

Musical Trees Lesson Plan

GRADE LEVEL: PRIMARY TO INTERMEDIATE
MUSICAL TREES DEVELOPED BY FORED BC TEACHERS & VOLUNTEERS

Big Ideas:

- Dance, drama, music, & visual arts are each unique languages for creating and communicating (K-7)
- Plants and animals have observable features

Materials:

"Trees in Our Lives" worksheet & [tree ID posters](#) & [Naturally Wood](#) a partnership of academe, government and industry experts.

Objectives:

- Students will be able to identify local tree species that are used in musical instruments
- Students will be able to share and record their observations and explore personal experience, community, & culture through arts

Curricular Competencies:

Students are expected to know the following:

- [Local First Peoples' uses](#) of plants and animals
- Characteristics of local plants, animals & fungi
- Processes, materials, technologies, tools & techniques to support arts activities
- Traditional & contemporary Aboriginal Arts & arts-making processes

Scan QR code for all web links access.
Activity is also available in Hinglish.

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Skills:

Students are expected to be able to do the following:

- Make and record observations using their senses
- Experience and interpret the local environment
- Ask questions about familiar objects and events
- Express & reflect on personal experiences of place
- Demonstrate curiosity and sense of wonder about the world



Pre-Class Preparation:

The teacher will need to make the following preparations prior to class: make copies of the worksheet (on page 4) for each group of students. Have copies of [tree identification](#) aids handy to identify [local tree species](#) that could be used to make the items on the worksheet.

"From the bigleaf maple and white birch to the red alder and trembling aspen, BC's hardwood species are used to make such beautiful wood products as flooring, cabinetry and furniture, as well as musical instruments, interior millwork, and more." -Naturally Wood.

Hint: this British Columbia website [Naturally Wood](#) has a ton of info about common hard and softwood trees in BC & their uses, developed by government, academe & industry sources. Scan QR code to see this lesson plan activity online & access all weblinks. We've provided some overviews and detailed tree identification keys in case internet or computer access isn't easily available.

Suggested Instructional Strategies:

You're a team of explorers on a mission to unlock hidden secrets! Your task is to uncover the mysteries of the worksheet.

- Select a Storyteller, the brave explorer who will present your discoveries to the rest of the class.
- Choose a Chronicler, the one who records every important clue your team finds.
- The rest of the crew are Idea Adventurers—your job is to think outside the box, fuel creativity, and help solve the puzzle!



Feel free to move around—find a cozy spot by the window or even stand up while you work. The more fun, the better!



Suggestion: Invite someone with forestry-related expertise from the Indigenous community or another industry professional chat via Zoom or Microsoft Teams. Visit [Indigenous Resource Network](#) or the [Forest Professionals of BC](#) or [Young Canadians For Resources](#) for contacts who might help.

Softwood species

Discover all the fascinating facts about 12 softwood tree species growing abundantly throughout B.C., from natural-occurring insecticides and resistance to decay to a broad spectrum of structural and aesthetic properties and applications.



Western white pine

Western white pine is commonly found in the drier parts of Vancouver Island and the adjacent mainland coast and in the wetter parts of the southern interior, particularly at low elevations.

Photo credit: Barbara Zimonick
courtesy naturallywood.com



Western larch

Western larch is produced predominantly as part of the Douglas-fir-larch species mix.

Photo credit: Barbara Zimonick
courtesy naturallywood.com



Subalpine fir

Subalpine fir, also known as balsam or balsam fir, grows throughout B.C.'s interior and is marketed with lodgepole pine and interior spruce as the SPF (spruce-pine-fir) species group.

Photo credit: Nuance / Jonathan Clark
courtesy naturallywood.com



Sitka spruce

Sitka spruce is the largest of the spruces and is used in a variety of structural products including specialized aircraft and marine applications.

Photo credit: Jonathan Taggart
courtesy naturallywood.com



Ponderosa pine

Ponderosa pine is a large-crowned tree with a straight trunk. It is the largest of the western pine species and usually grows to 25 to 30 metres, although it can reach 50 metres with a diameter of two metres.

