

Listed below are the Wisconsin learning standards correlations for the LEAF lessons in the 7-8 grade lesson guide. On the following pages, you will find the standards listed by lesson along with a brief explanation of how they are addressed by each lesson.

## **LESSON 1: DISCOVERING WISCONSIN'S FORESTS**

### **WISCONSIN STANDARDS FOR AGRICULTURE, FOOD AND NATURAL RESOURCES**

Students differentiate between biomes of the world and distinguish which forest biome Wisconsin is in; compare and contrast different types of forests within Wisconsin; summarize how climate, soils, and topography affect the location of different types of forests in Wisconsin.

**Related Standards/Learning Priorities:** NR1.a; NR1.b; NR2.d; PS1.a; PS2.a

### **WISCONSIN STANDARDS FOR ENVIRONMENTAL LITERACY AND SUSTAINABILITY**

**Connect; ELS.C1.B.m**

Students compare and contrast different types of forests within Wisconsin and summarize how climate, soils, and topography affect the location of different types of forests.

**Explore; ELS.EX2.A.m**

Students compare and contrast different types of forests within Wisconsin and summarize how climate, soils, and topography affect the location of different types of forests.

**Explore; ELS.EX2.B.m**

Students compare and contrast different types of forests within Wisconsin and summarize how climate, soils, and topography affect the location of different types of forests.

**Explore; ELS.EX5.B.m**

Students investigate and analyze patterns of historic glaciation in Wisconsin and describe the impacts on soils, topography, and soil types throughout the state.

### **WISCONSIN STANDARDS FOR ENGLISH LANGUAGE ARTS**

**Writing; W.7.2a-f & W.8.2a-f**

Students develop a travel brochure to provide information on a particular Wisconsin forest.

**Writing; W.7.4 & W.8.4**

Students develop a travel brochure to provide information on a particular Wisconsin forest.

**Writing; W.7.5 & W.8.5**

Students develop a travel brochure to provide information on a particular Wisconsin forest.

**Writing; W.7.6**

Students develop a travel brochure to provide information on a particular Wisconsin forest.

**Writing; W.8.6**

Students develop a travel brochure to provide information on a particular Wisconsin forest.

### Writing; W.7.7 & W.8.7

Students develop a travel brochure to provide information on a particular Wisconsin forest.

### Writing; W.7.8

Students develop a travel brochure to provide information on a particular Wisconsin forest.

### Writing; W.8.8

Students develop a travel brochure to provide information on a particular Wisconsin forest.

### Writing; W.7.9a-b & W.8.9A-B

Students develop a travel brochure to provide information on a particular Wisconsin forest.

### Writing; W.8.6

Students develop a travel brochure to provide information on a particular Wisconsin forest.

### Speaking and Listening; SL.7.1a-d & SL.8.1a-d

Student presentations and discussions in Activities 1 and 2 require students to work to this standard.

### Speaking and Listening; SL.7.2

Student presentations and discussions in Activities 1 and 2 require students to work to this standard.

### Speaking and Listening; SL.8.2

Student presentations and discussions in Activities 1 and 2 require students to work to this standard.

### Speaking and Listening; SL.7.4

Student presentations and discussions in Activities 1 and 2 require students to work to this standard.

### Speaking and Listening; SL.8.4

Student presentations and discussions in Activities 1 and 2 require students to work to this standard.

### Speaking and Listening; SL.7.6 & SL.8.6

Student presentations and discussions in Activities 1 and 2 require students to work to this standard.

### Language; L.7.1a-d & L.8.1a-D

Students present and discuss while creating a forest community brochure.

### Language; L.7.2a-b & L.8.2a-b

Students create a forest community brochure and address these standards.

## WISCONSIN STANDARDS FOR LITERACY IN ALL SUBJECTS

### Writing for Literacy in History/Social Studies, Science, and Technical Subjects; WHST.6-8.2a-f

Students develop a travel brochure to provide information on a particular Wisconsin forest.

### Writing for Literacy in History/Social Studies, Science, and Technical Subjects; WHST.6-8.4

Students develop a travel brochure to provide information on a particular Wisconsin forest.

### **Writing for Literacy in History/Social Studies, Science, and Technical Subjects; WHST.6-8.5**

Students develop a travel brochure to provide information on a particular Wisconsin forest.

### **Writing for Literacy in History/Social Studies, Science, and Technical Subjects; WHST.6-8.6**

Students develop a travel brochure to provide information on a particular Wisconsin forest.

### **Writing for Literacy in History/Social Studies, Science, and Technical Subjects; WHST.6-8.7**

Students develop a travel brochure to provide information on a particular Wisconsin forest.

