



Educational Partners:



**SOCIETY OF
AMERICAN
FORESTERS**
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U.S. Endowment
for Forestry and Communities

FORESTS OF THE FIRST STEWARDS

K-2 Discussion Guide

EPISODE 4: EDUCATION CONTINUED AND OVERVIEW/EPILOGUE

Episode Overview:

Subtopic 7: 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

Learning Objectives

1. Explore what forests need to stay healthy.
2. Recognize that people study forests to keep them healthy.
3. Understand that cultural practices support forest care.

STANDARDS ALIGNMENT

NGSS (Science)

- K-LS1-1: Use observations to describe patterns in plants and animals.
- K-ESS3-1: Use a model to show how humans can help protect the environment.

Common Core (ELA)

- CCSS.ELA-LITERACY.RI.K.1: Ask and answer questions about key details in a text or media.
- CCSS.ELA-LITERACY.SL.K.4: Describe familiar people, places, things, and events with prompting.





Activity Time

30 minutes

Activity Summary

In this lesson, students will learn how the University of Wisconsin–Stevens Point Forestry School works with the Menominee Tribe to teach future forest professionals about caring for natural resources. After watching episode 4, students will explore how organic materials break down into compost and will begin a hands-on composting experiment to observe changes over time. This lesson also introduces different forest-related careers and helps students understand how forests can be used and cared for in sustainable ways.

Materials

- An empty two-liter soda bottle
- Sharp knife
- Nail
- Shredded newspaper
- Soil (collected from outside, not garden soil)
- Compost materials (grass clippings, vegetable scraps)
- Small handful of dead leaves
- Flat dish to hold composter
- Spray bottle with water

VOCABULARY

Biodegradable - Something that can break down naturally over time and go back into the earth, like food scraps, leaves, or paper.

Compost - Things like food scraps, leaves, and plant materials that break down over time and turn into healthy soil that helps new plants grow.

Biochar - A material made from burning plants or wood that can help soil stay healthy and help plants grow better.

BACKGROUND INFORMATION

At University of Wisconsin–Stevens Point, students and scientists learn how forests can provide materials for useful everyday products while still protecting nature. The university's forestry and sustainability programs study how wood and plant-based materials can break down safely in compost and return nutrients to the soil. Students also learn about sustainable forestry, recycling, and new ways to reduce waste and care for the environment.

LEARNING PROCEDURE

- Introduction: 5 minutes
 - Explain to the students that they will be watching a video about how UW-Stevens Point Forestry School is educating the next generation of forestry industry professionals and working with the Menominee Nation. Review the term sustainable from the Episode 3 activity. **Introduce the terms biodegradable, compost, and biochar.**
- Activity
 - Watch Episode 4: 6 minutes
 - Make A Composter: 10 minutes to set up, 6-8 weeks of observation



- Review the term compost with the students and ask for examples that they saw in the video
- Follow the PBS Make A Composter activity to set up a compost experiment with the students.
- During the observation period, keep a running log of what the students observe during the composting process.
- Wrap Up: 9 minutes
 - Discuss with the students some of the careers they have seen that are related to forest management and products. Examples could include:
 - Forester
 - Logger
 - Carpenter
 - Scientist
 - Artist
 - Professor
 - Wildland Firefighter
 - Ask the students to share some of the lessons they've learned about the Menominee Nation and the work that they do to care for their forest.

RESOURCES

- Activities
 - PBS Make A Composter activity
 - Project Learning Tree Tree-ective Trouble Guide student page
- Additional Information
 - <https://menominee-nsn.gov/CulturePages/BriefHistory>
 - <https://www.menominee.edu/sustainable-development-institute>
 - <https://www.mtewood.com/>

Supplemental Options

- Set up a second composter, but include several non-biodegradable objects (paper clip, plastic, etc). Have the students make observations about what does or doesn't happen to those materials over the same 6-8-week period.
- Using the Project Learning Tree Tree-ective Trouble Guide student page, go on a tree walk in your schoolyard or other outdoor area. Using the photos on the guide, look for signs of tree health. Record student observations during the walk. Back in the classroom, discuss what they saw and how the Menominee or other forest managers may address some of the issues identified.