Photo credit: Michael Bednar
courtesy naturallywood.com



Lodgepole pine

Lodgepole pine, the most abundant tree species in B.C., is marketed with interior spruce and subalpine fir as the SPF (spruce-pine-fir) species group.

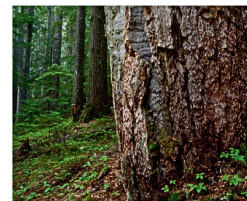
Photo credit: Barbara Zimonick
courtesy naturallywood.com



Western red cedar

Western red cedar is a resilient and versatile species that can be used in a wide variety of exterior and interior building applications.

Photo credit: Kristin Charleton, Sundew Media
courtesy naturallywood.com



Douglas-fir

Douglas-fir is a large tree, reaching 85 metres on B.C.'s coast and 42 metres in B.C.'s interior.

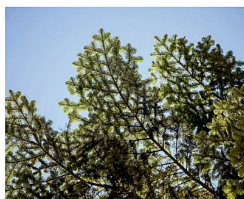
Photo credit: Diego Sanchez
courtesy naturallywood.com



Western hemlock

Western hemlock, the most plentiful tree species on B.C.'s coast, is used for general construction, roof decking, plywood, glulam and solid beams.

Photo credit: Kristin Charleton, Sundew Media
courtesy naturallywood.com



Amabilis fir

Amabilis fir, which grows along B.C.'s coast, combines strength and beauty and is used for structural products in residential and commercial construction.

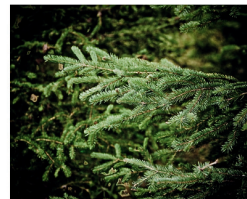
Photo credit: Jonathan Taggart
courtesy naturallywood.com



Yellow cedar

Yellow cedar grows on B.C.'s coast and is very valuable commercially because of its straight grain, yellow colour and resistance to decay.

Photo credit: Jonathan Taggart
courtesy naturallywood.com



White and Engelmann spruce

White spruce and Engelmann spruce are found across B.C.'s interior. They are part of the SPF species group, an important source of structural lumber.

Photo credit: Barbara Zimonick
courtesy naturallywood.com

Hardwood species

From the bigleaf maple and white birch to the red alder and trembling aspen, B.C.'s hardwood species are used to make such beautiful wood products as flooring, cabinetry and furniture, as well as musical instruments, interior millwork, and more.



Trembling aspen

Trembling aspen is a slender, graceful tree with smooth, greenish white bark and distinctive leaves that quiver in the slightest breeze.

Photo credit: Barbara Zimonick
courtesy naturallywood.com



Red alder

Red alder is found all along the coast of B.C. and is the most plentiful hardwood in the region.

Photo credit: Kristin Charleton, Sundew Media
courtesy naturallywood.com



Paper (white) birch

Paper birch is intolerant of shade, so it thrives in open clearings and younger forests resulting from disturbances such as wildfire and insect infestations.

Photo credit: Barbara Zimonick
courtesy naturallywood.com



Bigleaf maple

Bigleaf maple, the largest maple in Canada, only grows in the southwest corner of B.C. It yields attractive wood that can be used for higher-value, appearance-grade products.

Photo credit: Kristin Charleton, Sundew Media
courtesy naturallywood.com

Suggested Instructional Strategies (continued):

Your Mission: Uncover the Secret Lives of Trees!



1. Gather your team of explorers and dive into the “Trees in Our Lives Worksheet” (below) worksheet. Discuss each item with your crew, and have your Chronicler mark Yes or No (Y/N) beside each thing someone has experienced or used.
2. Next, review the items you’ve marked with a “Yes.” Think like a true explorer: where in your community could you find this activity or product? It could be an art store, a park, or even the school stage. The Chronicler will write down your ideas under ‘Where to Find That Product.’ You can even explore online (with a guide, of course)!
3. Now, it’s time to become Tree Detectives. Using tree identification tools or printouts, discover what tree species are used to make these products. Can you find these trees in your neighborhood or a nearby park? Maybe a walk through a local forest will reveal their secrets!
4. Once your discoveries are complete, team up to help your Storyteller prepare to share your journey with the class. Remember, trees have a hand in everything from music and art to literature and theatre, and now you’ve uncovered the mysteries they hold! **Worksheet included on page 6.**



