

U.S. CAPITOL CHRISTMAS



**FOREST-FOCUSED ACTIVITIES
FOR YOUTH**





Project Learning Tree advances environmental education, forest literacy, and career pathways using trees and forests as windows on the world. PLT is an initiative of the Sustainable Forestry Initiative.

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The Sustainable Forestry Initiative envisions a world that values and benefits from sustainably managed forests.

forests.org

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Project Learning Tree (PLT) provides high-quality professional development and flexible hands-on lessons to teachers, educators, community learners and natural resource professionals.

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1. TREE COOKIES

In this activity, youth explore environmental changes and sustainable forest management using a cross-section of a tree, or “tree cookie.”

WHAT IS A FOREST?

PLAN

KEY CONCEPT: Natural and human-caused disturbance events are a part of forest ecosystems. Examples of natural events include wildfires, storms, ice damage, insects, disease, and volcanic activity. Examples of human-caused events include accidental fires, forest management, road construction, introduction of non-native species, and development. [*Forest Literacy Framework*, Concept 1.C.5, access at plt.org/forestliteracy]

OBJECTIVES: Provide opportunities and materials for learners to

- Examine cross-sections of trees.
- Infer from a tree’s growth rings what environmental conditions it might have experienced during its lifetime.

SESSION TIME: 50 minutes

SETTING: Indoors or outdoors

BACKGROUND

Every growth season, a tree adds a new layer of wood to its trunk and limbs. By counting growth rings, you can tell how old the tree or tree part was when it was cut. Each annual ring has a wide, light part called springwood (early wood) and a narrow, dark part called summerwood (late wood). In temperate climates, the early wood forms during the wet, spring growing season and late wood forms when growth slows in the fall and winter.

The rings provide clues about the area’s climate and weather over time, and evidence of environmental disturbances, such as insect pests, fires, and floods. For example, a moist spring season will produce more growth and a wider ring, while a drought or unseasonable frost will produce a narrow ring. Scars may indicate fire or other physical damage, and lopsided rings with a narrow side may indicate that the tree was crowded by another tree on that side.



PREPARE

MATERIALS: Tree cookies, large paper, marker, magnifying glasses, paper.

GET READY: Obtain tree cross-sections or “tree cookies” from a local tree-trimming service or other source, or make your own by sawing the trunk or limb of a fallen tree into sections 1–2 inch (4–5 cm) thick. To prevent them from splitting, dry the tree cookies either on a sunny driveway for five days or in a kitchen oven set to “warm” for five hours. Turn the cookies over periodically to dry both sides evenly. Once they are dry, gently sand to make the rings more visible.

Using the large paper and marker, draw a large illustration of a sample tree cookie with light and dark rings and other parts of the cross-section (see example on next page). If possible, obtain a large tree cookie with interesting variations in its rings to share with learners.

FOREST FACT

You can see the growth rings of a tree without cutting it down! Foresters use a tool called an increment borer to see tree growth history and make management decisions. This tool drills a small hole into a tree and extracts a sample of the tree rings to analyze. The tree can heal this small hole, just as humans heal from small injuries.



LEAD

INTRODUCE:

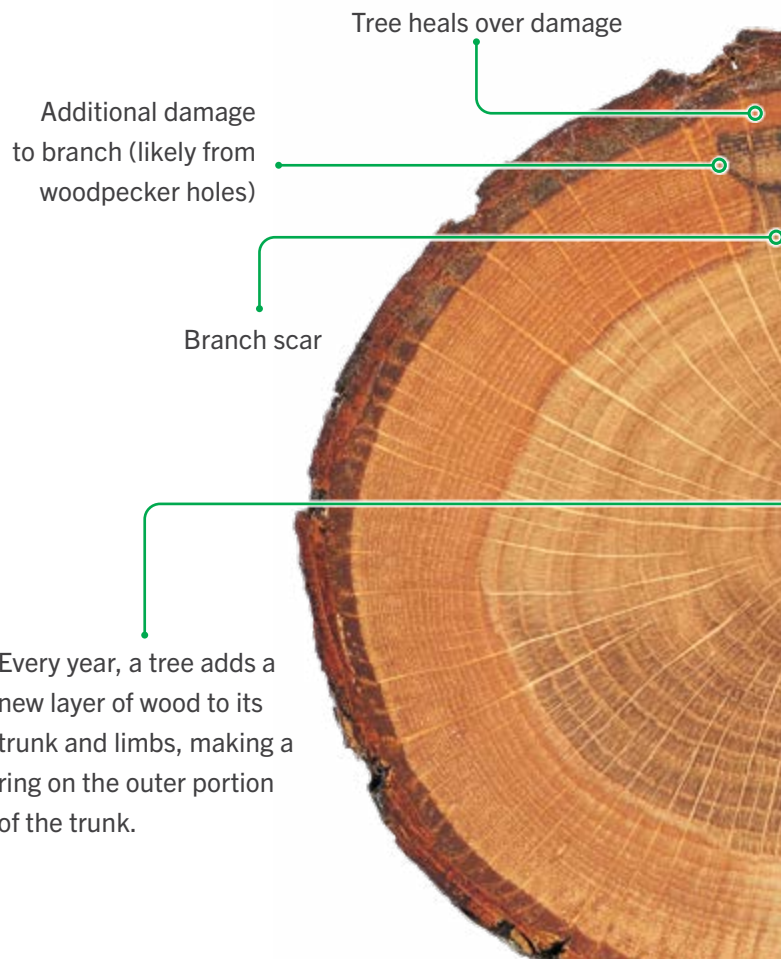
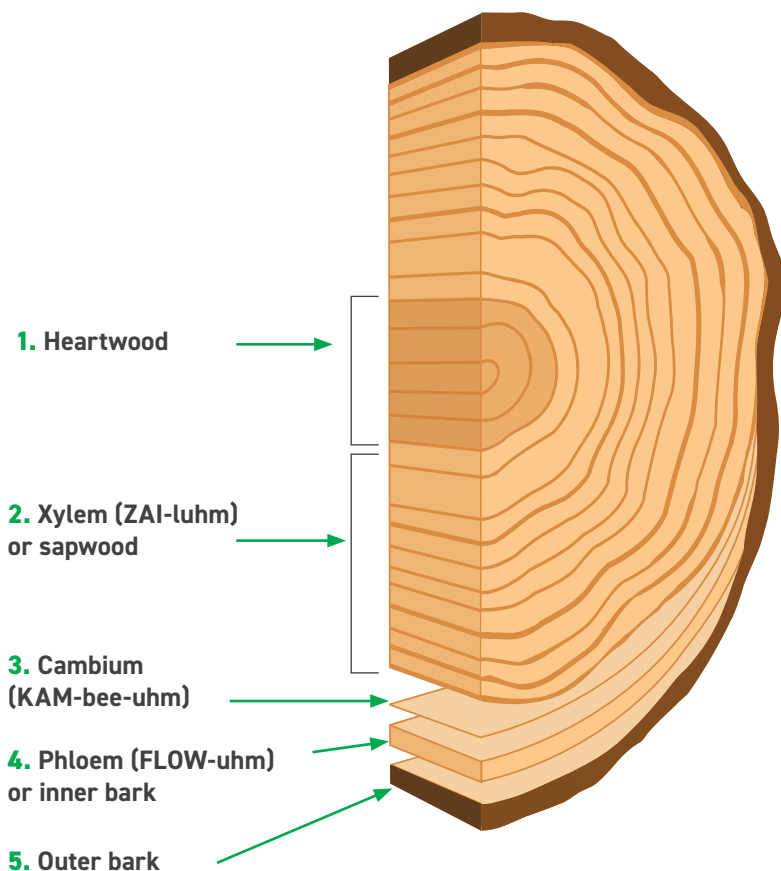
Ask: How can people tell how old a tree is? Why might it be useful to know the age of a tree? What else can we learn from tree growth rings, besides the age of a tree?

EXPERIENCE:

1. Distribute tree cookies and challenge learners to estimate how old this part of the tree was when the cookie was cut. Have them describe how they estimated the age.
2. Share the enlarged tree cookie illustration you made and, as necessary, explain how to determine the age of a cross-section by counting only the light or only the dark rings. Have learners use one of these methods to determine the age of their tree cookie. Using the illustration, point out the other parts of a tree evident in a tree cookie (see illustration). Challenge learners to identify these parts on their own tree cookies.
3. Explain the different kinds of markings that tree cookies display, such as scars from a forest fire, narrow rings from insect attacks or drought, etc. Discuss how various environmental conditions might present themselves in a tree cookie.
4. Encourage learners to identify recent environmental events in their area in the last five years, such as a hurricane or forest fire, an early or late snowstorm, or a particularly warm summer. Invite learners to create a tree cookie drawing that illustrates how these events would affect a growing tree.

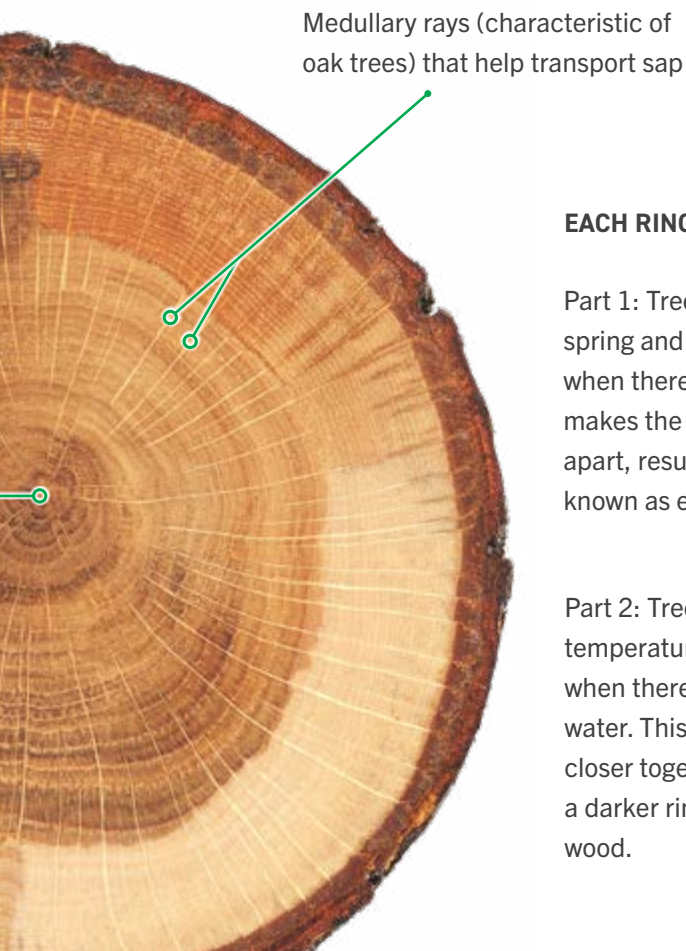
CONNECT:

Locate one or more tree stumps (or fallen trees cut to clear a trail or road) near the site. Encourage learners to analyze the tree rings visible in each stump to determine the age and growing conditions of the tree.



