



National Forest Week

Forest Fun Booklet

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Canada's Arboreal Emblems

Canada - *Maple*



Of the 100 species of maple known, 13 are native to North America and 10 are native to Canada. Most of these reach a large tree size (15 metres or more). Maples grow in all areas of Canada “from sea to shining sea”. The leaf on Canada’s flag is a stylized maple leaf most closely resembling that of the sugar maple.

Alberta - *Lodgepole pine*



Widely distributed throughout western North America, lodgepole pine is the most common and abundant tree in the Rocky Mountains and foothills regions of Alberta. It forms dense, even stands after fire, and integrates with jack pine where the species overlap. The common name is derived from its use by Aboriginal people in constructing their lodges.

British Columbia - *Western redcedar*



Western redcedar was a mainstay of aboriginal life and culture on Canada’s west coast. The “tree of life” provided clothing, shelter, transportation and a medium for aboriginal art and craftwork. The tree reaches maturity at 350 years, but specimens over 1000 years old have been reported.

Manitoba - *White spruce*



White spruce range overlaps with Sitka and Engelmann spruce, resulting in natural hybrids occurring. Normal life span is 200 years. The pliable roots of white spruce can be used to lace the joints of birch bark canoes, White spruce is not tolerant of very urban conditions.

New Brunswick - *Balsam fir*



Balsam fir ranges from Alberta to Newfoundland south to Wisconsin and New York. and have fairly short lived (usually 80 years). However, they may reach 200 years old. Resin from the blisters on young trees, may be used in cementing lenses and mounting specimens for observation with a microscope. Balsam fir is favoured for Christmas trees due to its lengthy period of needle freshness.

Newfoundland - *Black spruce*



Black spruce is widespread in Canada and is found growing in every province and territory. It is a common tree species of the Boreal forest. Black spruce marks the northern limit of tree growth and trees near this limit are often found to be up to 90 years old.



Northwest Territories - *Tamarack*

Tamarack is distributed across most of northern North America. The wood is fairly heavy, durable, and decay-resistant, and therefore is used for posts, mine timbers, and railroad ties. In the Arctic, young tamarack stems are used for dogsled runners, fish traps and duck and goose decoys. Aboriginal people also used the roots for cordage, the wood for arrow shafts, and the bark for medicine. Unlike most conifers, Tamarack loses its needles over the winter.



Nova Scotia - *Red spruce*

Red spruce grows throughout Canada's maritime provinces and stretches south as far as North Carolina in the United States. An important commercial species, highly valued for pulp, lumber, plywood and musical instruments. It reaches maturity in about 200 years and lives to 400 years.



Ontario - *Eastern white pine*

White pine is an extremely handsome ornamental specimen valuable for parks, estates and large properties. It is also a desirable wood for carpentry, and is used extensively for all types of woodenware. White pine ranges from western Ontario to the Atlantic provinces, throughout most of north central and the northeastern United States. White pine were extremely valuable in the 19th and 20th century because of their use as ship masts.



Prince Edward Island - *Northern red oak*

Northern red oak is the most widespread of northern oaks, growing in all of eastern North America except Newfoundland, Labrador and Florida. It is tolerant to salt and grows quickly and as a result, is a desirable street and shade tree for lawns, parks and golf courses.



Quebec - *Yellow birch*

Yellow birch ranges from the southeast of Manitoba, throughout the Atlantic provinces and the northeast of the United States. It frequently germinates on rotten logs and stumps. It needs cool, moist soil in the summer, otherwise it may fall victim to the Bronze Birch Borer Beetle.



Saskatchewan - *White birch*

White birch is widespread in Canada and is found growing in every province and territory. It is a typical tree of the Boreal forest. It marks the northern limit of tree growth and white birch trees near this limit are often found to be up to 90 years old.



Yukon - *Subalpine fir*

Subalpine fir is the most widely distributed fir in North America. It occurs chiefly in mountainous areas from the Yukon interior near the tree line and along the coast of southeastern Alaska, south through western Alberta and British Columbia. Subalpine fir are not suited for landscaping, rather are more suited to grow in its natural environment.

*Nunavut does not have an official tree.

LEAFO Bingo

With more than 80 native tree species growing in Ontario it is no surprise that tree leaves come in a wide variety of shapes, sizes, and arrangements. Each species of tree has its own unique set of leaves with characteristics that distinguishes it from the rest. By learning common leaf characteristics, you can improve your tree identification skills!

Next time you are heading out for a walk, print out a copy and see how many you can find. Can you complete a single line, just the borders, fill the whole card or even make an X? Many leaves will display more than one of the listed characteristics, challenge yourself to find a unique leaf for each box. Remember to leave living leaves on their trees. Good luck!

