



FORESTS OF THE FIRST STEWARDS

9th - 12th Grade Discussion Guide

Lesson Plan: Forestry Education, Research & the Future of Sustainability

EPISODE OVERVIEW:

UW-Stevens Point – Forestry School

We continue our journey through education to UW-Stevens Point to meet with Dr. Paul Fowler to learn about how they are educating the next generation of forestry industry professionals and working with the Menominee Nation. We dig deeper into the work they are doing to pioneer and test composability of consumer products. We tour their laboratory to learn more how they test composability from the breakdown of materials to the feasibility of the compost. We end with a tour of the facility and educating viewers on the opportunities in forestry career paths key role in the healthiness of the Menominee land and way of life.

Warm Up

Who is responsible for the future of our forests—and how do they learn to do it?

Connect to previous lessons on Menominee forestry, industry, and education. Explain that this lesson focuses on advanced education, research, and future careers in forestry and sustainability.





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LEARNING OBJECTIVES

By the end of this lesson, students will be able to:

- Analyze the ecological structure and function of forest ecosystems.
- Evaluate the role of research, education, and monitoring in forest management.
- Examine how stewardship practices contribute to long-term ecosystem resilience.

Lesson / Activity Time (45–60 minutes total)

Introduction: 5 minutes

Prior Knowledge Activation: 5 minutes

Video / Content Exploration: 10–15 minutes

Activities: 20–25 minutes

Reflection & Discussion: 10 minutes

Assessment: 5–10 minutes

ACTIVITY SUMMARIES

Students explore:

- Forestry education pathways and research
- The role of monitoring and data in ecosystem management
- Career opportunities in forestry and environmental science

INTERMEDIATE VOCABULARY

- **Ecosystem:** spatially explicit, relatively homogeneous unit of the earth that includes all interacting organisms and components of the abiotic
 - environment within its boundaries –note an ecosystem can be of any size (e.g., a log, pond, field, forest, or the earth’s biosphere)
- **Resilience:** the capacity of a (plant) community or ecosystem to maintain or regain normal function and development following disturbance

BACKGROUND INFORMATION

Universities like the University of Wisconsin–Stevens Point play a critical role in training future forestry professionals. The university’s programs combine ecological science, research, and hands-on learning.

Researchers, including Dr. Paul Fowler, study sustainable materials and test compostability to reduce environmental impact. These innovations connect forestry to consumer products and waste reduction.

Partnerships with Indigenous communities, including the Menominee Nation, help integrate Traditional Ecological Knowledge with modern science.

LEARNING PROCEDURE

1. Review prior lessons on Menominee forestry and sustainability.
2. Introduce the role of higher education and research in forestry.
3. Present episode segments:
 - a. UW–Stevens Point Forestry School
 - b. Compostability research and lab testing
4. Guide students through analytical and applied activities.
5. Facilitate reflection and discussion.
6. Conduct assessment.



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ACTIVITIES

Activity 1: Ecosystem Mapping

Students create a model of a forest ecosystem including:

- Producers, consumers, decomposers
- Human interactions

They illustrate how changes affect system balance.

Activity 2: Compostability Investigation

Students examine:

- What makes a product compostable
- Steps in testing decomposition
- Environmental benefits and limitations

They evaluate how this research supports sustainability.

Activity 3: Career Path Research

Students research a forestry-related career:

- Education requirements
- Job responsibilities
- Impact on sustainability

They prepare a brief presentation.

REFLECTION / DISCUSSION (CHOOSE 1-2)

Students reflect on the role of education and science in shaping the future of environmental sustainability.

Data Collection

Students collect and organize:

- Ecosystem components and interactions
- Research findings on compostability
- Career pathway information

They present findings in charts, diagrams, or notes.

Discussion Questions

- How does scientific research improve forest management?
- Why is monitoring ecosystems important?
- How do universities contribute to sustainability?
- What role do careers in forestry play in forest conservation and management?
- How can traditional knowledge and scientific research work together?

Storytelling Prompts

- Imagine you are a forestry student conducting research—what are you studying and why?





ASSESSMENT (CHOOSE 1-2)

Essay Prompts

- Evaluate the role of education and research in forestry.
- Analyze how ecosystem monitoring contributes to environmental resilience.

SHORT QUIZ

1. What is ecosystem resilience?
2. What is compostability?
3. Why is environmental monitoring important?
4. Name and describe one career in forestry.