### **Writing for Literacy in History/Social Studies, Science, and Technical Subjects; WHST.6-8.8**

Students develop a travel brochure to provide information on a particular Wisconsin forest.

### **Writing for Literacy in History/Social Studies, Science, and Technical Subjects; WHST.6-8.9**

Students develop a travel brochure to provide information on a particular Wisconsin forest.

### **Reading for Literacy in Science and Technical Subjects; RST.6-8.2**

Students do additional research for their biome brochure to work toward this standard.

### **Reading for Literacy in Science and Technical Subjects; RST.6-8.4**

Students do additional research for their biome brochure to work toward this standard.

### **Reading for Literacy in Science and Technical Subjects; RST.6-8.7**

Students do additional research for their biome brochure to work toward this standard.

### **Reading for Literacy in Science and Technical Subjects; RST.6-8.8**

Students do additional research for their biome brochure to work toward this standard.

## **WISCONSIN STANDARDS FOR MATHEMATICS**

### **Ratios and Proportional Relationships; 7.RP.2**

Students graph precipitation and temperature data for different biomes.

## **NEXT GENERATION SCIENCE STANDARDS**

### **Earth's Systems; MS-ESS2-2**

Students explore how Wisconsin glaciation has affected soil and topography creating different forest communities of varying biodiversity.

## **WISCONSIN MODEL ACADEMIC STANDARDS FOR SOCIAL STUDIES**

### **Geography: People, Places, and Environments; A.8.1**

Students superimpose data from maps showing Wisconsin glaciation and climatic zones on a map of Wisconsin landforms as a way of determining the factors that affect where different types of forest are located.

## **WISCONSIN MODEL ACADEMIC STANDARDS FOR ART AND DESIGN**

### **Visual Communication and Expression; E.8.3**

Students create a travel brochure with images or graphics describing one of the types of forests in Wisconsin, including factors contributing to its location and plants and animals present.

### **Visual Communication and Expression; H.8.5**

Students superimpose data from maps showing Wisconsin glaciation and climatic zones on a map of Wisconsin landforms as a way of determining the factors that affect where different types of forests are located.

## **LESSON 2: BIODIVERSITY AND THE FOREST CONNECTION**

### **WISCONSIN STANDARDS FOR AGRICULTURE, FOOD AND NATURAL RESOURCES**

Students identify what biodiversity is and that it exists within a forest; explain how interconnections between forest ecosystems and other ecosystems contribute to biodiversity; recognize how Wisconsin forests are a part of world biodiversity.

**Related Standards/Learning Priorities: NR1.a; NR2.b; NR2.c; NR2.d**

### **WISCONSIN STANDARDS FOR ENVIRONMENTAL LITERACY AND SUSTAINABILITY**

#### **Explore; ELS.EX2.A.m**

Students explain how interconnections between forest ecosystems and other ecosystems contribute to biodiversity.

#### **Explore; ELS.EX2.B.m**

Students explain how interconnections between forest ecosystems and other ecosystems contribute to biodiversity.

#### **Explore; ELS.EX3.B.m**

Students recognize the importance of biodiversity within Wisconsin's forests and the world.

#### **Explore; ELS.EX5.C.m**

Students explain how natural and cultural factors influence biodiversity.

### **WISCONSIN STANDARDS FOR ENGLISH LANGUAGE ARTS**

#### **Speaking and Listening; SL.7.1A-D & SL.8.1A-D**

Student presentations and discussions in the conclusion activity require students to work to this standard.

#### **Speaking and Listening; SL.7.2**

Student presentations and discussions in the conclusion activity require students to work to this standard.

#### **Speaking and Listening; SL.8.2**

Student presentations and discussions in the conclusion activity require students to work to this standard.

#### **Speaking and Listening; SL.7.4**

Student presentations and discussions in the conclusion activity require students to work to this standard.

#### **Speaking and Listening; SL.8.4**

Student presentations and discussions in the conclusion activity require students to work to this standard.

#### **Speaking and Listening; SL.7.6 & SL.8.6**

Student presentations and discussions in the conclusion activity require students to work to this standard.

### **NEXT GENERATION SCIENCE STANDARDS**

#### **Ecosystems: Interactions, Energy, and Dynamics; MS-LS2-2**

Students investigate how forest ecosystems interconnect with other terrestrial and aquatic ecosystems.

#### **Ecosystems: Interactions, Energy, and Dynamics; MS-LS4-4**

Students recognize the importance of genetic diversity in maintaining healthy populations when faced with various natural selection pressures such as disease.