 Alternate leaves	 Asymmetrical Base	 Coniferous	 Cordate (Heart Shaped)	 Curved/Twisted Needles
 Deciduous	 Deltoid (Triangle Shaped)	 Double Compound	 Lobed	 Narrow
 Needles	 Palmately Compound	Free Space!	 Opposite Leaves	 Oval
 Not Lobed	 Pinnately Compound	 Oak	 Rough Edges	 Scales
 Smooth Edges	 Maple	 Symmetrical Base	 Wedge	 White Pine

Focus on Forests is Canada's leading forest education program that engages youth and educators in learning more about our forests. Focus on Forests is a program of Forests Ontario. Visit www.forestsontario.ca for other great activities, factsheets and lesson plans!

PARTS OF A TREE



CROWN

The crown of a tree is composed of branches, twigs, and leaves. The branches and twigs hold the leaves up allowing them to receive sunlight which is vital to food production. In addition, branches and twigs also support the flowers and fruit of a tree.



FLOWERS

Tree flowers produce fruit, which encase seeds. Within each seed lies the beginning of a new tree. Tree seeds are dispersed by wind, wildlife, and water



TRUNK

The trunk is the main stem of a tree and has two primary functions: to support the crown of branches, twigs, and leaves and to transport food and water throughout the tree. Cutting through the outer bark would expose many different layers. The outer bark of a trunk protects the inside of a tree from injury as well as acts as an insulator against cold and heat. The phloem is soft and serves to distribute the food produced in leaves to every living cell in a tree. The xylem or sapwood distributes water up the trunk to the leaves, where food is manufactured. The Cambium is the thin growing layer found between the xylem and the phloem. The heartwood is the accumulation of older wood which no longer carries sap.



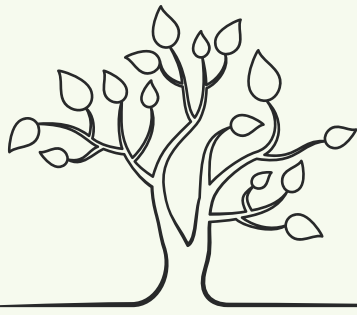
LEAVES

Leaves are the manufacturers of food for trees. Food is produced through the process of photosynthesis, which means “putting together with light”. Powered by sunlight, the green substance in leaves called chlorophyll uses carbon dioxide and water to produce carbohydrates. Also through the process oxygen is released through tiny pores called stomata and water is released through the process of transpiration. In a way trees act like a giant air conditioner, cooling the air with water vapour and expelling oxygen, which we need to breathe. Leaves come in many different shapes and sizes and are attached to the twig in different patterns. For example, some leaves like the maples, are attached opposite one another. Others, like the oak, are arranged alternately on the twig. Observing shapes and arrangement of leaves is helpful in identifying trees.



ROOTS

Roots are the network found underground that helps to anchor the tree. In addition, roots help in absorbing water and nutrients from the soil which the trees use to manufacture food and grow. Usually roots extend as far underground as the crown of the tree.



BUILD A BARK QUILT

Using leaves to identify a tree is a time tested skill, but did you know a tree's bark can also be used as an identification tool? Unlike leaves, fruits and flowers, bark remains on trees throughout the year, making it useful in tree identification. Bark is a living shield against the elements, with a species-specific pattern of cracks and crevasses developing over years of growth.

The most important role of bark is to protect a tree from injury and disease. This is achieved through a number of adaptations, such as prickly thorns to keep mammals away, bad tasting chemicals to deter insects, or an unusually dense layer of bark to protect the tree from forest fires. While the external surface of bark is often hard and can be almost woody itself, it protects two soft inner layers. The inner bark, also known as phloem, carries the sugars created by leaves to the tree's branches, trunk, and roots, providing food for the whole tree. Right next to the phloem is the cambium, which is the growth layer of a tree that is responsible for the outward growth (also known as secondary growth) of tree trunks. The cambium creates a new ring of woody tissue each year that is visible in cross-sections and tree cookies. Both the phloem and cambium are essential to the health and well-being of a tree and are protected by the living shield that bark provides.

As a tree matures, its bark will change and develop a unique texture as it cracks or stretches to accommodate annual outward growth. As a result, a younger tree's bark will generally have less texture when compared to a mature tree of the same species, and very old tree bark will have a different texture than mature bark due to age and weathering.



Young Black Cherry (*Prunus serotina*) bark (left) compared to mature Black Cherry bark (right).

When identifying the mature tree, it is easy to spot the 'burnt cornflakes' of the bark; a reference to its dark colour and raised, flaky texture.

Activity:

While bark on its own is not the most beginner-friendly identifying feature of a tree, it certainly can play a part in determining what tree you are trying to identify. Each species will develop bark differently.

In this activity you will explore different textures of bark by making rubbings on paper with crayons. Each bark rubbing can be compared to others by attaching all the rubbings together to create a colourful, textured quilt.

Materials:

- White printer paper
- Wax crayons, multiple dark colours
- Tape or glue
- Construction paper (optional)



Lets Get Started!