CLOSE

Point out to learners that climate scientists learn about past climate conditions by looking at tree growth rings. In warm, wet years, trees grow faster—and have wider growth rings—than in cool, dry years. Discuss: In what other ways can people use tree growth rings to learn about trees or the environment?



Medullary rays (characteristic of oak trees) that help transport sap

EACH RING HAS TWO PARTS:

Part 1: Trees grow quickly in spring and form early wood when there is lots of water. This makes the cells spread further apart, resulting in a lighter ring, known as early wood.

Part 2: Trees grow slowly when temperatures are low and when there is not as much water. This makes the cells closer together, resulting in a darker ring, known as late wood.

TAKE ACTION

Invite learners to explore Climate Smart Forestry, a strategy that adapts forest management practices to the changing global climate. It focuses on:

1. Preparing forests for climate change challenges. Forest managers estimate what will happen to forests in the next 15-20 years. What might tree rings look like in forests near you in 10, 20, or 50 years? Considering these impacts, how might forest management practices change to better prepare?
2. Implementing forestry actions to further reduce emissions and increase sequestration. Ask what forestry practices might be instituted to reduce carbon emissions? Ask what silvicultural practices might be adopted to help forests sequester carbon faster?

Learn more about Climate Smart Forestry at forests.org/climate-smart-forestry

2. EVERY TREE FOR ITSELF

In this activity, youth model how trees compete to meet essential needs.

WHAT IS A FOREST?

PLAN

KEY CONCEPT: Forest health is affected by many factors, including natural competition (for space, light, water/moisture, and nutrients), natural disturbance, human interventions, pests, disease, and more.

[*Forest Literacy Framework*, Concept 1.B.7, access at plt.org/forestliteracy]

OBJECTIVES: Provide opportunities and materials for learners to

- Model how trees compete to meet their essential needs.
- Describe how varying amounts of light, water, and nutrients affect tree growth.