### **WISCONSIN MODEL ACADEMIC STANDARDS FOR ART AND DESIGN**

#### **Visual Communication and Expression; E.8.4**

Students compare ecosystems by making a Venn diagram.

## **LESSON 3: HOW FORESTS ARE MANAGED**

### **WISCONSIN STANDARDS FOR AGRICULTURE, FOOD AND NATURAL RESOURCES**

Students explain what multiple use management is; define the term “sustainable forestry;” identify environmental, social, and economic factors that influence management decisions; outline what forest managers consider when preparing management plans and explain how these plans are tied to sustainable forestry.

**Related Standards/Learning Priorities: NR1.a; NR2.b; NR2.c; NR3.a; PS3.b; PS3.d; PS3.e**

### **WISCONSIN STANDARDS FOR ENVIRONMENTAL LITERACY AND SUSTAINABILITY**

#### **Connect; ELS.C1.A.m**

Students explore how different landowner perspectives and objectives affect forest management decisions.

#### **Explore; ELS.EX3.A.m**

Students explore how different landowner perspectives and objectives affect forest management decisions.

**Explore; ELS.EX2.B.m**

Students identify environmental, social, and economic factors that influence management decisions and how this is tied to sustainable forestry.

**Explore; ELS.EX3.C.m**

Students explore how different landowner perspectives and objectives affect forest management decisions.

**Explore; ELS.EX5.A.m**

Students identify environmental, social, and economic factors that influence management decisions and how this is tied to sustainable forestry.

**Engage; ELS.EN6.A.m**

Students identify environmental, social, and economic factors that influence management decisions and how this is tied to sustainable forestry.

**Engage; ELS.EN6.B.m**

Students explore factors that define forestry decisions as *sustainable*.

**Engage; ELS.EN6.C.m**

Students identify environmental, social, and economic factors that influence management decisions and how this is tied to sustainable forestry.

## **WISCONSIN STANDARDS FOR ENGLISH LANGUAGE ARTS**

### **Speaking and Listening; SL.7.1a-d &SL8.1a-d**

Throughout this lesson, discussion is used to make comparisons and draw conclusions, especially during the newspaper simulation and from the video discussion.

### **Speaking and Listening; SL.7.2**

Throughout this lesson, discussion is used to make comparisons and draw conclusions, especially during the newspaper simulation and from the video discussion.

### **Speaking and Listening; SL.8.2**

Throughout this lesson, discussion is used to make comparisons and draw conclusions, especially during the newspaper simulation and from the video discussion.

### **Speaking and Listening; SL.7.4**

Throughout this lesson, discussion is used to make comparisons and draw conclusions, especially during the newspaper simulation and from the video discussion.

### **Speaking and Listening; SL.8.4**

Throughout this lesson, discussion is used to make comparisons and draw conclusions, especially during the newspaper simulation and from the video discussion.

### **Speaking and Listening; SL.7.6 &SL8.6**

Throughout this lesson, discussion is used to make comparisons and draw conclusions, especially during the newspaper simulation and from the video discussion.

## **NEXT GENERATION SCIENCE STANDARDS**

### Earth and Human Activity; MS-ESS3-4

Students learn how an increase in human population increases the challenge of using our forests in a sustainable manner.

## **LESSON 4: FOREST MANAGEMENT ISSUES**

### WISCONSIN STANDARDS FOR AGRICULTURE, FOOD AND NATURAL RESOURCES

Students explain how forest management may have positive or negative social, economic, or ecological effects; recognize that management decisions can be affected by many factors; explain how people's beliefs, values, and knowledge shape their perceptions of forest management; identify issues that can arise when people's perception of forest management differ; identify and discuss why some management techniques are controversial.

**Related Standards/Learning Priorities:** NR1.a; NR2.b; NR2.c; NR3.a; NR5.a; PS3.d

### WISCONSIN STANDARDS FOR ENVIRONMENTAL LITERACY AND SUSTAINABILITY

#### **Connect; ELS.C1.A.m**

Students explain how people's beliefs, values, and knowledge shape their perceptions of forest management, and identify issues that can arise when people's perception of forest management differ.

#### **Explore; ELS.EX2.B.m**

Students explain how forest management may have positive or negative social, economic, or ecological effects.

#### **Explore; ELS.EX3.Am**

Students explain how people's beliefs, values, and knowledge shape their perceptions of forest management, and identify issues that can arise when people's perception of forest management differ.

#### **Explore; ELS.EX3.Bm**

Students explain how forest management may have positive or negative social, economic, or ecological effects.

