Making Forest Connections: A Correlation of the Washington Forest Education K-12 Learning Framework with Other Educational Resources

Grades 3-5

The Washington Forest Education K-12 Learning Framework gives educators in our forest-rich state a strong foundation for incorporating forest and natural resources in their classrooms and programs and provides a conceptual framework for teaching about Washington’s forests. This correlation document helps them further by identifying connections between each of the Washington Forest Education K-12 Learning Framework’s 62 concepts and:

- Next Generation Science Standards (NGSS) performance expectations
- Project Learning Tree (PLT) activities
- Pacific Education Institute Resources
- Project WILD activities
- Other resources

Forest Education Grades 3-5

Students in the intermediate years are interested in the natural world, how things are put together and how things work. This is a time when their intellectual capabilities expand greatly as they move from a focus on the here and now toward abstract thinking. Students this age work well in groups and enjoy doing collaborative projects. They enjoy problem-solving, sharing ideas and voicing opinions. They also want to be responsible members of the local community.

Forest education activities at the intermediate level may focus on:

- How do trees grow?
- What do forest organisms need to survive and how are they interdependent within an ecosystem?
- How are forests and their inhabitants adapted to Washington’s climate and landscape?
- In what ways are forests important to Washington’s environment, economy, and people?

Using trees and forests as the focus, students can practice posing questions for investigations, reasoning about the conclusions and implications, and managing multiple variables. Engaging students in a variety of activities will deepen their understanding of the forest ecosystem on which we all depend.

For more information about the forest learning framework by grade level, see the Washington Forest Education K-12 Learning Framework.
Making Forest Connections — Grades 3-5

About the Resources

This document identifies connections between the Washington Forest Education K-12 Learning Framework and the following resources for Grades 3-5.

NGSS Performance Expectations – NGSS standards identify expectations for what students should be able to do by the end of the year or grade band. These performance expectations also incorporate three dimensions of science: disciplinary core ideas, science and engineering practices, and cross-cutting concepts. For more information, see www.nextgenscience.org.

Project Learning Tree (PLT) Activities – Relevant activities are identified from PLT’s PreK-8 Environmental Education Activity Guide. Bolded activities are the most relevant. Activities in red represent updates found in PLT’s Explore Your Environment K-8 Activity Guide, published in 2021. Educators can receive these curriculum guides by attending a PLT professional development. For more details, contact the Pacific Education Institute.

Pacific Education Institute (PEI) Resources – A variety of guides, lessons, and videos from PEI help to strengthen the Washington Forest Education K-12 Learning Framework. They provide information and learning activities to support K-12 teachers and their students in learning about forests. These include:

- PEI Guides
- ELA and Math Performance Tasks
- Forests of Washington Lessons
- Healthy Forests, Healthy Waters Curriculum
- PLT extension activities
- K-3 Schoolyard Investigations
- Career Profile Cards
- Solution Oriented Learning Storylines (SOLS)

Resources available for download at https://pacificeducationinstitute.org/.

Project WILD Activities – Relevant activities are identified from the Project WILD K-12 Curriculum and Activity Guide. Educators can receive this guide by attending a Project WILD workshop. For more details, contact the Pacific Education Institute.

Oregon Forest Resources Institute (OFRI) Materials – A variety of publications and videos from OFRI help to strengthen forest literacy. They provide information and learning activities to support K-12 teachers and their students in learning about the environment.

For more information on receiving these free resources go to: oregonforests.org.