Suggestion: The class can make their own musical instruments and put up a group performance (“Explorers in concert”) at the end; refer to this quick activity: [My Pinecone Banjo - Homemade Instruments, Inspirational DIY Nature Crafts](#)

Extensions:

- Make your own musical instrument from recycled materials - [CBC News](#).
- Making [music from trees](#). Or Growing an [Ethical, Sustainable](#) Guitar Forest.
- Invite local First Peoples into your class to share their knowledge of how trees are used in their culture and demonstrate (eg. cedar for basket weaving, drumming)
- Make a display showing others how trees are used.
- Did you know [cardboard](#) (a product that is made from trees) is used in ballet pointe shoes? Contrary to popular perception, the toes are not made from blocks of wood.
- Yamaha describes what goes into their [keyboards](#)...
- [Rayon](#) used in dance and theatre costumes comes from cellulose in wood pulp.

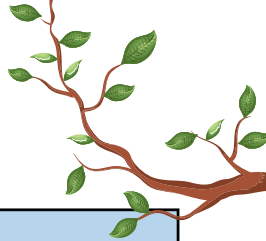


For more ideas on wood products we rely on, see FORED BC's YouTube [video](#):

Natural resources we use daily.
What gifts from nature did you use today?



Trees in Our Community Worksheet



Trees in our Lives	Yes/No	Where can you find these tree products? Example, arts & crafts store.	What tree is used to make the product? (example: Douglas Fir)	Can you find the tree in your community? Example: name of local park
guitar				
violin				
drums				
piano/piano keys				
paper/pencils				
brushes				
paint				
engraving				
basket weaving				
easels				
ballet shoes (paper/cardboard ends)				
rayon costumes				
topics for stories, songs, poems and subjects for artwork				
furniture (school desk?)				
props				
sculptures/carving				
film sets and scenery				
theatre buildings				
theatre stage				
Other Ideas?				



Tree Identification Keys



Red alder

CATEGORY: HARDWOOD
REGION: COAST
TITLE: RED ALDER (ALNUS RUBRA)
Photo credit: Kristin Charleton, Sundew Media

Red alder is the most plentiful hardwood on B.C.'s coast. The medium-sized broadleaf tree grows up to 24 metres and has a life span of 40 to 60 years. Red alder is used in furniture, doors, flooring, cabinets, other home décor products and toys. Indigenous Peoples use the bark of red alder as a dye for basket materials, wood, wool, feathers, human hair and skin. The medium-sized broadleaf tree grows up to 24 metres and has a life span of 40 to 60 years.

Where it grows: Red alder is found all along the coast of B.C.

Did you know? Red alder is often used for guitars because it has many sonic advantages—it is a lightweight, closed-pore wood that has a resonant, balanced tone. Fender adopted alder for electric instrument bodies in mid-1956, and still uses it today.



Bigleaf maple

CATEGORY: HARDWOOD
REGION: COAST
TITLE: BIGLEAF MAPLE (ACER MACROPHYLLUM)
Photo credit: Kristin Charleton, Sundew Media

Bigleaf maple, the largest maple in Canada, grows only in the southwest corner of B.C. It yields attractive wood that can be used for higher-value, appearance-grade products, such as flooring, cabinetry and furniture, as well as turnings, musical instruments and interior millwork. Bigleaf maple is the largest maple tree in Canada and can reach 36 metres in height. Coastal Indigenous Peoples consider it an excellent fuel. They also use the wood to carve utensils, tools and toys, including spindle whorls and canoe paddles.

Where it grows: Bigleaf maple is a deciduous broadleaf tree that grows at low and mid elevations in the southwest corner of B.C.

Did you know? Grain patterns are unsurpassed in some bigleaf maple trees. Occasionally, pieces have highly figured, wavy grain—these include bird's eye, fiddle-back, blister and curly maple.