#### **Explore; ELS.EX3.Cm**

Students explain how forest management may have positive or negative social, economic, or ecological effects and explain how people's beliefs, values, and knowledge shape their perceptions of forest management, and identify issues that can arise when people's perception of forest management differ.

#### **Explore; ELS.EX4.Bm**

Students explain how forest management may have positive or negative social, economic, or ecological effects.

#### **Explore; ELS.EX5.A.m**



Students explain how people's beliefs, values, and knowledge shape their perceptions of forest management, and identify issues that can arise when people's perception of forest management differ.

**Explore; ELS.EX5.C.m**

Students explain how people's beliefs, values, and knowledge shape their perceptions of forest management, and identify and discuss why some management techniques are controversial.

**Engage; ELS.EN6.A.m**

Students explain how forest management may have positive or negative social, economic, or ecological effects.

**Engage; ELS.EN6.B.m**

Students explain how forest management may have positive or negative social, economic, or ecological effects.

**Engage; ELS.EN6.C.m**

Students explain how forest management may have positive or negative social, economic, or ecological effects.

**Engage; ELS.EN7.B.m**

Students explain how people's beliefs, values, and knowledge shape their perceptions of forest management, and identify issues that can arise when people's perception of forest management differ.

## **WISCONSIN STANDARDS FOR ENGLISH LANGUAGE ARTS**

### **Comprehension and Collaboration; SL.7.1A-D & SL.8.1A-D**

Students participate in discussion to evaluate the role of knowledge, beliefs, and values in people's perceptions of forest management techniques and decisions.

#### **Speaking and Listening; SL.7.2**

Students participate in discussion to evaluate the role of knowledge, beliefs, and values in people's perceptions of forest management techniques and decisions.

#### **Speaking and Listening; SL.8.2**

Students participate in discussion to evaluate the role of knowledge, beliefs, and values in people's perceptions of forest management techniques and decisions.

#### **Speaking and Listening; SL.7.4**

Students participate in discussion to evaluate the role of knowledge, beliefs, and values in people's perceptions of forest management techniques and decisions.

#### **Speaking and Listening; SL.8.4**

Students participate in discussion to evaluate the role of knowledge, beliefs, and values in people's perceptions of forest management techniques and decisions.

#### **Speaking and Listening; SL.7.6 & SL.8.6**

Students participate in discussion to evaluate the role of knowledge, beliefs, and values in people's perceptions of forest management techniques and decisions.

#### **Reading Informational Text; RI.7.1**



Students read an article and participate in discussion to evaluate the role of knowledge, beliefs, and values in people's perceptions of forest management techniques and decisions.

### **Reading Informational Text; RI.8.1**

Students identify the controversial statements in an article about a forest related issue and analyze the values and knowledge held by the people or groups making those statements.

### **Reading Informational Text; RI.7.3**

Students identify the controversial statements in an article about a forest related issue and analyze the values and knowledge held by the people or groups making those statements.

### **Reading Informational Text; RI.8.3**

Students identify the controversial statements in an article about a forest related issue and analyze the values and knowledge held by the people or groups making those statements.

### **Writing; W.7.10 & W.8.10**

Students use reflective writing in the conclusion to summarize how and why conflicts arise regarding forest issues.

## **NEXT GENERATION SCIENCE STANDARDS**

### **Science Applications; MS-LS2-5**

Students evaluate and discuss a case study to illustrate competing points of view regarding management options for a forest to maintain biodiversity.

## **WISCONSIN MODEL ACADEMIC STANDARDS FOR SOCIAL STUDIES**

### **History: Time, Continuity, and Change; B.8.4 & B.8.10**

Students read an article about a controversial issue related to forestry to identify and evaluate the ways that those issues arise from differing beliefs, values, and knowledge.

### **Political Science and Citizenship: Power, Authority, Governance, and Responsibility; C.8.7**

Students read an article about a controversial issue related to forestry to identify and evaluate the ways that those issues arise from differing beliefs, values, and knowledge.

## **LESSON 5: MANY FORESTS, MANY VALUES, MANY REASONS**

### **WISCONSIN STANDARDS FOR AGRICULTURE, FOOD AND NATURAL RESOURCES**

Students classify values placed on forests; identify factors that influence how individuals value forests; describe why forests are important to the environment, economy, and to themselves; recognize the role that forest values play in shaping communities and relate how forest values have played this important role throughout history.

**Related Standards/Learning Priorities: NR1.a; NR2.b; NR3.a; PS3.d**

## **WISCONSIN STANDARDS FOR ENVIRONMENTAL LITERACY AND SUSTAINABILITY**

### **Connect; ELS.C1.A.m**

Students identify factors that influence how individuals value forests (wealth, health, religion, ecology, and culture), and recognize the role that forest values play in shaping communities.