Acknowledgements

This correlation was supported by a Project Learning Tree Model Program Initiative grant from the Sustainable Forestry Initiative. We appreciate the hard work of the Oregon Forest Resources Institute (OFRI) to create such valuable forest education resources and their generosity in sharing them with others to adapt and use. Thank you to Pat Otto, former PLT WA State Coordinator and PEI Education Manager for adapting these correlations for use by Washington educators. Her forest education expertise and work to create locally relevant materials is an invaluable resource and we are grateful.
### Making Forest Connections — Grades 3-5

**Theme 1: What is a Forest?**

<table>
<thead>
<tr>
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</table>

3-LS4-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

1. There’s no Place Like Home
2. Getting to know the Trees of Washington
3. Here’s Looking at Yew
4. Forest Homes

**ELA Performance Tasks**

- Off to the Woods (Grade 3)
- Bioblitz (Grade 3-5)
- Forest Benefits (Grade 4-5)

**Guides**

- Field Investigations
- FieldDesign
- Fostering Outdoor Observation Skills

**PLT Extensions**

- [www.pltwa.com](http://www.pltwa.com)

- Shape of Things Bingo
- Trees as Habitats Bingo
- Fallen Log student page
- Tree Abundance Field Investigation

**Solutions Oriented Learning Storylines**

- Urban Forestry: Urban Heat Islands (Grade 5)
## Making Forest Connections — Grades 3-5

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<tr>
<td><strong>Trees as Part of the Forest</strong></td>
<td></td>
<td>3-LS1-1. Develop models to describe that organisms have unique and diverse life cycles, but all have in common birth, growth, reproduction, and death. (Somewhat relevant) 3-LS4-2. Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. (Somewhat relevant) 4-LS1-1. Construct an argument that plant, and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. 5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. 5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.</td>
<td>2: Get in Touch with Trees 3: Peppermint Beetle (p. 68) 4: Sounds Around 21: Adopt a Tree (p. 21) 22: Trees as Habitats (p. 76) 23: The Fallen Log (p. 116) 27: Every Tree for Itself (p.110) 28: Air Plants 31: Plant a Tree (p. 350) 36: Pollution Search 41: How Plants Grow (Here We Grow Again, p. 57) 44: Water Wonders (p. 206) 45: Web of Life (p. 216) 48: Field, Forest, and Stream (p. 257) 62: To Be a Tree 63: Tree Factory (p. 180) 64: Looking at Leaves (Tree ID, p. 186) 67: How Big Is Your Tree? (Nature’s Skyscrapers, p. 325) 76: Tree Cookies (p. 171) 77: Trees in Trouble (p. 197) 79: A Tree’s Life (Tree Lifecycle), (p. 14) 88: Life on the Edge (p. 308) E-Unit for Grades 3-5 Energy in Ecosystems</td>
<td>Forests of Washington 1: There’s no Place Like Home 2: Getting to know the Trees of Washington 4: Forest Homes</td>
<td>Which Niche? Environmental Barometer</td>
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<tr>
<td><strong>Forests as Ecosystems</strong></td>
<td></td>
<td>(Somewhat relevant) 3-LS2-1. Construct an argument that some animals form groups that help members survive.</td>
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<tr>
<td>1. Forest ecosystems consist of different types of organisms (e.g. producers, consumers, and decomposers) and nonliving components (e.g. sunlight, soil, minerals, and water) interacting within a given environment, space, and time.</td>
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<td>3: Peppermint Beetle (p. 68)</td>
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<td>2. Humans depend on and influence forest ecosystems and are themselves influenced by forest ecosystems.</td>
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<td>9: Planet Diversity (Discover Diversity, p. 97)</td>
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<tr>
<td>3. Forest ecosystems include processes such as photosynthesis, energy flow and the cycling of nutrients, water, carbon, and other matter.</td>
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<td>10: Charting Diversity (Charting Biodiversity, p. 90)</td>
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<td>4. Forest ecosystems are complex and dynamic, and continuously undergo change or adaptation, ranging from gradual change (e.g., succession and climate) to abrupt change (e.g., fire and disease).</td>
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<td>11: Can It Be Real? 12: Invasive Species (p. 299)</td>
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<td>5. Natural and human-caused disturbance events are a part of forest ecosystems. Examples of natural events are wind and volcanic activity, and examples of human-caused events are logging, road construction and development. Wildfire is a disturbance that can be both natural and human-caused.</td>
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<td>16: Pass the Plants, Please</td>
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<td>6. Forests are interconnected with other terrestrial (e.g., rangeland) and aquatic (e.g., estuary) ecosystems, forming a larger system.</td>
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<td>17: People of the Forest 18: Tale of the Sun 20: Environmental Exchange Box</td>
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**ELA Performance Tasks**
- Bioblitz (Grade 3-5)
- Forest Benefits (Grade 4-5)
- Forest Management Grade 4-5