1. With paper and crayons in hand head out to a nearby forest.
2. Select a tree and make a rubbing of the bark. Repeat as desired.
3. Tape the rubbings together to form a paper quilt, use construction paper for the border.
4. Take a photo of your bark rubbing quilt and share online! Don't forget to tag @Forests_Ontario in your photos.



SCAVENGER HUNT

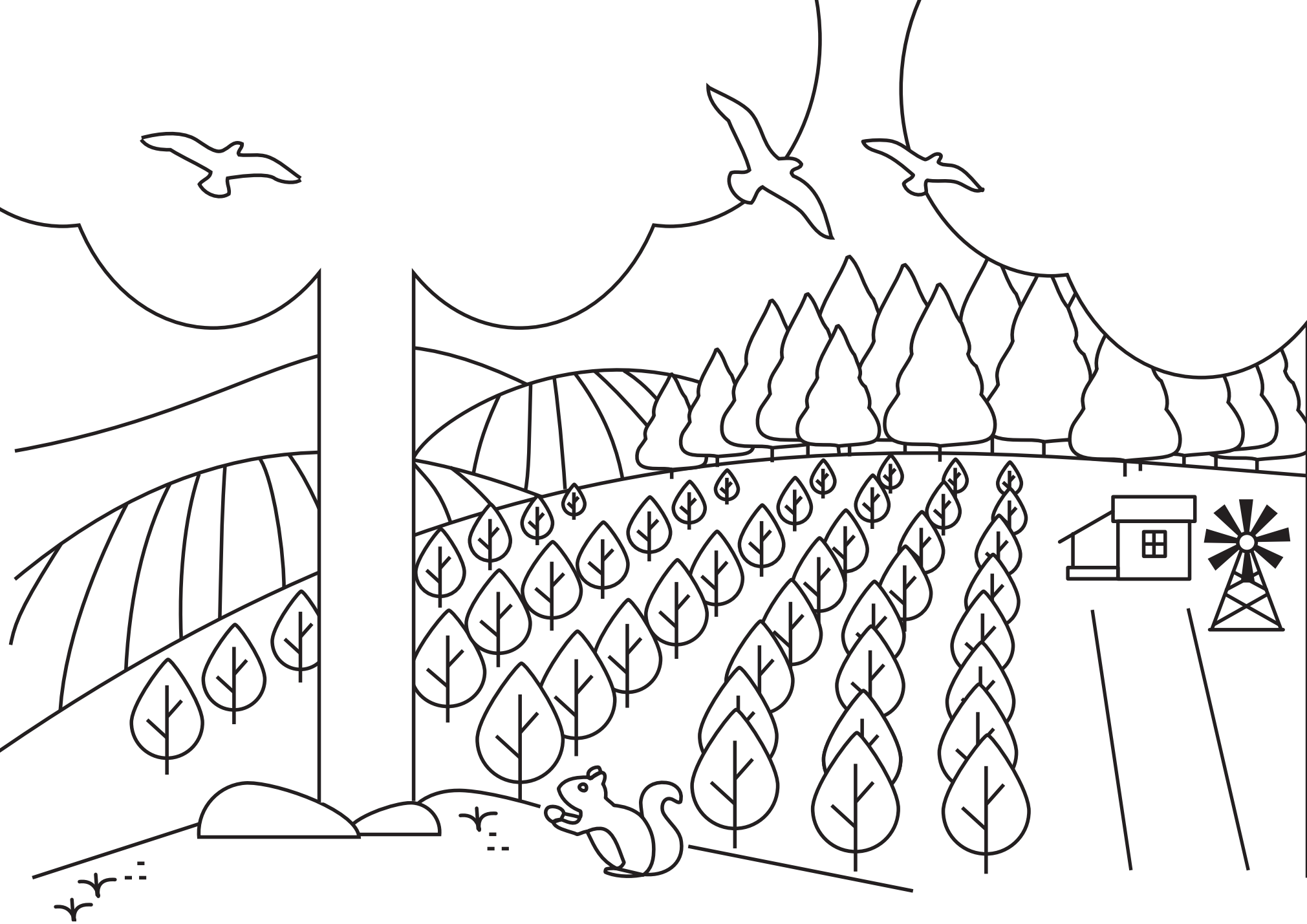
Our forests are beautiful—so be gentle as you walk through them. If you are collecting any of the items below, make sure that they have already fallen on the ground. For those items that are not on the ground, just observe and check off that you’ve found them. Let the searching begin!

ACORN	LEAF	FLOWERS	TWIG
BARK	SEED	NEEDLE	CONE
MUSHROOM	SOIL	MOSS	BRANCH
TRUNK	FEATHER	ROCK	BUD

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For more information and to access more great activities visit www.focusonforests.ca



Do you have open land or extra acreage? Planting trees is an excellent way to add value to your property and has never been easier. If you have room to plant a minimum of 500 trees you may be eligible for the 50 Million Tree Program, and we will plant the trees for you. The 50 Million Tree Program provides financial and technical assistance for landowners looking to plant trees on their property. Submit an application today at www.forestsontario.ca/50MTP