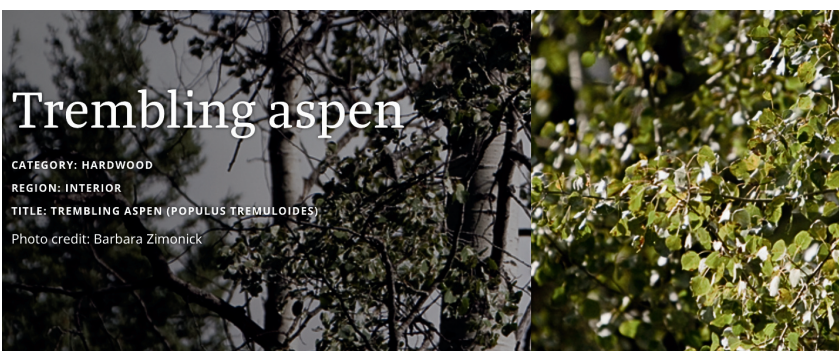
Paper (white) birch

CATEGORY: HARDWOOD
REGION: INTERIOR
TITLE: PAPER BIRCH (BETULA PAPYRIFERA)
Photo credit: Barbara Zimonick

Paper birch, also known as **white birch**. Its smooth uniform texture makes it a popular choice for household items, toys and short-use recyclable items such as disposable plates and cutlery, since the wood has no odour or taste. Its high-value lumber is used for furniture, cabinets, flooring and other millwork items. Indigenous Peoples use birch bark for cultural and practical uses such as making baskets, cradles and canoes. Paper birch is a small- to medium-sized deciduous, broadleaf tree found throughout the interior of B.C. It is easily recognized by thin, white to reddish-brown bark that peels in papery strips.

Where it grows: It grows on a variety of soils and is found across most of B.C.'s interior and in a few scattered places on the coast.

Did you know? Birch sap can be used to make syrup. Undiluted birch sap can be used to make vinegar or birch beer, and Indigenous Peoples drank the sap as a medicine for colds.



Trembling aspen is a slender, graceful tree with smooth, greenish white bark and distinctive leaves that quiver in the slightest breeze, giving it its name. Aspen is the most common species used for framing members. It has gained acceptance in the construction market as studs, and its bright white colour is well suited to appearance applications. It is found throughout B.C. east of the Coast Range. Indigenous peoples use aspen for medicine (the original basis for aspirin), food and a source of poles, canoe paddles and bowls. Lye made from aspen ashes and animal fat is turned into soap.

Where it grows: Trembling aspen grows in many soil conditions across the B.C. interior from sea level to 3,000 metres and is especially common in the northeast.



Amabilis fir is a tall, straight tree that grows in B.C.'s coastal forests. Due to its high strength-to-weight ratio, it is used in structural products throughout residential and commercial construction. Amabilis fir is commonly sold and shipped together with western hemlock as hem-fir. High-grade amabilis fir is often used for interior applications. Indigenous Peoples use firs medicinally, boiling the bark with stinging nettle for a tonic and for bathing, as well as making a tea from the needles to treat colds.

Where it grows: Amabilis fir is found across B.C.'s coastal area with the exception of Haida Gwaii.

Did you know? Amabilis fir is also called Pacific silver fir because of the silvery underside of the needles.



Douglas-fir is a large tree, reaching 85 metres on B.C.'s coast and 42 metres in the Interior. The oldest trees can be more than 1,500 years old. Due to its strength, Douglas-fir is used for building and construction, and it is one of the finest timbers for heavy structural purposes. It is a high-quality wood for the manufacturing of sashes, doors and windows. Indigenous Peoples in B.C. use Douglas-fir for pit cooking fuel, fishing hooks, handles, and covering the floors of lodges and sweat lodges.

Where it grows: The coastal variety is found along the southern mainland coast and across Vancouver Island. The interior variety occurs throughout southern B.C.

Did you know? The common name for Douglas-fir is hyphenated because it is not a true fir. In 1867, it was given its own genus—Pseudotsuga—which means false hemlock.