### **Connect; ELS.C1.B.m**

Students describe why forests are important to the environment, economy, and to themselves, and recognize the role that forest values play in shaping communities.

### **Explore; ELS.EX3.Bm**

Students describe why forests are important to the environment, economy, and to themselves, and recognize the role that forest values play in shaping communities.

### **Explore; ELS.EX3.Cm**

Students identify factors that influence how individuals value forests (wealth, health, religion, ecology, and culture), and recognize the role that forest values play in shaping communities.

### **Explore; ELS.EX5.A.m**

Students identify factors that influence how individuals value forests (wealth, health, religion, ecology, and culture), and recognize the role that forest values play in shaping communities.

### **Explore; ELS.EX5.C.m**

Students recognize the role that forest values play in shaping communities and relate how forest values have played this important role throughout history.

### **Engage; ELS.EN6.C.m**

Students describe why forests are important to the environment, economy, and to themselves, and recognize the role that forest values play in shaping communities.

### **Engage; ELS.EN7.BAm**

Students explore how the values people place on forests have changed over time.

## **WISCONSIN STANDARDS FOR ENGLISH LANGUAGE ARTS**

### **Comprehension and Collaboration; SL.7.1a-d & SL.8.1a-d**

Students participate in discussion about the way they value forests.

### **Speaking and Listening; SL.7.2**

Students participate in discussion about the way they value forests.

### **Speaking and Listening; SL.8.2**

Students participate in discussion about the way they value forests.

### **Speaking and Listening; SL.7.4**

Students participate in discussion about the way they value forests.

### **Speaking and Listening; SL.8.4**

Students participate in discussion about the way they value forests.

### **Speaking and Listening; SL.7.6 & SL.8.6**

Students participate in discussion about the way they value forests.

### **Writing; W.7.10 & W.8.10**

Students use reflective writing in the conclusion to summarize how and why they value forest products.

## **WISCONSIN MODEL ACADEMIC STANDARDS FOR SOCIAL STUDIES**

### **Geography: People, Places, and Environments; A.8.4**

Students take a historical look at how forests impact society and how human activities impact forests by completing the *Wisconsin Forests and Communities Then & Now* Student Page.

## **WISCONSIN MODEL ACADEMIC STANDARDS FOR ART AND DESIGN**

### **Visual Design and Production; C.8.9**

Students creatively express what they've learned. Among the options are making a collage, making a mobile, writing a poem or reflective prose that includes an illustration, creating a slide show presentation, or performing a rap, song, play, puppet show, mock TV talk show interview, etc.

### **Visual Communication and Expression; E.8.1, E.8.2, & E.8.3**

Students creatively express what they've learned. Among the options are making a collage, making a mobile, writing a poem or reflective prose that includes an illustration, creating a slide show presentation, or performing a rap, song, play, puppet show, mock TV talk show interview, etc.

## **LESSON 6: MAKING BROADER CONNECTIONS**

### **WISCONSIN STANDARDS FOR AGRICULTURE, FOOD AND NATURAL RESOURCES**

Students evaluate the impact of forestry and forest products on Wisconsin's economy, society, and environment; predict how changes in the demand for and use of forests and forest products of Wisconsin may affect forests worldwide; explain some of the current challenges in forestry and summarize how they will impact Wisconsin and world forests.

**Related Standards/Learning Priorities: NR1.α; NR2.c; NR2.d; NR3.α; PS3.d**

## **WISCONSIN STANDARDS FOR ENVIRONMENTAL LITERACY AND SUSTAINABILITY**

### **Connect; ELS.C1.B.m**

Students evaluate the impact of forestry and forest products on Wisconsin's economy, society, and environment.

### **Explore; ELS.EX2.B.m**

Students evaluate the impact of forestry and forest products on Wisconsin's economy, society, and environment, and predict how changes in demand and use of forests may affect forests worldwide.

### **Explore; ELS.EX4.B.m**

Students evaluate the impact of forestry and forest products on Wisconsin's economy, society, and environment.

**Explore; ELS.EX5.A.m**

Students explain some of the current challenges in forestry and how these challenges could be met, and summarize how they will impact Wisconsin and world forests.

**Explore; ELS.EX5.B.m**

Students predict how changes in the demand for and use of forests and forest products of Wisconsin may affect forests worldwide.

**Explore; ELS.EX5.C.m**

Students evaluate the impact of forestry and forest products on Wisconsin's economy, society, and environment.

**Engage; ELS.EN6.A.m**

Students evaluate the impact of forestry and forest products on Wisconsin's economy, society, and environment.