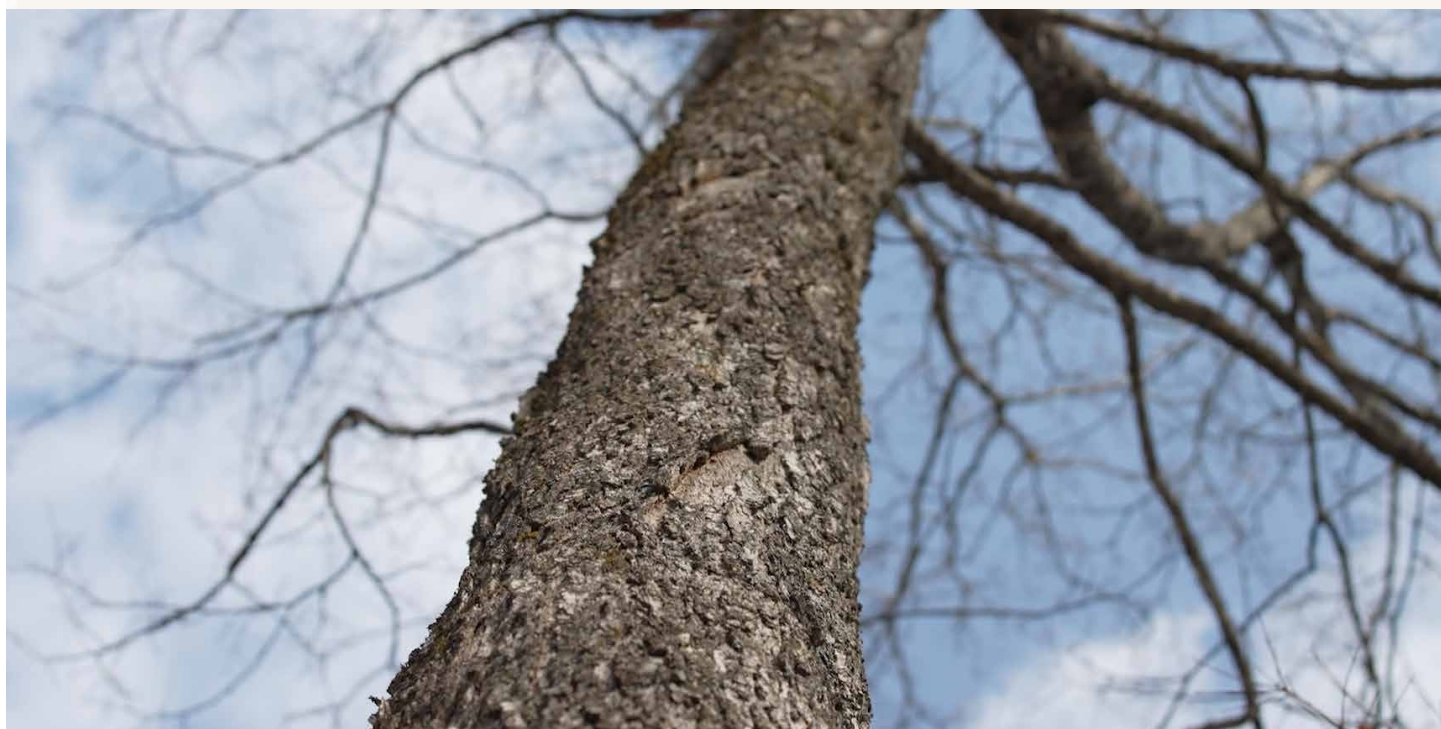


Additional Resources from LEAF: Wisconsin's K-12 Forestry Education Program:



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](#)



**FOR
PARENTS****PBS** NORTH
CAROLINA**NATURE CAT**

Make a Composter

Aug 28, 2018

What happens to a pile of old leaves outside when you add a dash of time, maybe some worms, and a healthy splash of moisture? Make soil perfect for a garden just like Daisy's!

Daisy loves to garden and use compost to help her flowers grow. Her compost heap even saved the day in the Nature Cat video Soil Stealers! Try making your own compost with this DIY experiment using everyday items.

Materials

- ☐ 1 empty two-liter soda bottle
- ☐ Sharp knife
- ☐ Nail
- ☐ Shredded newspaper
- ☐ Dirt (not potting soil, use dirt from outside)
- ☐ Compost materials (grass clippings, vegetable scraps)
- ☐ Small handful of dead leaves
- ☐ Flat dish to hold composter
- ☐ Spray bottle with water

Directions

- 1** Rinse the bottle and peel off the label.
- 2** Cut off the top of the bottle, approximately 1-2" inches below the neck of the bottle. Set the top aside.
- 3** Use a nail to punch 8 to 10 small air and drainage holes along the sides and bottom of the bottle.
- 4** Put the bottle on the tray. Put some dirt, shredded newspaper and old leaves inside the composter. This is your compost starter.





