FOREST LITERACY BY GRADE LEVEL GRADES 3-5

Students in the intermediate years are interested in the natural world, how things are put together, and how things work. During this time, 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 problemsolving, sharing ideas and voicing opinions. They also want to be responsible members of the local community. Forest literacy activities at the intermediate level may focus on the following questions:

- What do forest organisms need to survive?
- How are forests and their inhabitants adapted to the climate and landscape?
- In what ways are forests important to the environment, economy, and society? How do forests contribute to our health?
- What can people do to take care of our forests?

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.





KEY FOREST LITERACY PLAN CONCEPTS FOR GRADES 3-5



The following concepts from the Forest Literacy Framework have direct connections to Next Generation Science Standards (NGSS) in the United States, to provincial science standards in Canada and to Social Studies standards in both countries. Note that many concepts also support English Language Arts, and Mathematics standards as well.

Forest Literacy Framework Concept	Subject	Торіс	Core Idea	Standard (If Applicable)
Theme 1, B.2	Science	Growth and Development of Organisms	Plants and animals have unique and diverse life cycles.	NGSS: <u>3-LS1-1</u>
Theme 1, B.3	Science	Structure and Function	Plants and animals have structures that serve various functions in growth, survival, behavior, and reproduction.	NGSS: <u>4-LS1-1</u>
Theme 1, C.3	Science	Cycles of Matter and Energy Transfer in Ecosystems	Matter cycles between the air and soil and among plants, animals, and microbes.	NGSS: <u>5-LS2-1</u>
Theme 2, D.2	Science	Natural Resources	Some resources are renewable over time, and others are not.	NGSS: <u>4-ESS3-1</u>
Theme 3, B.6	Social Studies	Economics: Economic Decision Making	Different choices have different benefits and costs.	See local standards
Theme 3, D.1	Social Studies	Geography: Human– Environment Interaction	Culture affects the way that people modify and adapt to the environment.	See local standards
Theme 4, B.2	Science	Human Impacts on Earth Systems	Individuals and communities are doing things to help protect Earth's resources and environments.	NGSS: <u>5-ESS3-1</u>
Theme 4, B.5	Social Studies	Civics: Process, Rules, and Laws	Policies help to address public problems.	See local standards

SAMPLE FOREST LITERACY ACTIVITIES

- Challenge students to identify the names of trees in the schoolyard, in a park, or along a street. First, have them pick two different trees and observe differences between the two, such as leaf type and shape; bark texture; fruits, flowers, or seeds; and shape of the overall tree. Then, show students how to use a free mobile app or tree guide to identify the species. See PLT's Family Activity <u>The Closer You Look</u> for more information. [Theme 1, B. Trees as Part of the Forest]
- Lead an investigation of biotic (living) and abiotic (nonliving) components of ecosystems through a plot study comparing shady and sunny locations in the schoolyard or a nearby park. Use hula hoops or string tied in loops to create evenly sized plots. Then in each plot, have students tally the different organisms they find and measure the soil temperature and moisture. [Theme 1, C. Forests as Ecosystems]
- 3. Create a model of a forest food web by having students choose a forest animal, draw a picture of it on an index card, then research and write on the card what that animal eats and what eats it. Arrange the completed cards on a bulletin board display, connecting them with yarn or string to show the food web. [Theme 2, A. Environmental Importance]
- 4. Inspire students to go on an outdoor scavenger hunt for tree products. In advance, scout the area to determine what students might find. Then, put together a list of objects for them to look for, including a few challenging items. Encourage students to find as many items as they can. [Theme 2, C. Economic Importance]

GRADES 3-5

- 5. Ask students to brainstorm different jobs that might be necessary to care for forests and to provide the things we need and want from them. Discuss the idea that people manage forests to provide plant and animal habitats; paper and wood products; places for recreation; and air, soil, and water protection. Then have students interview guest visitors to learn about their forest-related jobs. For more ideas, see the "A Guide To Green Jobs In Canada: Voices of Indigenous Professionals" from PLT Canada's <u>Store and Resource Library</u>. [Theme 3, B. Forest Management]
- 6. Conduct a modeling simulation using math cubes or poker chips to explore what happens when trees compete for limited resources such as water, sunlight, carbon, and nutrients. Use the model to compare different forest conditions, such as overcrowding, drought, or wildfire, and how they affect forest management decisions. For details, see "Every Tree for Itself" from PLT Canada's <u>Free Digital and Printable</u> <u>Worksheets</u>. [Theme 3, C. Forest Management Policy]
- 7. Invite students to sit under a tree and use their senses to generate group lists of words the tree evokes, one list for each sense. Have students use the lists to write poems about trees and forests. Encourage them to try different poetry forms, such as haiku, cinquain, acrostic, shape poetry, or free verse. [Theme 4, A. Our Connection to Our Forests]
- Encourage students to investigate their school site, inventorying natural habitats, trees, and wildlife present on the site and finding out how the grounds are maintained. Support them in making recommendations to improve their school site based on their findings. [Theme 4, B. Working for the Future of Our Forests]



REAL WORLD CONNECTIONS

Have a look at these conservation research projects that offer real world connections to elevate student learning about forests.

Join <u>Nestwatch</u>, a citizen science project developed by Cornell University in partnership with SFI. Students seek out and monitor bird nesting sites, and build birdboxes using downloadable plans. This is one of many excellent birding resources created by Cornell Ornithology.

Explore connections between sustainable **forest management** and conservation of important keystone species, using a fact sheet about the <u>Gopher Tortoise</u> <u>from the Alabama Forestry Foundation</u>.

Consider how a changing forest can affect different wildlife habitat with <u>SFI's Species at Risk</u> video.