**Guides**
- **Field Investigations**
- **FieldDesign**
- **Fostering Outdoor Observation Skills**

**Schoolyard Investigations**
- **Fall Color Change** (Grade 3, also available in Spanish)
- **Soil Temperature Investigations** (Grade 3, also available in Spanish)

**PLT Extensions**
- www.pltwa.com
- Fallen log student page
- Forest Benefits student page
- Trees as Habitat and Tree Benefits
- Leaf as a System

**Limiting Factors:**
- How Many Bears?
- Tracks!
- Oh Deer!

**Graphanimal**
- What’s that Habitat?

**Urban Nature Search**
- Busy Bees, Busy Blooms
- Surprise
- Terrarium

**What Bear Goes Where?**
- Seed Need
- Good Buddies

**Environmental Barometer**
- Trophic Transfer

**Eco-enrichers**
- I-Tree: Tree Benefits
- www.treebenefits.com

**OFRI**
- Explore the Forest
- Into the Forest
- Sounds of the Forest
- Forest Essays, Grades 2-3
- Forest Essays, Grades 4-5
- Inquiry at Hinkle Creek (v)

**Forest Fact Breaks:**
- Tree Biology
- Photosynthesis
- Water
- Carbon Capture
- Fire
- Fire Safety
- Forest Types
- Into the Forest
- Oregon’s Forests (poster)

**Other**
- Ellie’s Log and Teacher’s Guide
  - http://ellieslog.osupress.oregonstate.edu/
- US Forest Service-Discover the Forest
  - https://discovertheforest.org/
- Starflower lessons
  - https://www.wnps.org/starflower
- Trees Are Terrific! (Ranger Rick’s Naturescope Series Vol. 1)

**FORI Resources**
- **Into the Forest**
- **Sounds of the Forest**
- **Forest Essays, Grades 2-3**
- **Forest Essays, Grades 4-5**
- **Inquiry at Hinkle Creek (v)**

**Additional Resources**
- Ellie’s Log and Teacher’s Guide
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| 7. Washington’s regions vary in soil types, elevation, temperature, wind, and rainfall patterns. These variations create the different forest types and residents (plants and animals) that, together with disturbance histories, contribute to that region’s biodiversity. | 47: Are Vacant Lots Vacant? (Discover Diversity, p. 97) 48: Field, Forest, and Stream (p. 257) 64: Looking at Leaves (Tree ID, p. 186) 65: Bursting Buds (p. 40) 68: Name that Tree (Tree ID, p. 186) 69: Forest for the Trees 70: Soil Stories (Soil Builders, p. 161) 76: Tree Cookies (p. 171) 77: Trees in Trouble (p. 197) 78: Signs of Fall (p. 155) 80: Nothing Succeeds Like Succession (p. 334) 81: Living with Fire (p. 315) 86: Our Changing World | Temperature investigation journal  Rainfall investigation  Habitat diversity field investigations  Solution Oriented Learning Storylines  
Fire: Wildfires in Washington (Grade 3, also available in Spanish)  
Forests: Forest Ecosystem Benefits (Grade 5, also available in Spanish) | PEI Resources | Project WILD Activities | Additional Resources |
| Forest Classification | 3-LS4-3. Construct an argument with evidence that a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.  (Somewhat relevant) 4-LS1-1. Construct an argument that plant, and animals have internal and external structures that function to support survival, growth, | 6: Picture This!  8: The Forest of S.T. Shrew  11: Can It Be Real?  12: Invasive Species (p. 299)  16: Pass the Plants, Please  43: Have Seeds, Will Travel (p. 50)  49: Tropical Treehouse  61: The Closer You Look (p. 72)  62: To Be a Tree  63: Tree Factory (p. 180) | Forests of Washington  
1. There’s no Place Like Home  
2. Getting to know the Trees of Washington  
4. Forest Homes  
5. Come Grow with Us  
6. Washington Forest Eco-connections  
PLT Extensions:  
www.pltwa.com  Habitat diversity Field Investigations | Raindrops and Ranges  
Time Lapse | OFRI  
Explore the Forest  
Into the Forest  
Forest Essays, Grades 2-3  
Forest Fact Breaks: Forest Types  
Other  
Starflower Tree ID cards  
https://www.wnps.org/starflower  
US Forest Service Coloring Pages  
https://www.fs.fed.us/wildflowers/kids/coloring/index.shtml |
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| 3. Many different forest types exist within a biome, typically named by their dominant tree species. Common forest types in Washington include spruce-hemlock, Douglas-fir, ponderosa pine, mixed conifer, and hardwood. | behavior, and reproduction. | 64: *Looking at Leaves* *(Tree ID, p. 186)*  
65: *Bursting Buds* *(p. 40)*  
66: *Germinating Giants* *(Nature's Skyscrapers, p. 325)*  
68: *Name That Tree* *(Tree ID, p. 186)*  
70: *Soil Stories* *(Soil Builders, p. 161)*  
E-Unit for Grades 3-5 *Energy in Ecosystems* | Tree Abundance Field Investigation | | Native Plant Society  
[https://www.wnps.org/cps-programs/education](https://www.wnps.org/cps-programs/education)  
Tree/Plant ID App  
[https://www.treespnw.com/](https://www.treespnw.com/) |
# Making Forest Connections — Grades 3-5  
**Theme 2: Why Are Forests Important?**