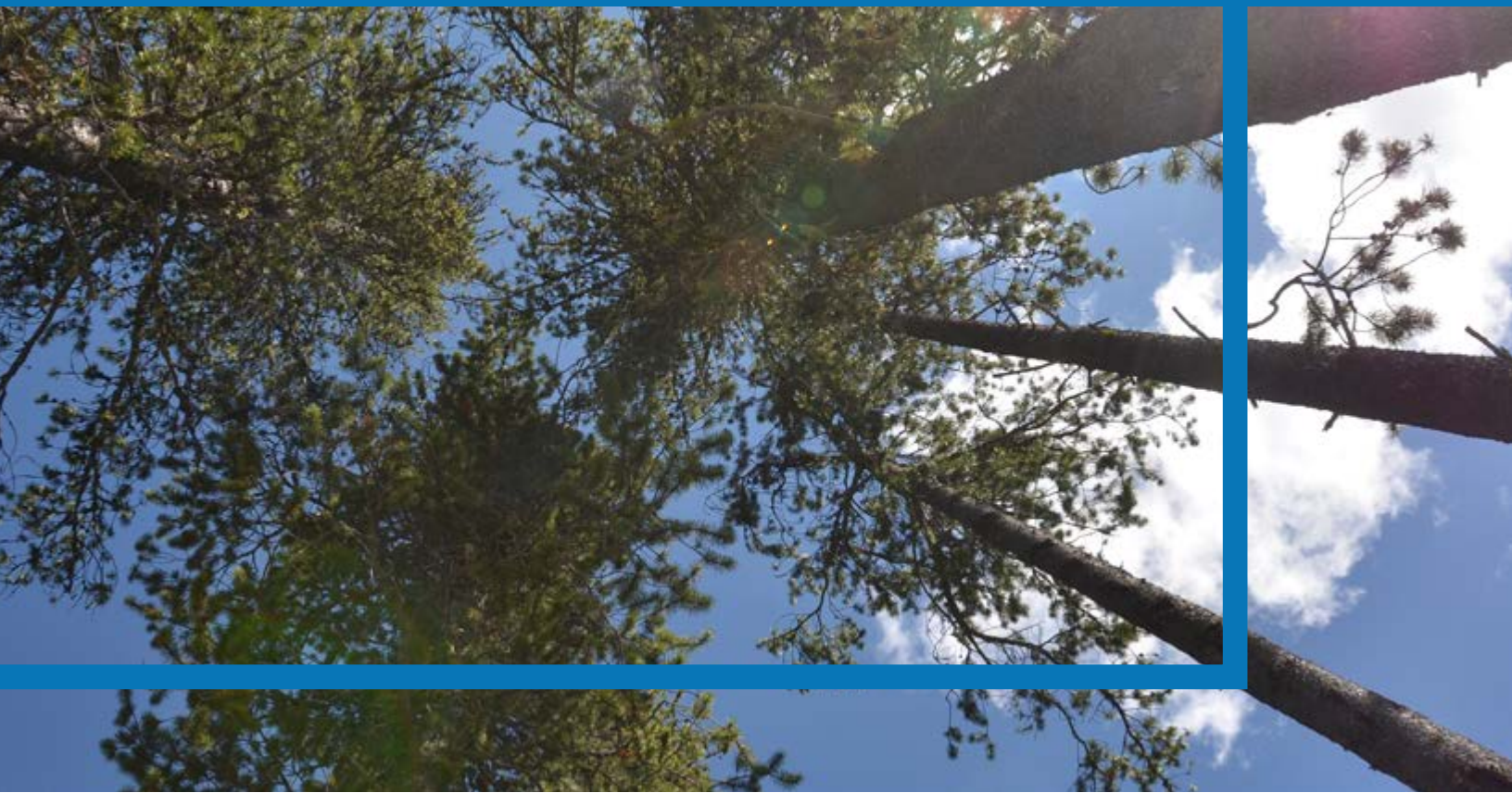
SESSION TIME: 50 minutes

SETTING: Indoors or outdoors

BACKGROUND

What do trees need in order to grow? Trees produce their own “food” by using the chlorophyll in their leaves to capture energy from the sun in a process called photosynthesis, which uses carbon dioxide from the air and water from rainfall. If trees don’t get enough sunlight, air, water, or nutrients, they may grow slowly or even die.

Forest managers use a variety of strategies to ensure that trees get what they need to thrive. One example is a process called selective thinning that removes some trees, allowing more water, sunlight, and nutrients for the trees that remain. Controlling the underbrush and other vegetation can also reduce competition for limited resources. Since different tree species need different conditions to thrive, forest managers make decisions about tree care and harvest that will shape the future forest based on the species of trees, and their ages and lifespans.



PREPARE

MATERIALS: 8" x 10" (20 cm x 25 cm) pieces of paper or white paper plates; 4–6 different colors of poker chips or construction paper; large sheet of paper or other means for recording group results.

GET READY: Gather 4–6 different colors of poker chips or construction paper—such as blue, yellow, white, green, black, and red—with enough of each color so that each learner can have two poker chips. Keep the colors separate at first. If using construction paper, cut out different colors of 3" x 3" (7.6 cm x 7.6 cm) squares.

FOREST FACT

Did you know that the closer trees get to the equator, the faster they grow? Tree rings in tropical areas are often associated with wet and dry seasons, instead of with the four annual seasons that we recognize. This means that some tropical trees show multiple growth rings in one year!



LEAD

INTRODUCE:

Ask learners what they think trees need to grow. (They might mention water, sunlight, air, or nutrients. You may want to point out that most of a tree's mass is made of carbon, which comes from the air.) Ask: What do you think would happen if a tree doesn't get all the things it needs?

EXPERIENCE:

1. To model what happens when a tree doesn't get everything it needs, have learners spread out about three feet (90 cm) apart and stand (or sit in chairs) on a piece of paper or paper plate. They each represent a tree whose goal is to get as many needs as possible. They must stay planted on their paper and cannot slide it along the floor or step off it.
2. Equally distribute the "tree resources" (colored poker chips, paper squares, etc.) around the learners so that the resources are about one to two feet (30–60 cm) apart. Explain that each represents a tree need. Assign each need a color (e.g., blue = water, yellow = sunlight, white = carbon from the air, and green = a nutrient such as nitrogen or phosphorus).
3. Give a signal to start. Have "trees" reach to gather the resources they need. Use the following quantity requirements to determine how many of the group's trees are growing well or poorly: three or more of each resource means superior growth, two of each means average growth, and one or fewer of each means poor growth.
4. Discuss: What might happen to a real tree that can't meet one or more of its needs? (It might grow slowly or eventually die. Point out that different species of trees have different needs; some tree species might need more water than others, for example.)

5. Conduct additional rounds, using one or more of the following conditions:
 - Trees stand or sit closer together on their papers (representing more competition).
 - Distribute fewer water resources (representing a drought).
 - Distribute fewer sunlight resources (representing overcrowding for young trees).
 - Distribute fewer nutrient resources (representing poor-quality soil).
 - Add a new colored resource to represent fire (red) or an insect infestation (black), such as bark beetles or gypsy moths. How might this new element affect the trees? Discuss that some trees may not be affected. For example, longleaf pine, may be relatively unaffected by fire.

CONNECT:

Challenge learners to look for outside examples of the different scenarios they modeled in the activity. For example, they may see groups of trees growing close together (and not getting enough sunlight) or a tree planted close to the pavement (and not getting enough water or space).



CLOSE

Discuss: What does this activity model? What does the model tell us about strategies for managing forests (for example, thinning trees that are too close together)?



TAKE ACTION

Help the group begin a list of jobs that help to support forest resources, such as forester or water quality specialist. Encourage learners to research one of these jobs to learn more about it.

3. OUR FEDERAL FORESTS

Youth learn how forests can be managed to meet a variety of needs by examining national parks or forestland to identify challenges that forest managers face.

HOW DO WE SUSTAIN OUR FORESTS?



PLAN

KEY CONCEPT: Forests can be public or private; geographically rural, suburban or urban; managed or unmanaged; and used for a wide variety of purposes. [*Forest Literacy Framework*, Concept 1.A.4, access at plt.org/forestliteracy]

OBJECTIVES: Students will:

- Identify ways that people use forest resources.
- Explore how forests are managed to satisfy a variety of human and environmental needs.
- Offer possible solutions to problems facing federal forestland.

SESSION TIME:

Preparation: 15 minutes

Activity: One to two 50-minute periods

SETTING: Indoors

BACKGROUND

Both in the United States and across the globe, about one-third of the total land base is covered in forest. To be classified as forestland, the area must be at least one acre (0.4 ha) and contain about 10% tree cover. About two-thirds of U.S. forestlands are also classified as commercial timberland (forests capable of growing trees for commercial purposes). Almost 60% of U.S. forests are privately owned, mostly by families and corporations. The remaining 40% of forests are owned by the federal government and by state and county governments. See the *Forestland in the United States* graphic on page 14 for a breakdown of forest ownership and management in the United States.