5 Use the spray bottle to wet the compost starter.

6 You're ready to add to your compost! (Try grass clippings, vegetable scraps, coffee grounds, or eggshells, but do not add dairy or meat.)

7 Turn the bottle top upside down and place it in the open top of the bottle. It will act like a funnel for adding a little bit of water each day to keep the contents damp.



8 Place in a spot where sunlight can reach it. Cover the top of your compost with a kitchen towel when not in use.

9 Have your child check the composter each day. Ask questions such as: *What does it look like? How has it changed?* Every few days, have your child stir the compost and make sure to keep the contents damp. As your compost breaks down, you can add more kitchen scraps or plant litter, as well as some more soil from outside to mix in. You might see fluffy mold growing — so keep your compost covered when you're not working with it.



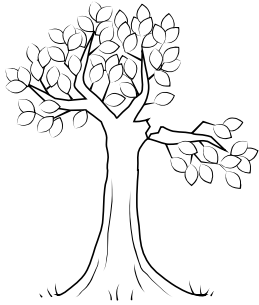
10 Bonus: Take your rich, healthy soil, place it in a pot, add a seed and some water and grow your very own plant!

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<https://www.pbs.org/parents/crafts-and-experiments/make-a-composter>

NAME _____ DATE _____

Check trees for the trouble signs below, circling any that you find. Be sure to note the location of any troubled tree and document any evidence that indicates the possible cause.

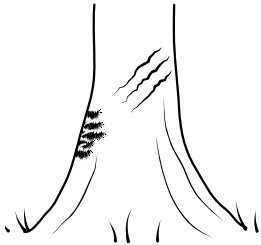


BROKEN BRANCHES

(possible cause: weak structure, damaged by truck driving under tree, storms)

Location: _____

Evidence for the cause: _____

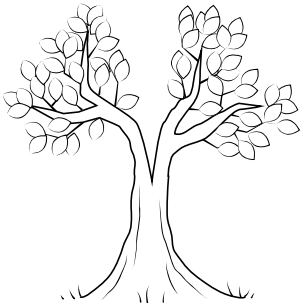


TRUNK DAMAGE

(possible cause: hit by car or lawnmower)

Location: _____

Evidence for the cause: _____



TRUNK CRACKED OR SPLIT

(possible cause: weakened by lightning or frost)

Location: _____

Evidence for the cause: _____

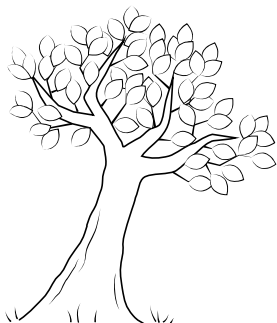


ROTTEN SPOTS

(possible cause: dying section of tree)

Location: _____

Evidence for the cause: _____



TREE LEANING

(possible cause: root damage)

Location: _____

Evidence for the cause: _____

NAME _____ DATE _____

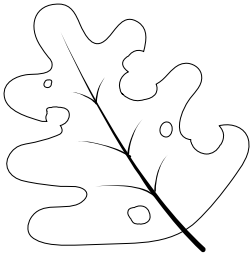


DEAD TREE

(possible cause: disease)

Location: _____

Evidence for the cause: _____

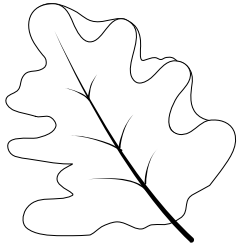


LEAVES FULL OF HOLES

(possible cause: insects feeding on leaves)

Location: _____

Evidence for the cause: _____



CURLED OR FUNNY-SHAPED LEAVES

(possible cause: fungus or other infection)

Location: _____

Evidence for the cause: _____

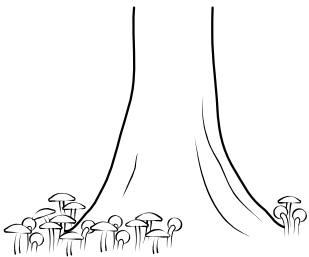


BALD SPOTS ON BARK

(possible cause: dead section of tree)

Location: _____

Evidence for the cause: _____



MUSHROOMS GROWING ON TRUNK NEAR GROUND

(possible cause: rot or decay)

Location: _____

Evidence for the cause: _____

CAREER CORNER

URBAN FORESTERS plant and protect the trees in a city. They monitor the trees to make sure they are healthy and develop long-term plans for the urban forest.

I LOVE MY
GREEN JOB!

Name _____

Date _____

MENNONITE

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