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<tr>
<td><strong>Historical Importance</strong></td>
<td></td>
<td>4-ESS3-1. Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.</td>
<td><em>Forests of Washington</em></td>
<td>13. Who Manages Washington’s Forests?</td>
<td>Why Would Anyone Cut a Tree Down? (adapt mini unit for lower grades)</td>
</tr>
<tr>
<td>1. Today, as in the past, forest continue to play a significant cultural, spiritual, and economic role in Native American Societies.</td>
<td></td>
<td>5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment.</td>
<td>40: Then and Now</td>
<td>14. Where There’s a Will There’s a Way</td>
<td></td>
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<tr>
<td>2. In Washington’s development toward becoming a state, forests provided basic resources for Native Americans and settlers, jobs for a growing workforce, resources for building the nation and dollars for a new state economy.</td>
<td></td>
<td>75: Tipi Talk</td>
<td>80: Nothing Succeeds Like Succession (p. 334)</td>
<td>19. Town Trees</td>
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<tr>
<td>3. As multiple demands on forests increased, the practice of forest management evolved to conserve and preserve natural resources and to improve society’s use of forestlands. It incorporated scientific principles and an understanding of competing interests.</td>
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<td>90: Native Ways</td>
<td>92: A Look at Lifestyles</td>
<td>21. A Forest Full of Views</td>
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<tr>
<td>4. Historical perspectives, which may include aesthetic, cultural, spiritual, economic, and educational factors, form our understanding of forests and our personal connections to forests, and guide decisions to ensure forests for future generations.</td>
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<td>93: Paper Civilizations</td>
<td>95: Did You Notice? (p. 293)</td>
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| **Environmental Importance**         |                               | 1: The Shape of Things | *Forests of Washington* | 13: We All Need Trees (p. 82) | Forest Fact Breaks: Water |
| 3. Forests provide the opportunity to study ecosystems, conservation, and natural resource management. |                               | 6: Picture This! | 6. Washington Forest Ecoconnections | | Inquiry at Hinkle Creek (video) |
| 4. Forests sequester carbon from |                               | 7: Habitat Pen Pals | 19. Town Trees | | |
## Making Forest Connections — Grades 3-5