Federal public lands are held in trust for all Americans. They are intended to be managed for both the long-term health of the land and the long-term benefit of citizens. Much of the federal forestland belongs to national forests, national wildlife refuges, and national parks. These lands have different mandates and are managed by different federal departments.



NATIONAL FORESTS

National forests are managed by the U.S. Forest Service, under the U.S. Department of Agriculture. There are more than 150 national forests in 43 states and Puerto Rico. National forests include approximately 190 million acres (77 million ha) of forestland, of which about two-thirds is classified as commercial timberland.

The U.S. Forest Service is required by law to manage its forests for multiple uses, such as generating wood products, protecting watersheds, conserving soil and wildlife habitat, and providing public recreation and **ecosystem services**.

NATIONAL WILDLIFE REFUGES



The National Wildlife Refuge System is managed by the U.S. Fish and Wildlife Service for the conservation and management of fish, wildlife, and plant resources and the habitats on which they depend. It includes more than 560 wildlife refuges covering over 145 million acres (59 million ha) of land. These

refuges include a range of ecosystems, from hardwood forests in the Southeast to prairies in the Heartland and deserts in the Southwest.

NATIONAL PARKS



National parks are managed by the U.S. National Park Service, under the U.S. Department of the Interior. More than 400 areas covering over 85 million acres (34 million ha) of land are part of the national park system. These areas include monuments, battlefields, military parks, historical parks, historic sites, lakeshores, natural areas, seashores, recreation areas, and scenic rivers and trails.

National parks emphasize strict preservation of natural areas, with a focus on protecting natural and historic resources “unimpaired for the enjoyment of future generations.” Activities that are conducted in national forests, such as mining, oil and gas drilling, livestock grazing, hunting, and other activities, are limited in national parks.

PREPARE

MATERIALS: Internet access.

GET READY: For Part B, make copies of the Shaping Solutions student page. Choose national parks, national wildlife refuges, or national forests for students to research or plan to have them choose. To find U.S. federal forestlands in your state or region, check the following websites:

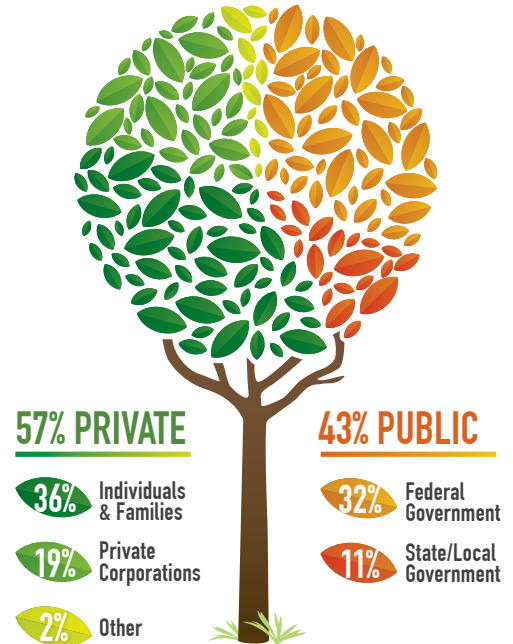
- Find a Park, U.S. National Park Service:
nps.gov/findapark
- Refuge Locator, U.S. Fish and Wildlife Service:
fws.gov/visit-us/refuges
- Find a Forest, U.S. Forest Service:
discovertheforest.org

LEAD

PART A: FOREST OF MANY USES

1. Divide students into teams of four and challenge teams to list different ways that people and wildlife use or benefit from forests. Help to expand their lists by asking:
 - What kinds of recreational activities have you or your family done in forests?
 - What kinds of products do people get from forests?
 - What animals live in forests (including less obvious ones like fish, insects, worms, and microorganisms)?
 - How do forests affect water and air?
2. Display the words “Wildlife,” “Recreation,” and “Products” where all can see, and have teams share ideas from their lists that fit under each category. For example, they may put food or water under “wildlife,” camping and fishing under “recreation,” and wood or hydroelectricity from a dam under “Products.”
3. Explain that people manage forests with an emphasis on different needs. For example, some forests may be managed to meet the needs of wildlife, others to meet recreational needs, and still others to meet the need for forest products. Some forests may be managed to meet all these needs.
4. Assign each team one of the three categories to

FORESTLAND IN THE UNITED STATES



explore in depth. Team members should imagine they are forest managers and need to manage a forest for that category. What strategies could they use to promote it? What requirements would they need to address? How might they manage for that category while also addressing the other two categories?

5. Have each team brainstorm ideas and then share with the group. Record ideas in the corresponding location from Step 2.
6. Explain that, in many cases, forests today are managed for more than one use at a time. Point out that by law, U.S. national forests must be managed for multiple uses. Have your students look at the lists they created and consider:
 - What adjustments might be necessary to meet all these uses in a single forest area?
 - Which activities on the list might conflict with one another if someone tried to manage both at the same time?
 - Would those activities always conflict, or would they conflict only at certain times and under certain conditions?
 - What could people do to ensure both the long-term health of the forest and long-term use for people?