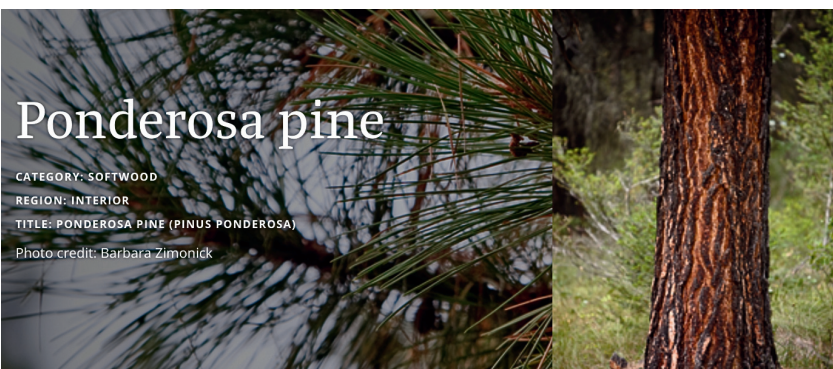
Lodgepole pine

CATEGORY: SOFTWOOD
REGION: INTERIOR
TITLE: LODGEPOLE PINE (PINUS CONTORTA VAR. LATIFOLIA)
Photo credit: Barbara Zimonick

Lodgepole pine, the most abundant tree species in B.C., is marketed with interior spruce and subalpine fir as the SPF (spruce-pine-fir) species group. Kiln-dried SPF lumber is used as a structural framing material in a wide variety of residential, commercial, industrial and agricultural applications. It is also a first-class joinery wood for furniture, windows, doors and other architectural millwork. Lodgepole pine is a highly adaptable tree that is one of the first species to come back after a wildfire.

Where it grows: Lodgepole pine grows throughout most of B.C.'s interior, from mid-elevation to subalpine sites.

Did you know? Lodgepole pine is one of the species found in dense thickets of small trees known as dog-hair stands, which grow very slowly because of their high density.



Ponderosa pine

CATEGORY: SOFTWOOD
REGION: INTERIOR
TITLE: PONDEROSA PINE (PINUS PONDEROSA)
Photo credit: Barbara Zimonick

Ponderosa pine, the largest of the western pine species, is found on semi-arid plateaus and slopes in B.C.'s southern interior. The wood is straight-grained, nonporous with a fine and uniform texture, and light in colour, ranging from cream to yellow to pale reddish-brown. Ponderosa pine wood is commonly used in kitchen furniture, turnery and doors, and for light and medium construction, window frames and interior trim. Indigenous Peoples eat the seeds and inner bark of the ponderosa pine. It is also used for making canoes, waterproofing moccasins, and an ointment for sores and inflamed eyes.

Where it grows: Ponderosa pine is the characteristic tree of B.C.'s southern interior.

Did you know? On a hot day, the bark of the ponderosa pine smells like vanilla, and if a young twig is broken, it smells somewhat like oranges.



Sitka spruce

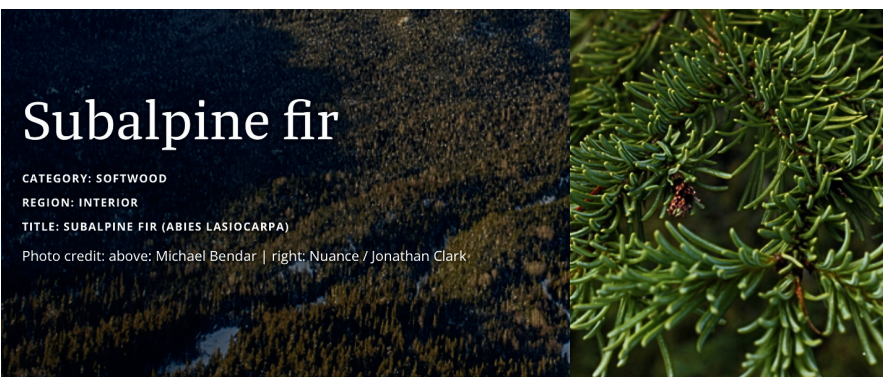
CATEGORY: SOFTWOOD
REGION: COAST
TITLE: SITKA SPRUCE (PICEA SITCHENSIS)
Photo credit: Jonathan Taggart

Sitka spruce, with a high strength-to-weight ratio, is used in a variety of structural products and is a favoured wood in the aircraft and shipbuilding industries. The top-grade clear wood is used for piano, violins and guitar soundboards as it has excellent resonating properties.