**Engage; ELS.EN6.B.m**

Students explain some of the current challenges in forestry and how these challenges could be met, and summarize how they will impact Wisconsin and world forests.

**Engage; ELS.EN6.C.m**

Students complete a sustainable forestry simulation and evaluate the impact of forestry on Wisconsin's economy, society, and environment.

## **WISCONSIN STANDARDS FOR ENGLISH LANGUAGE ARTS**

### **Comprehension and Collaboration; SL.7.1A-D & SL.8.1A-D**

The introduction and parts of all activities rely heavily on discussion and student participation.

### **Speaking and Listening; SL.7.2**

The introduction and parts of all activities rely heavily on discussion and student participation.

### **Speaking and Listening; SL.8.2**

The introduction and parts of all activities rely heavily on discussion and student participation.

### **Speaking and Listening; SL.7.4**

The introduction and parts of all activities rely heavily on discussion and student participation.

### **Speaking and Listening SL.8.4**

The introduction and parts of all activities rely heavily on discussion and student participation.

### **Speaking and Listening; SL.7.6 & SL.8.6**

The introduction and parts of all activities rely heavily on discussion and student participation.

### **Writing; W.7.10 & W.8.10**

Students use reflective writing in the conclusion to summarize their views of forest issues in Wisconsin and elsewhere.

## **NEXT GENERATION SCIENCE STANDARDS**

### **Human Impacts; MS-ESS.3-4**

Students examine how an increase in population increases the challenge of sustainable forest management.

## **WISCONSIN MODEL ACADEMIC STANDARDS FOR SOCIAL STUDIES**

### **Economics: Production, Distribution, Exchange, and Consumption; D.8.3**

Students evaluate future demand for forest resources and suggest ways that these changes will affect forests and the economy of Wisconsin and the world through a simulation activity.

## **LESSON 7: KEY STRATEGIES FOR OUR FUTURE**

### **WISCONSIN STANDARDS FOR AGRICULTURE, FOOD AND NATURAL RESOURCES**

Students summarize how forest-related decisions and the factors that influence them determine the balance between the quality of human life and the quality of forests; describe the ways that science and technology contribute to our understanding of forest systems, wood utilization, human impacts, and current issues and can help us respond to future challenges in sustainable ways; explain how individuals, organizations, government, and industry must use creativity, collaboration, and innovation to manage forests sustainably.

**Related Standards/Learning Priorities: NR1.a; NR2.b; NR2.c; NR2.d; NR3.a; PS3.d**

### **WISCONSIN STANDARDS FOR ENVIRONMENTAL LITERACY AND SUSTAINABILITY**

#### **Explore; ELS.EX2.A.m**

Students summarize how forest-related decisions and the factors that influence them (science, politics, emotion, economics) determine the balance between the quality of human life and the quality of forests.

#### **Explore; ELS.EX2.B.m**

Students summarize how forest-related decisions and the factors that influence them (science, politics, emotion, economics) determine the balance between the quality of human life and the quality of forests.

#### **Explore; ELS.EX2.C.m**

Students describe the ways that science and technology contribute to our understanding of forest systems, wood utilization, human impacts, and current issues and can help us respond to future challenges in sustainable ways; students explain how individuals, organizations, government, and industry must use creativity, collaboration, and innovation to manage forests sustainably.

#### **Explore; ELS.EX4.B.m**

Students summarize how forest-related decisions and the factors that influence them (science, politics, emotion, economics) determine the balance between the quality of human life and the quality of forests.

#### **Explore; ELS.EX5.A.m**

Students describe the ways that science and technology contribute to our understanding of forest systems, wood utilization, human impacts, and current issues and can help us respond to future challenges in sustainable ways; students explain how individuals, organizations, government, and industry must use creativity, collaboration, and innovation to manage forests sustainably.

#### Explore; ELS.EX5.C.m

Students describe the ways that science and technology contribute to our understanding of forest systems, wood utilization, human impacts, and current issues and can help us respond to future challenges in sustainable ways.

#### Engage; ELS.EN6.A.m

Students summarize how forest-related decisions and the factors that influence them (science, politics, emotion, economics) determine the balance between the quality of human life and the quality of forests.

#### Engage; ELS.EN6.B.m

Students explain how individuals, organizations, government, and industry must use creativity, collaboration, and innovation to manage forests sustainably.

#### Engage; ELS.EN6.C.m

Students summarize how forest-related decisions and the factors that influence them (science, politics, emotion, economics) determine the balance between the quality of human life and the quality of forests.