### Theme 2: Why Are Forests Important?

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<td>the atmosphere and are an essential component of the global carbon cycle. Forest products made from wood also store carbon.</td>
<td></td>
<td>5. Washington’s forests are important ecological systems, interconnected with other systems not only environmentally, but socially and economically. Changes in the conditions and uses of Washington’s forests may affect the conditions and uses of forests worldwide.</td>
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<td>water.</td>
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<td>5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.</td>
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<tr>
<td>5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment.</td>
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<td>24: Nature’s Recyclers</td>
<td></td>
<td>Forest Management (Grade 4-5)</td>
<td>Other</td>
</tr>
<tr>
<td>25: Birds and Worms (Birds and Bugs, p. 35)</td>
<td></td>
<td>26: Dynamic Duos</td>
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<td>Guides</td>
<td>Forest Carbon Cycle Stations Trees and Carbon Investments in Forest Carbon <a href="https://www.rainforest-alliance.org/curricula/climate">https://www.rainforest-alliance.org/curricula/climate</a></td>
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<tr>
<td>44: Water Wonders (p. 206)</td>
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<td>46: Schoolyard Safari (Backyard Safari, p. 29)</td>
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<td>Fostering Outdoor Observation Skills</td>
<td><a href="http://www.budburst.org">www.budburst.org</a> -for Investigations in the forest</td>
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<td>47: Are Vacant Lots Vacant? (Discover Diversity, p. 97)</td>
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<td>Career Profile Cards</td>
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<td>64: Looking at Leaves (Tree ID, p. 186)</td>
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<td>65: Bursting Buds (p. 40)</td>
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<td>Solutions Oriented Learning Storylines</td>
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<td>67: How Big Is Your Tree? (Nature’s Skyscrapers, p. 325)</td>
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<td>Forests: Forest Ecosystem Benefits (Grade 5, also available in Spanish)</td>
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<td>E-Unit for Grades 3-5 Energy in Ecosystems</td>
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<td>Healthy Forests, Healthy Waters (modified)</td>
<td><a href="http://www.pltwa.com">www.pltwa.com</a> Leaf as a System</td>
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<td>Drain Rangers Elementary</td>
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<td>Other</td>
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### Social Importance

1. Washington’s forests provide basic resources that people use every day.
2. Individuals hold different values concerning forests and their use, based on their experience and connection with the forest.
3. Washington’s forests are important ecological systems, interconnected with other systems not only environmentally, but socially and economically. Changes in the conditions and uses of Washington’s forests may affect the conditions and uses of forests worldwide.
5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.
5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment.
44: Water Wonders (p. 206)
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<td>3. Forests influence the economic, social and cultural composition of both urban and rural communities</td>
<td></td>
<td>56: We Can Work It Out (Decisions, Decisions, p. 224) 82: Resource-Go-Round 90: Native Ways 92: A Look at Lifestyles 93: Paper Civilizations 95: Did You Notice? (p. 44)</td>
<td>Solutions Oriented Learning Storylines <strong>Forests: Forest Ecosystem Benefits</strong> (Grade 5, also available in Spanish) <strong>Urban Forestry: Urban Heat Islands</strong> (Grade 5)</td>
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<td><strong>Economic Importance</strong></td>
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<td>1. Forests provide multiple economic benefits, including jobs and forest products; renewable energy and minerals; financial returns to owners and investors; and ecosystem service benefits such as carbon storage, clean water, recreation, and tourism.</td>
<td></td>
<td>4-ESS3-1. Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment. 5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.</td>
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<td>3. Forest products are an important component of Washington’s “green” economy. They come from a renewable resource and store carbon, and most are also reusable and recyclable.</td>
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<td>4. Economic returns to forest landowners are important in preventing the loss of forests to other non-forest land uses.</td>
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# Making Forest Connections — Grades 3-5