Sitka spruce is the largest of the spruces, growing up to 70 metres tall and two metres in diameter. Found along the Pacific Coast, it is valued for wood that is light, soft, relatively strong and flexible. Indigenous Peoples use Sitka spruce in winter dance ceremonies and for medicinal purposes.

Where it grows: Sitka spruce grows in a narrow band along B.C.'s coast from sea level to about 700 metres.

Did you know? Carmanah Walbran Provincial Park on western Vancouver Island offers protection to diverse forest ecosystems and is home to some of the world's largest Sitka spruce trees—including one that is 95 metres tall and more than 800 years old.



Subalpine fir

CATEGORY: SOFTWOOD

REGION: INTERIOR

TITLE: SUBALPINE FIR (ABIES LASIOCARPA)

Photo credit: above: Michael Bender | right: Nuance / Jonathan Clark

Where it grows: Subalpine fir grows throughout most of the B.C. interior from mid to high elevations, as well as near sea level on the north coast.

Subalpine fir, also known as **balsam** or **balsam fir**, is marketed with lodgepole pine and interior spruce as the SPF (spruce-pine-fir) species group.

A medium-sized tree that grows about 20 to 35 metres tall. It is also used for crates and boxes, sashes, doors, frames, food containers and general millwork. Indigenous Peoples have long used pitch and bark for medicinal purposes, calling it “the medicine plant.” It is also used for creating large baskets, bedding, and flooring.



Western red cedar

CATEGORY: SOFTWOOD

REGION: COAST, INTERIOR

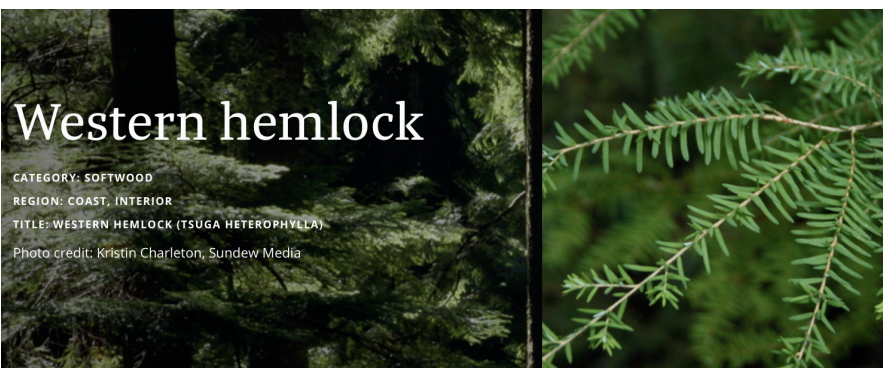
TITLE: WESTERN RED CEDAR (THUJA PLICATA)

Photo credit: above: Michael Bednar | right: Kristin Charleton, Sundew Media

Where it grows: Western red cedar grows in areas where the climate is cool, including low- to mid-level elevations along B.C.’s coast and in the interior wet belt near the Columbia and Rocky Mountains.

Did you know? The western red cedar was adopted as B.C.’s official tree in 1988.

Western red cedar is a resilient and versatile species that can be used in a wide variety of exterior and interior building applications. It is one of the most valuable conifers owing to the unique colour, texture and durability of its wood. The western red cedar is a medium- to large-sized tree that often lives to 1,000 years. It is a popular wood for outdoor uses such as greenways, public art, patio furniture, and playground equipment. Indigenous Peoples use it to make bentwood boxes to store food or other goods.



Western hemlock

CATEGORY: SOFTWOOD

REGION: COAST, INTERIOR

TITLE: WESTERN HEMLOCK (TSUGA HETEROPHYLLA)

Photo credit: Kristin Charleton, Sundew Media

Where it grows: Western hemlock grows along both the east and west sides of the Coast Range, from sea level to mid-elevations, as well as in the interior wet belt west of the Rocky Mountains.