### WISCONSIN STANDARDS FOR ENGLISH LANGUAGE ARTS

#### Comprehension and Collaboration; SL.7.1A-D & SL.8.1A-D

The conclusion requires students to discussion their ideas for the future of Wisconsin's forests.

#### Speaking and Listening SL.7.2

The conclusion requires students to discussion their ideas for the future of Wisconsin's forests.

#### Speaking and Listening; SL.8.2

The conclusion requires students to discussion their ideas for the future of Wisconsin's forests.

#### Speaking and Listening; SL.7.4

The conclusion requires students to discussion their ideas for the future of Wisconsin's forests.

#### Speaking and Listening; SL.8.4

The conclusion requires students to discussion their ideas for the future of Wisconsin's forests.

#### Speaking and Listening; SL.7.6 & SL.8.6

The conclusion requires students to discussion their ideas for the future of Wisconsin's forests.

### NEXT GENERATION SCIENCE STANDARDS

#### Matter and Energy in Organisms and Ecosystems; MS-LS2-1

Students discuss land use effects on fish habitat and the potential impact on fish populations.

#### Matter and Energy in Organisms and Ecosystems;; MS-LS2-4

Students examine fish habitat in terms of decaying trees, sunlight, and soil and the potential effects on fish populations.

## **LESSON 8: SUSTAINING OUR FORESTS – CITIZENS’ ROLES**

### **WISCONSIN STANDARDS FOR AGRICULTURE, FOOD AND NATURAL RESOURCES**

Students explain what it means to be a steward and how they can be one; identify lifestyle choices and actions that can ensure the sustainability of our forests.

**Related Standards/Learning Priorities:** NR1.a; NR2.b; NR2.c; NR2.d; NR3.a

### **WISCONSIN STANDARDS FOR ENVIRONMENTAL LITERACY AND SUSTAINABILITY**

**Connect; ELS.C1.A.m**

Students explain what it means to be a steward and how they can be one.

**Explore; ELS.EX2.A.m**

Students identify lifestyle choices and actions that can ensure the sustainable use of our forests.

**Explore; ELS.EX2.C.m**

Students identify lifestyle choices and actions that can ensure the sustainable use of our forests.

**Explore; ELS.EX4.B.m**

Students identify lifestyle choices and actions that can ensure the sustainable use of our forests.

**Explore; ELS.EX5.A.m**

Students explain what it means to be a steward and how they can be one, and identify lifestyle choices and actions that can ensure the sustainable use of our forests.

**Explore; ELS.EX5.C.m**

Students explain what it means to be a steward and how they can be one, and identify lifestyle choices and actions that can ensure the sustainable use of our forests.

**Engage; ELS.EN6.A.m**

Students identify lifestyle choices and actions that can ensure the sustainable use of our forests.

**Engage; ELS.EN6.C.m**

Students explain what it means to be a steward and how they can be one, and identify lifestyle choices and actions that can ensure the sustainable use of our forests.

**Engage; ELS.EN7.A.m**

Students explain what it means to be a steward and how they can be one, and identify lifestyle choices and actions that can ensure the sustainable use of our forests.

### **WISCONSIN STANDARDS FOR ENGLISH LANGUAGE ARTS**

**Comprehension and Collaboration; SL.7.1A-D & S.8.1A-D**

Students participate in discussion in a variety of ways throughout the lesson.

**Speaking and Listening; SL.7.2**



Students participate in discussion in a variety of ways throughout the lesson.

**Speaking and Listening; SL.8.2**

Students participate in discussion in a variety of ways throughout the lesson.

**Speaking and Listening; SL.7.4**

Students participate in discussion in a variety of ways throughout the lesson.

**Speaking and Listening; SL.8.4**

Students participate in discussion in a variety of ways throughout the lesson.

**Speaking and Listening; SL.7.6 & SL.8.6**

Students participate in discussion in a variety of ways throughout the lesson.

**Writing; W.7.10 & W.8.10**

In the summative assessment, or optionally in the conclusion, students use reflective writing to describe a forest they've visited.

## **WISCONSIN MODEL ACADEMIC STANDARDS FOR SOCIAL STUDIES**

### **The Behavioral Sciences: Individuals, Institutions, and Society; E.8.4**

Students read about and discuss what individuals and groups do to be forest stewards on their land and promote sustainable use of Wisconsin's forests. Students also examine lifestyle choices that impact the forests and community around them.

## **CAREERS EXPLORATION**

### **WISCONSIN STANDARDS FOR ENVIRONMENTAL LITERACY AND SUSTAINABILITY**

#### **Engage; ELS.EN6.C.e**

Students learn about jobs related to forests and forestry.