PART B: SHAPING SOLUTIONS

1. Begin by asking students whether they have ever visited a national park, national wildlife refuge, or national forest in the United States or another country. Where did they go? What did they see? Were there many people there? If none of the students has been to such a place, have them research options to take a virtual field trip.
2. Refer to the list of forest benefits from Part A, Step 2, and ask students which uses would be allowed on federal forestlands. Then explain that although some public lands such as national forests are managed for multiple uses (wildlife, recreation, timber), national parks in the United States are more restricted. For example, timber harvesting, mining, oil and gas drilling, and livestock grazing are typically limited in national parks.
3. Divide your group into teams of two to four students. Assign or have teams choose a national park, national wildlife refuge, or national forest. Challenge teams to find that area's most pressing challenges in providing multiple uses, and to propose solutions to at least one challenge. Suggest that they do an internet search using terms such as "[name of national forestland] challenges" or "[name of national forestland] issues and concerns."
4. Have students work in teams to complete the student page, discussing their findings and recommendations. What solutions do they recommend? How do other students feel about those recommendations? What are the pros and cons of each recommendation?
5. Encourage students to back up their recommendations with existing data about their area. For example, they might research visitor trends, public approval ratings, amenities offered, or overnight stays and show how their recommended solution would affect specific datapoints. Challenge them to display this information visually, using graphs, tables, illustrations, and more.

CLOSE

Ask students to:

- Create a visual presentation showing strategies that promote one of the categories of forest uses: products, recreation, or wildlife.
- Use a claim, evidence, and reasoning to share their recommendation for the forestland explored in Part B. Challenge them prepare a written claim that states their recommendation, and then describe supporting evidence and reasoning to support the claim.

TAKE ACTION

Pocket parks are small outdoor spaces where a few people can gather, relax, and enjoy a bit of nature. They may include a bench, some trees, or a small community garden. In urban settings, they are often located between commercial buildings or private homes or on part of a vacant lot. If there's a pocket park on or near your site, take students to it and have them identify its features and the qualities that make it inviting. If there isn't one nearby, invite students to map the outdoor area at your site, suggest possible locations for a pocket park, and draw a schematic showing what the park could look like.

WORKSHEET

SHAPING SOLUTIONS



NAME _____ DATE _____

Name of national forest, national wildlife refuge, or national park:

1. What are the most pressing challenges facing this area?

2. What are possible solutions to address one of those problems? Identify at least three.

- _____
- _____
- _____

3. How would each of your proposed solutions solve the problem?

- _____
- _____
- _____

4. What problems might each solution create?

- _____
- _____
- _____

5. Would your solutions also work for other forest areas, or just this one?

WORKSHEET

SHAPING SOLUTIONS



NAME _____ DATE _____

1. What other information would you like to know before making a recommendation?

2. What would you recommend for this area?

3. Use the space below to create a visual display that supports your recommendation, such as a map of the area or graph of land use.

4. WHO WORKS IN THIS FOREST?

In this activity, youth investigate different forest sector careers to learn what it takes to perform various green jobs.

HOW DO WE SUSTAIN OUR FORESTS?



PLAN

KEY CONCEPT: A variety of individuals, companies, organizations, communities and government agencies manage forests. Forest management decisions may involve some or all of these entities working collaboratively with stakeholders to ensure mutually beneficial outcomes. [*Forest Literacy Framework*, Concept 3.B.1, access at plt.org/forestliteracy]

OBJECTIVES: Provide opportunities and materials for learners to

- Explore a variety of forest careers.
- Identify the training or education requirements and supporting skills for specific forest-sector jobs.

SESSION TIME: 50 minutes

SETTING: Indoors and outdoors

BACKGROUND

Our society depends on forests to provide timber and other forest products, as well as providing wildlife habitat, helping to clean the air and water, and offering recreation opportunities. People in the forestry field work to manage forests sustainably so that forests provide all the things we need and want from them.

Forestry is more than just planting trees, fighting forest fires, or harvesting logs, although managing those tasks may be part of a forester's responsibilities. Forestry also includes professionals who specialize in individual parts of the forest, such as soils, water, or wildlife. It encompasses work in computer modeling, mapping, statistical or budget analysis, and education. It also includes people engaged in harvesting, milling, transporting, engineering, or marketing forest products such as lumber, plywood, paper, and pulp.



PREPARE

MATERIALS: Scissors and envelopes.

GET READY: Make copies of the Who Works in the Forest? Worksheet, cut them apart to make sets, and put each set in an envelope to hand out to the learners. Invite one or more of your colleagues, ideally people who have different jobs, to talk with the group about their job and answer such questions as:

- What education, training, skills, and personal characteristics are needed for this job?
- Why did you choose this job?
- What is the most interesting thing about it, and what is the most challenging part?
- What does a typical day involve?
- What types of organizations or businesses hire people for this job?
- How has this job changed over time?
- Why is this job important?

FOREST FACT

Jobs in sustainable forestry help maintain and restore ecosystems while supporting the sustainable production of forest products. Worldwide, approximately 42 million people work in the forest sector, with 25% of those jobs held by women.



LEAD

INTRODUCE:

Ask learners to list out loud some of the resources that forests provide. Answers might include

- Plant and animal habitats,
- Paper and wood products,
- Places for recreation, and
- Air, soil, and water protection.

Make the connection that forests can be managed by people to enhance each of these different resources.

Challenge learners to think of some jobs that are related to forestry.

EXPERIENCE:

1. Divide the group into teams or pairs and give each a set of career cards. Challenge teams to categorize the jobs by different criteria, such as indoor versus outdoor, high tech versus low tech, amount of interaction with other people, academic discipline, education level required, and so on.
2. Ask a few volunteers to name a job that interests them and explain why. Encourage learners to think about the skills needed for the jobs and reflect on how those skills compare with their own strengths.
3. Introduce your colleague(s) to the group and ask them to describe their job. Allow time for learners to ask questions.