Did you know? Hemlock was named after a European weed that has a similar smell, but it is not related to poison-hemlock.

Western hemlock is a large tree that typically grows 30 to 50 metres. It is the most plentiful tree species on the coast of B.C. The strength and stiffness make Western hemlock the first choice for mouldings and interior woodworking. It is widely used in furniture, doors, floors and windows, and is also used for pulp and newsprint. Indigenous Peoples carve hemlock to make spoons, combs, roasting spits and other implements. Hemlock bark is rich in tannin and is used as a stain and a dye to colour wool and other textiles.



Western larch

CATEGORY: SOFTWOOD
 REGION: INTERIOR
 TITLE: WESTERN LARCH (LARIX OCCIDENTALIS)
 Photo credit: above: Nuance / Jonathan Clark | right: Barbara Zimonick

Western larch is produced predominantly as part of the Douglas-fir-larch species mix. Its properties are similar to Douglas-fir so the species are sometimes sold mixed. It produces hard, strong wood that is used to produce heavy timber for products such as planks and boards, poles, flooring, sashes, doors, railroad crossties and mine timbers.

Where it grows: Subalpine fir grows throughout most of the B.C. interior from mid to high elevations, as well as near sea level on the north coast.



White + Engelmann spruce

CATEGORY: SOFTWOOD
 REGION: INTERIOR
 TITLE: WHITE SPRUCE (PICEA GLAUCA) AND ENGLEMAN SPRUCE (PICEA ENGELMANNII)
 Photo credit: above: Candace Kenyon | right: Barbara Zimonick

White and Engelmann spruce are part of the spruce-pine-fir (SPF) species group. White spruce can grow to 40 metres and Engelmann spruce to 50 metres. White spruce is used for sounding boards in musical instruments, paddles and oars, organ pipes and ladder rails. It is good for food containers because it is almost colourless and odourless when dried. Engelmann spruce wood is used to produce violins, pianos and aircraft parts. Indigenous Peoples use spruce roots to sew the seams of bark baskets.

Where it grows: White and Engelmann spruce grow throughout B.C.'s interior east of the Coast Range.

Did you know? Wildfires are a major factor in re-establishing white spruce stands. Without the fires, more shade-tolerant black spruce would become a dominant species.



Western white pine

CATEGORY: SOFTWOOD
 REGION: COAST, INTERIOR
 TITLE: WESTERN WHITE PINE (PINUS MONTICOLA)
 Photo credit: Barbara Zimonick

Western white pine is a large tree that can grow up to 60 metres. It has good working qualities and is generally sawn into lumber for use in products such as windows, doors and furniture, as well as construction lumber. High-grade material is used for exterior and interior siding and millwork. Indigenous peoples make medicine from the boughs of the western white pine.

Where it grows: Western white pine is commonly found in the drier parts of Vancouver Island and the adjacent mainland coast and in the wetter parts of the southern interior, particularly at low elevations.

Did you know? Wood from the western white pine is ideal for carving because of its fine grain and uniform texture.



Yellow cedar

CATEGORY: SOFTWOOD
REGION: COAST
TITLE: YELLOW CEDAR (CHAMAECYPARIS NOOTKATENSIS)
Photo credit: Jonathan Taggart

Yellow cedar is one of the world's most durable woods. It is a beautiful tree that is tough, solid and extremely durable. Its wood is valuable commercially because of its straight grain, yellow colour and resistance to decay. It is ideal for industrial uses like chemical containers, horse stables, floors or outdoor seating in sports facilities. Indigenous Peoples use almost every part of a cedar tree. Bark has been used for hats, baskets, fishing nets, baby diapers and towels.

Where it grows: Yellow cedar grows on B.C.'s coast west of the Coast Range in uneven-aged, mixed-species stands, usually as single trees or in small clumps.
Did you know? The wood of yellow cedar has natural extractives that make it decay-resistant and aromatic when cut. It is free from pitch and resin.

Source: [Naturally Wood](#) and [BC Tree Book](#).



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