## **FIELD ENHANCEMENT 1: TREE IDENTIFICATION**

### **WISCONSIN STANDARDS FOR AGRICULTURE, FOOD AND NATURAL RESOURCES**

Students use a dichotomous tree to identify trees; recognize and describe characteristics that differentiate trees; recognize common trees of Wisconsin by examining their characteristics.

**Related Standards/Learning Priorities: NR1.a; NR1.b; NR2.d; NR3.a; PS1.a; PS1.b; PS1.d**

### **WISCONSIN STANDARDS FOR ENVIRONMENTAL LITERACY AND SUSTAINABILITY**

#### **Connect; ELS.C1.B.m**

Students work in groups to study and identify trees using a dichotomous key.

#### **Connect; ELS.C1.C.m**

Students work in groups to study and identify trees using a dichotomous key.

## WISCONSIN STANDARDS FOR LITERACY IN ALL SUBJECTS

### Reading in Science, and Technical Subjects; RST.6-8.3

Students read and navigate a dichotomous tree key.

## **FIELD ENHANCEMENT 2: FOREST MAPPING**

### WISCONSIN STANDARDS FOR AGRICULTURE, FOOD AND NATURAL RESOURCES

Students investigate features of a forest plot; collect data on measurement, identification, and age of trees; spatially represent a forest and its features on a map; compare and contrast data collected from different forest plots.

**Related Standards/Learning Priorities:** NR1.α; NR2.α; NR2.b; NR2.c; NR2.d; NR3.α; NR4.α; PS1.α; PS1.b; PS2.α

### WISCONSIN STANDARDS FOR ENVIRONMENTAL LITERACY AND SUSTAINABILITY

**Connect; ELS.C1.A.m**

Students gather data on a forest plot and discuss the unique features of the area.

**Connect; ELS.C1.B.m**

Students gather data on a forest plot and discuss the unique features of the area.

**Connect; ELS.C1.C.m**

Students gather data on a forest plot and discuss the unique features of the area.

**Explore; ELS.EX2.A.m**

Students compare and contrast the age, location, and type of trees in different forest plots.

**Explore; ELS.EX3.Cm**

Students analyze the impact of trees on human communities.

## WISCONSIN STANDARDS FOR LITERACY IN ALL SUBJECTS

### Reading in Science, and Technical Subjects; RST.6-8.3

Students find the diameter measurements of trees.

### WISCONSIN STANDARDS FOR MATHEMATICS

**Geometry; 7.G.4**

Students measure a tree to determine its diameter.

### WISCONSIN MODEL ACADEMIC STANDARDS FOR SOCIAL STUDIES

**Geography: People, Places, and Environments; A.8.1**

Students study various kinds of maps to determine the types of information they are conveying and then gather data to create their own maps. From maps they have created, the class answers questions about the forest area they are in.

## **FIELD ENHANCEMENT 3: FOREST DIVERSITY**

### **WISCONSIN STANDARDS FOR AGRICULTURE, FOOD AND NATURAL RESOURCES**

Students identify, collect data on, and measure components of forest diversity; define forest diversity; compare and contrast different types of forests with respect to diversity.

**Related Standards/Learning Priorities:** NR1.a; NR1.b; NR2.a; NR2.b; NR2.c; NR2.d; PS1.a; PS1.b; PS1.d; PS2.a

### **WISCONSIN STANDARDS FOR ENVIRONMENTAL LITERACY AND SUSTAINABILITY**

**Connect; ELS.C1.A.m**

Students gather data on a forest plot and discuss the biodiversity of the area.

**Connect; ELS.C1.B.m**

Students gather data on a forest plot and discuss the biodiversity of the area.

**Connect; ELS.C1.C.m**

Students gather data on a forest plot and discuss the biodiversity of the area.

**Explore; ELS.EX2.A.m**

Students investigate how the components of a forest plot contribute to its overall biodiversity.

**Explore; ELS.EX2.B.m**

Students investigate how the components of a forest plot contribute to its overall biodiversity.

**Explore; ELS.EX3.B.m**

Students recognize the importance of biodiversity within Wisconsin's forests and the world.

**Explore; ELS.EX5.C.m**

Students explain how natural and cultural factors influence biodiversity.

**Explore; ELS.EN6.A.m**

Students investigate how the components of a forest plot contribute to its overall biodiversity.

### **WISCONSIN STANDARDS FOR MATHEMATICS**

**Statistics and Probability; 7.SP.1**

Students evaluate levels of diversity in forest plots and draw conclusions about the implications of different levels of diversity after gathering and comparing data.