CONNECT:

Point out that many people who work in and for forests are motivated by a deep connection to nature. Invite learners to find something outdoors that they connect to, whether it is a place, object, feeling, or action. Encourage them to ask a question related to their observations and then consider what type of job or professional could help them explore this topic.



CLOSE

Challenge learners to think about what skills are necessary for the job that most interested them. Have them write down three skills they have that might make them well suited for this job and three skills they might need to strengthen.



EXPLORE GREEN JOBS

- Take the interactive Online Personality Quiz for a personalized report with six green job options:
plt.org/green-jobs-quiz
- Share the “Explore Green Jobs” webpage with youth to learn about green job benefits, facts, skills, and more:
plt.org/workingforforests

TAKE ACTION

Challenge learners to create a new job or tool related to forests. Encourage them to think about a forest-related problem they would like to solve (such as litter or pollution) and then invent a job or tool to help solve it. For example, their job might involve a virtual reality teaching tool, a mobile app, or a new forest product.

WORKSHEET

WHO WORKS IN THE FOREST? PAGE 1



People have many different jobs that sustain our forests. Cut apart the following cards and categorize the jobs by indoor versus outdoor, high-tech versus low-tech, amount of interaction with other people, academic discipline, level of education needed, or other criteria.



FORESTER

Foresters, or forest managers, oversee public or private forestlands. In my job, I develop short- and long-term plans for planting and growing, monitor trees for healthy growth, and make sure our forest practices comply with environmental regulations.



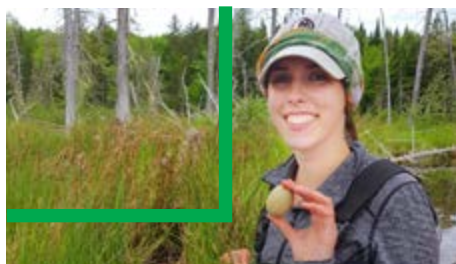
ENVIRONMENTAL EDUCATOR

I teach children and adults about forests. As an environmental educator, I lead school and community groups in learning activities focusing on trees and forest ecosystems. I especially enjoy guiding field trips where learners can experience nature firsthand.



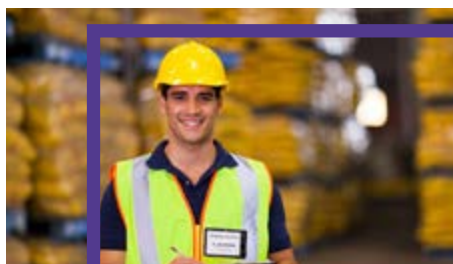
NATURAL RESOURCE ECONOMIST

I am passionate about ensuring the sustainability of forest resources. I determine the value of assets from the forest such as timber and ecosystem services. I also work to find the most efficient ways to supply or manufacture forest products.



WILDLIFE BIOLOGIST

I study wildlife and their habitats to understand what they need to thrive. I consider the relationships of birds, mammals, fish, reptiles, or amphibians to the forest and to each other. My work helps manage wildlife habitats for the benefit of all.



SAFETY INSPECTOR

I review forestry job sites, either in the field or at the mills and ensure that the workplace is a safe and healthy place for workers. I provide information, advice, and guidance to both employees and employers to help them meet safety compliance policies and regulations.



FOREST ENGINEER

As a forest engineer, I figure out how to utilize trees and conduct forest operations in the most efficient, cost-effective, and sustainable way. I may develop and test wood products, or design and supervise the construction of a trail or bridge.

WORKSHEET

WHO WORKS IN THE FOREST? PAGE 2



WILDLAND FIREFIGHTER

My job is to help protect and maintain the health of the forest by preventing, controlling, and putting out wildfires. To prepare for fire emergencies, I maintain and test firefighting equipment. I also talk to the public about ways they can help prevent wildfires.



HYDROLOGIST

I investigate water in forests by studying how it travels through the forest, into the soil, and eventually to a stream. In addition to learning about the water cycle, I try to solve for water-related effects or issues such as how streamflow affects forests or how climate change impacts watersheds.



MILLWRIGHT

A millwright is an industrial mechanic who maintains or constructs machinery for mills, print shops, or other businesses. As a millwright, I must be familiar with different machines and how they work, and have the analytical skills necessary to fix problems.



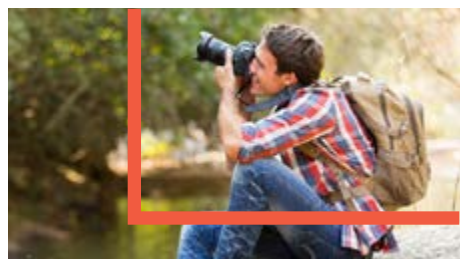
SOCIAL MEDIA DIRECTOR

I spread awareness about my organization's forestry program to various audiences on social media platforms. I get to be creative when planning media campaigns related to the forest, and work with a team to share stories and build meaningful connections.



PACKAGING TECHNOLOGIST

I'm a problem solver who enjoys working with materials. As a packaging technologist for a forest products company, I am responsible for designing, developing, and manufacturing packaging for a range of products, helping to reduce ocean plastic pollution.



NATURE PHOTOGRAPHER

Forests are my shooting sets. I use various cameras, lenses, and tools to document elements of our natural world to share with clients. My work involves traveling to remote areas, where I patiently wait to capture the perfect moment depicting wildlife and nature.