## Theme 3: How Do We Sustain Our Forests?

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<thead>
<tr>
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<th>NGSS Performance Expectations</th>
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<td>1. The size and scale of forest ownership can vary from hundreds of thousands of acres in a national forest to an individual patch of trees in an urban forest. 2. Washington’s forests are managed under private (e.g., family and industrial) and public (e.g., state and federal) ownership. Each type of ownership may have different management objectives and may be subject to different laws and policies. 3. Forestlands— as well as fire and other disturbances that affect them – cross natural boundaries, such as watersheds, and administrative boundaries, such as city limits and private property lines. 4. Many forest landscapes are made up of a variety of ownerships, a mix of management objectives, and a blend of forest ecosystems.</td>
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<td>oriented decisions and actions to achieve a variety of desired outcomes, including ecological (e.g., improving wildlife habitat), economic (e.g., timber production), and social (e.g., recreation) outcomes. Many of these outcomes are interrelated and can be managed for simultaneously, while others may be incompatible.</td>
<td>4. In Washington, forest management in private and state forests is regulated by the Washington Forest Practices Act, which aims to sustain forest land for timber production and the other benefits forests provide, including clean water, wildlife habitat, and recreation.</td>
<td>ELA Performance Tasks Forest Management (Grade 4-5) Forest Benefits (Grade 4-5) Career Profile Cards</td>
<td>5. As human populations and global demand for forest resources increase, forest management and advances in research and technological systems can help to ensure forest resources are maintained or improved to produce the desired values and products.</td>
<td>5. Forest Management Decisions 1. A variety of individuals, companies, organizations, and government agencies manage forests. Forest management decisions may involve some or all of these working collaboratively to ensure mutually beneficial outcomes. 2. Forest resource professionals aim to meet individual, societal and environmental needs.</td>
<td>5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment.</td>
</tr>
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</table>
3. The type and intensity of forest management is dependent on the purposes for which the forest is managed, as well as forest type, ownership, size, and location.

4. Washington foresters and forest managers prepare forest management plans based on landowner goals and objectives, capabilities of the forest site, laws, and available tools (e.g., planting, harvesting, and using prescribed fire).

5. The public empowers governments to conserve, maintain and sustain forest resources by enacting laws, creating policies, establishing agencies, creating public lands and providing management guidelines and continuing education for forest landowners.

6. Government has a role in actively engaging organizations, businesses, communities and individuals in forest management and policy decisions, especially for publicly owned forests.

7. Sustainable management of forests takes into account social, economic and ecological dimensions of sustainability. It includes maintaining forest health, productivity and diversity, and conserving a forested land base for the needs of present and future generations.

8. Changing public demands and expectations for the forest, as well as unanticipated events, affect...
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Forest Fact Breaks  
Clearcutting  
**Other**  
I-Tree: Tree Benefits  
www.treebenefits.com |
| Forest Management Perspectives  
1. People have differing perspectives about forest management, which can be affected by politics, science, economics, values, perception, and experience.  
2. Forest management can be controversial because of diverse perspectives as well as the complex nature of forest ecosystems.  
3. Issues related to forest management include the effects of timber harvest, carbon sequestration and climate change, forest land uses, wildfire, and others.  
4. Involving multiple perspectives in decision-making, especially with regard to Washington’s public forests, can lead to more effective problem-solving and result in more sustainable outcomes for Washington’s forests. | | | | | |
### Making Forest Connections — Grades 3-5

#### Theme 4: What is Our Responsibility to Washington Forests?

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<td>1. Everyone has a responsibility to treat forests with respect and to become a conscientious steward of Washington’s forests and forest resources.</td>
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<td>2. Personal behaviors directly impact the health and resiliency of our forests. For example, the products we buy, how we treat trails and campgrounds, and how we hunt or use fire can either harm or help forests.</td>
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<td>3. Choices we make regarding the use of forest resources affect our ability to sustain forest ecosystems into the future.</td>
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<td>4. A variety of professionals and skilled trade workers are needed to sustain our forests, including foresters, biologists, soil scientists, engineers, lawyers, information technology professionals, land managers, investors, environmental educators, communications specialists, logging operators, mechanics, and wood products manufacturers.</td>
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<td>5. As individuals or as members of groups, we can influence laws and policies about Washington’s forests.</td>
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E-Unit for Grades 3-5

Energy in Ecosystems