.

## **SOCIAL STUDIES A.8.1**

### **Geography: People, Places, and Environments**

**Standard is:** Use a variety of geographic representations, such as political, physical, and topographic maps, a globe, aerial photographs, and satellite images, to gather and compare information about a place.

Students examine plat maps to determine ownership patterns. A map of cover types is used to compare land use with land composition.

## **SOCIAL STUDIES A.8.2**

### **Geography: People, Places, and Environments**

**Standard is:** Construct mental maps of selected locales, regions, states, and countries and draw maps from memory, representing relative locations, direction, size, and shape.

Students draw a map of their neighborhood or town and estimate percentages of ownership.

## **SOCIAL STUDIES A.8.3**

### **Geography: People, Places, and Environments**

**Standard is:** Use an atlas to estimate distance, calculate scale, identify dominant patterns of climate and land use, and compute population density.

Students examine plat maps to determine ownership and apply cover map information to determine how the type of vegetation influences ownership.

## **SOCIAL STUDIES C.8.8**

### **Political Science and Citizenship: Power, Authority, Governance, and Responsibility**

**Standard is:** Identify ways in which advocates participate in public policy debates.

Students match individuals, groups, and institutions to the types of actions they could take toward forest management in a community or the state.

## **SOCIAL STUDIES E.8.4**

### **The Behavioral Sciences: Individuals, Institutions, and Society**

**Standard is:** Describe and explain the means by which individuals, groups, and institutions may contribute to social continuity and change within a community.

Students identify roles different groups (government agencies, private businesses, organizations, and communities) have in forest management.

## **LESSON 8: WHOSE JOB IS IT?**

### **ENGLISH LANGUAGE ARTS SL.5.1 &SL.6.1**

#### **Speaking and Listening**

**Standard is:** Engage effectively in a range of collaborative discussions (one—on-one, in groups, and teacher-led) with diverse partners on grade 5/6 topics and texts, building on others' ideas and expressing their own clearly.

Students discuss the roles students and other community members as stewards of forests.

## ENGLISH LANGUAGE ARTS SL.6.3

### Speaking and Listening

**Standard is:** Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not

Students participate in a mock school board meeting and make decisions based on the information from various community members.

## ENGLISH LANGUAGE ARTS RI.5.6

### Reading for Information

**Standard is:** Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.

Students take on different roles as participants in a mock school board meeting.

## ENGLISH LANGUAGE ARTS RI.6.6

### Reading for Information

**Standard is:** Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.

Students take on different roles as participants in a mock school board meeting.

## ENVIRONMENTAL EDUCATION D.8.3

### Decision and Action Skills

**Standard is:** List reasons why an individual or group chooses to participate or not participate in an environmental activity in the home, school, or community.

Students act as different citizens during a mock school board meeting and learn reasons those citizens are participating in the meeting.

## ENVIRONMENTAL EDUCATION D.8.5

### Decision and Action Skills

**Standard is:** Explain how personal actions can impact an environmental issue; e.g., doing volunteer work in conservation.

Students participate in a mock school board meeting and discuss how the information one person had could have changed the outcome of the meeting.

## ENVIRONMENTAL EDUCATION D.8.7

### Decision and Action Skills

**Standard is:** Identify examples of how personal beliefs can influence environmental decisions.

Students discuss the reasons the characters in the mock school board meeting felt the way they did about the issue.

## SOCIAL STUDIES C.8.8

### Political Science and Citizenship: Power, Authority, Governance, and Responsibility

**Standard is:** Identify ways in which advocates participate in public policy debates.

Students participate in a mock school board meeting to learn about the importance of participation.

## **SOCIAL STUDIES E.8.4**

### **The Behavioral Sciences: Individuals, Institutions, and Society**

**Standard is:** Describe and explain the means by which individuals, groups, and institutions may contribute to social continuity and change within a community.

Students participate in a mock school board meeting. They represent various individuals and groups with differing viewpoints. They learn how the information provided by the individuals and groups can influence policy decisions.

## **CAREERS EXPLORATION**

### **ENGLISH LANGUAGE ARTS RI.5.2**

#### **Reading for Information**

**Standard is:** Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.

Students read career profile documents to gain information about forest-related careers.

### **ENGLISH LANGUAGE ARTS W.5.2**

#### **Writing**

**Standard is:** Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

Students write a rap, song, or poem about a forestry-related career.

### **ENGLISH LANGUAGE ARTS W.6.2**

#### **Writing**

**Standard is:** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

Students write a rap, song, or poem about a forestry-related career.

### **ENVIRONMENTAL EDUCATION B.8.22**

#### **Natural Resources and Environmental Quality**

**Standard is:** Identify careers related to natural resources and environmental concerns.

Students read career profiles, act out careers, and create a poem, song, or rap about a career they would be interested in.

## **FIELD ENHANCEMENT 1: WOOD'S WORTH**

### **AGRICULTURE EDUCATION B.8.1**

#### **Technology/Information**

**Standard is:** Describe the need for data to make decisions.

After measuring trees and determining how many products can be made from them, students learn how foresters gather information to determine the best utilization of trees.

## AGRICULTURE EDUCATION D.8.2

### Agriscience/Production

**Standard is:** Understand the role of natural resources essential to the food, fiber, and ornamental horticulture industry in Wisconsin.

Students learn about economic, ecologic, and social values of forests in Wisconsin throughout the lesson.