WORKSHEET

WHO WORKS IN THE FOREST? PAGE 3



ARCHITECT

As an architect, I try to reduce the ecological footprint of buildings and homes through carefully crafted designs using sustainable and certified wood and other materials. Sometimes I create spaces that let people coexist with nature by bringing the outdoors indoors.



LUMBER MILL WORKER

I work in a mill that cuts logs into lumber for building materials such as framing, flooring, windows, and doors. You may be surprised to learn that my job is very high-tech: computers help me determine the best way to cut each log and how to minimize wood waste.



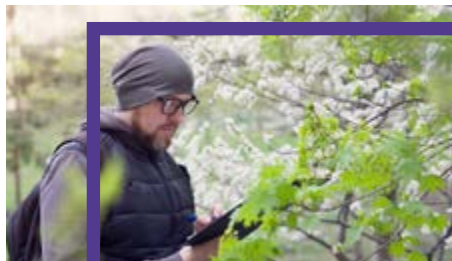
LOGGER

As a logger, I harvest timber from forests, which people rely on for building materials, furniture, paper, packaging, and many other products. My job is to cut the trees safely and in a way that ensures water quality and the long-term health of the forest remains.



PARK RANGER

As a park ranger, I work to educate forest visitors about the forest and to explain and enforce the rules and regulations. I help keep the visitors safe in the forest and help keep the forest safe from visitors.



CARBON MODELER

As a carbon modeler, I work with forest owners to quantify the carbon being stored or sequestered in the forest. Based on this information, owners exchange "carbon credits" with companies that emit carbon dioxide as a way to reduce overall carbon emissions and climate change effects.

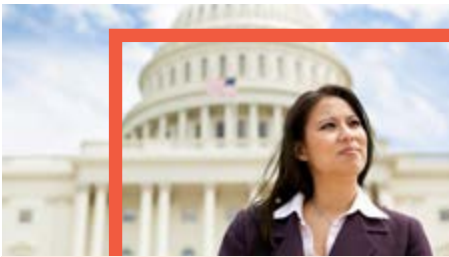


PAPER MANUFACTURER

I work as a machine operator for a paper manufacturing company that makes various paper products. I run the paper-making machines and conduct quality inspections on the finished products.

WORKSHEET

WHO WORKS IN THE FOREST? PAGE 4



POLICY ADVISOR

As a forest policy advisor, my job is to analyze laws and programs that affect the forest and to provide guidance on ways to improve them. I enjoy looking at all the ways policies might impact people and the forest and finding the best balance.



SUSTAINABILITY MANAGER

As a sustainability manager, I ensure that my organization upholds environmental standards and minimizes environmental harm. I make sure that my organization uses paper products that come from sustainably managed forests.



FORESTRY TECHNICIAN

My job takes me into the forest almost every day, and I spend a lot of time outside. As a forestry technician, I work with foresters and forest engineers to maintain forestland. Depending on the need on any given day, my duties can range from fire suppression to data collection to trail repair.



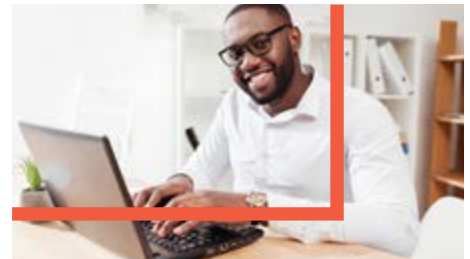
WOOD SCIENTIST

Wood is an amazing natural resource that we use for paper, construction lumber, particle board, and other products. As a wood scientist, I study the physical, chemical, and biological properties of wood to improve the way we process it into different products.



GIS SPECIALIST

As a geography or Geographic Information Systems (GIS) specialist, I work with computers to create graphs and maps showing forest-related data, such as land use, tree cover, and environmental practices. My work helps inform the public and decision-makers about forests.



FINANCIAL FORECASTER

As a financial forecaster for a wood products company, I work with numbers every day. I analyze lumber and paper pulp market prices and international exchange rates to help my company make the best investments and sound financial decisions.

ABOUT PROJECT LEARNING TREE

Project Learning Tree® (PLT) is committed to advancing environmental education, forest literacy, and green career pathways, using trees and forests as windows on the world. Our award-winning resources offer a lifetime of learning from early childhood through adulthood, and our wide and diverse network provides professional development for educators and opportunities for young adults to explore forests and green careers. Together, we are growing future forest and conservation leaders. PLT is an initiative of the Sustainable Forestry Initiative®, a non-profit charitable organization with the mission of advancing sustainability through forest-focused collaboration.

ABOUT THIS SERIES

PLT's Activity Collections provide content to support an identified theme for a particular grade level. Each collection offers hands-on activities for teachers and nonformal educators, natural resource professionals, youth group leaders, and home schoolers to connect youth to nature and the outdoors.

Learn about the availability of new Activity Collections and more with PLT's newsletter. Sign up at plt.org/subscribe. Visit shop.plt.org to explore more Activity Collections.

ACCESS PROFESSIONAL DEVELOPMENT ANYTIME, ANYWHERE

PLT offers online, in-person, and blended professional development events for formal and nonformal teaching environments.

These events are tailored to be place-based and for specific grade levels, academic standards, and topics. They equip you to:

- Connect with professional and peer-to-peer networks.
- Enhance your teaching skills and increase confidence teaching outdoors.
- Receive instructional resources tailored to your state's standards and environment.
- Experience hands-on activities and STEM-focused investigations.
- Earn continuing education credits.

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