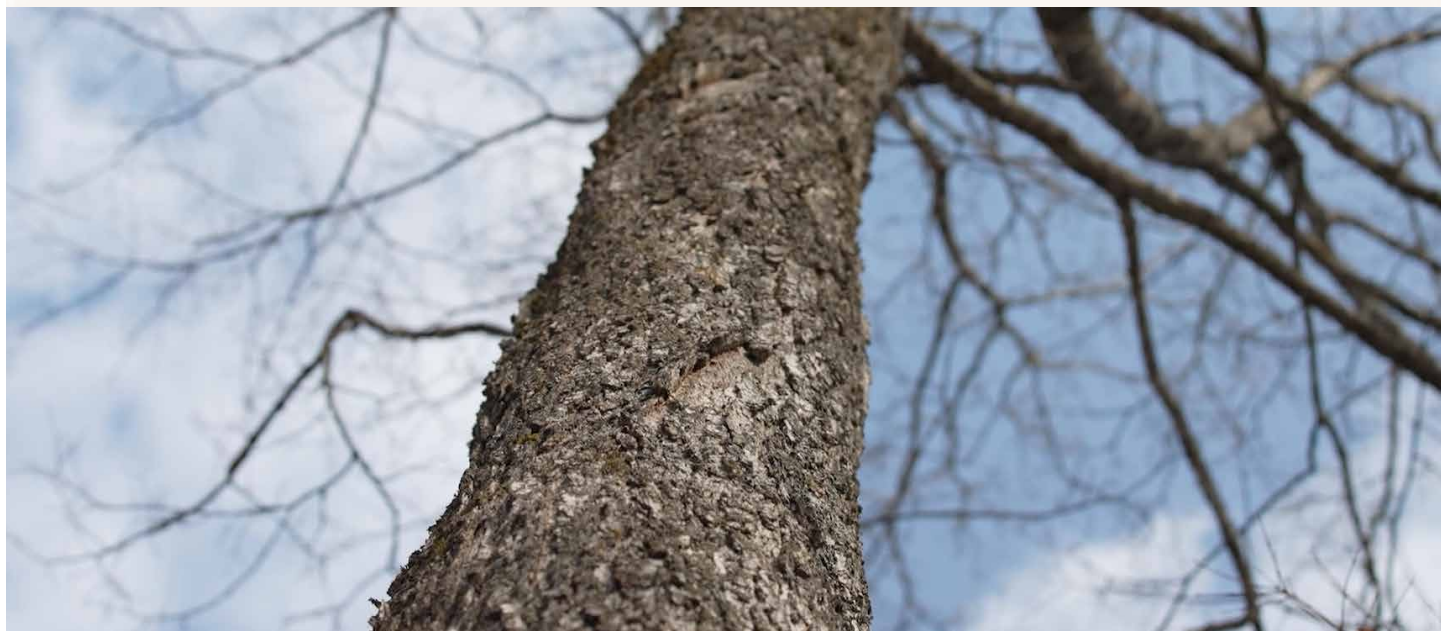
Group or Individual Presentation

Students present on:

- Forestry careers
- Ecosystem research
- Compostable materials and sustainability
- The role of education in environmental solutions

STANDARDS ALIGNMENT

- NGSS (Science)
 - HS-LS2-2: Use mathematical or computational representations to support explanations of ecosystem interactions.
 - HS-ESS3-3: Create models that illustrate relationships between resource management and sustainability.
- Common Core (ELA)
 - RI.9-10.1 / RI.11-12.1: Cite strong and thorough textual evidence to support analysis.
 - SL.9-10.4 / SL.11-12.4: Present information and findings with supporting evidence and reasoning.





References

For additional information:

- <https://menominee-nsn.gov/CulturePages/BriefHistory>
- <https://www.menominee.edu/sustainable-development-institute>
- <https://www.mtewood.com/>

Additional Resources from LEAF: Wisconsin's K-12 Forestry Education Program:



LEAF-Wisconsin's K-12 Forestry Education Program
College of Natural Resources
University of Wisconsin-Stevens Point

- [Lesson 1: American Indians and the Forest](#)
- [Lesson 7: Sustaining Our Forests](#)
- [Career Profile - McKaylee Duquain](#)
- [Wisconsin Forest Tales](#)
- [K-1st Grade Field Enhancement - Sensing the Forest](#)
- [2nd-3rd Grade Field Enhancement - Observing Forest Interactions](#)
- [4th Grade Field Enhancement - Unlocking a Forest's Past](#)
- [5th-6th Grade Field Enhancement - Studying Forest Layers](#)
- [5th-6th Grade Field Enhancement - Woods Worth](#)
- [5th-6th Grade Field Enhancement - Competition in the Forest](#)