## ENGLISH LANGUAGE ARTS SL.5.1 &SL.6.1

### Speaking and Listening

**Standard is:** Engage effectively in a range of collaborative discussions (one—on-one, in groups, and teacher-led) with diverse partners on grade 5/6 topics and texts, building on others' ideas and expressing their own clearly.

Students have discussions in pairs and as a larger group about things that are valuable in a forest.

## ENVIRONMENTAL EDUCATION A.8.4

### Questioning and Analysis

**Standard is:** Use critical-thinking strategies to interpret and analyze gathered information.

Students gather information about trees in a forest and use their critical thinking skills to analyze how a forest is valuable.

## ENVIRONMENTAL EDUCATION A.8.5

### Questioning and Analysis

**Standard is:** Use the results of their investigations to develop answers, draw conclusions, and revise their personal understanding.

Students use the results of their investigations to draw conclusions and revise their personal understanding of how forests are important to them.

## ENVIRONMENTAL EDUCATION B.8.22

### Knowledge of Environmental Processes and Systems

**Standard is:** Identify careers related to natural resources and environmental concerns.

Students identify and gain a better understanding of forestry as a career by using tools to take measurements in the forest and making related calculations.

## MATHEMATICS 5.NBT.5

### Number and Operations in Base Ten

**Standard is:** Fluently multiply multi-digit whole numbers using the standard algorithm.

Students take measurements and perform calculations to determine the number of products that can be made from a tree.

## MATHEMATICS 5.MD.3

### Measurement and Data

**Standard is:** Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

Students take measurements and perform calculations to determine the board foot volume of a tree and the number of products that can be made from a tree.

## MATHEMATICS 5.MD.5

### Measurement and Data

**Standard is:** Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

Students take measurements and perform calculations to determine the board foot volume of a tree and the number of products that can be made from a tree.

## FIELD ENHANCEMENT 2: STUDYING FOREST LAYERS

### ENGLISH LANGUAGE ARTS SL.5.1 & SL.6.1

#### Speaking and Listening

**Standard is:** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5/6 topics and texts, building on others' ideas and expressing their own clearly.

Students clearly explain their own drawing of forest layers.

### ENGLISH LANGUAGE ARTS W.5.3

#### Writing

**Standard is:** Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

Students write a story from the perspective of a mouse riding an elevator through the forest layers.

### ENGLISH LANGUAGE ARTS W.6.3

#### Writing

**Standard is:** Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and well-structured event sequences.

Students write a story from the perspective of a mouse riding an elevator through the forest layers.

### ENVIRONMENTAL EDUCATION A.8.5

#### Questioning and Analysis

**Standard is:** Use the results of their investigations to develop answers, draw conclusions, and revise their personal understanding.

Students draw conclusions and revise their personal understanding about the different types of plants and animals that make up a forest through investigating the structural layers of the forest.

## ENVIRONMENTAL EDUCATION B.8.6

### Knowledge of Environmental Processes and Systems

**Standard is:** Describe major ecosystems of Wisconsin.

Students are able to describe a Wisconsin forest ecosystem after making careful observations of the structural layers and wildlife within a forest.

## ENVIRONMENTAL EDUCATION B.8.8

### Knowledge of Environmental Processes and Systems

**Standard is:** Explain interactions among organisms or populations of organisms.

Students make observations and explain some of the interactions among and between plants and animals in a forest.

## FIELD ENHANCEMENT 3: COMPETITION IN A FOREST

### ENGLISH LANGUAGE ARTS SL.5.1 &SL.6.1

#### Speaking and Listening

**Standard is:** Engage effectively in a range of collaborative discussions (one—on-one, in groups, and teacher-led) with diverse partners on grade 5/6 topics and texts, building on others' ideas and expressing their own clearly.

Students participate in discussion throughout the lesson.

### ENGLISH LANGUAGE ARTS W.5.3

#### Writing

**Standard is:** Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

In the Summative Assessment, students write a story from the perspective of an overtopped tree.

### ENGLISH LANGUAGE ARTS W.6.3

#### Writing

**Standard is:** Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and well-structured event sequences.

In the Summative Assessment, students write a story from the perspective of an overtopped tree.

## ENVIRONMENTAL EDUCATION A.8.4

### Questioning and Analysis

**Standard is:** Use critical-thinking strategies to interpret and analyze gathered information.

Students gather information about trees and use critical-thinking strategies to interpret and analyze how competition affects trees.

## ENVIRONMENTAL EDUCATION A.8.5

### Questioning and Analysis

**Standard is:** Use the results of their investigations to develop answers, draw conclusions, and revise their personal understanding.

Students use the results of their investigations to draw conclusions and revise their personal understanding about the role competition plays in a forest.

## ENVIRONMENTAL EDUCATION B.8.8

### Knowledge of Environmental Processes and Systems

**Standard is:** Explain interactions among organisms or populations of organisms.

Students are able to explain how competition affects a tree's ability to meet its basic needs through observation and discussion.

## SCIENCE 5-LS1-1

### Matter and Energy in Organisms and Ecosystems

**Standard is:** Support an argument that plants get the materials they need for growth chiefly from air and water.

Students review the needs of basic needs of trees and how they get them.

## SCIENCE MS-LS2-1

### Matter and Energy in Organisms and Ecosystems

**Standard is:** Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

Students participate in a simulation and make first-hand observations about competition among trees in a forest.

## SCIENCE MS-LS2-2

### Interdependent Relationships in Ecosystems

**Standard is:** Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

Students participate in a simulation and make first-hand observations about competition among trees in a forest.