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1985

# TREE CHEERS

TO: INFORMATION SECTION  
NORTHERN FORESTRY CENTRE  
5320-122 STREET  
EDMONTON, ALBERTA T6H 3S5

# ACTIVITY BOOK





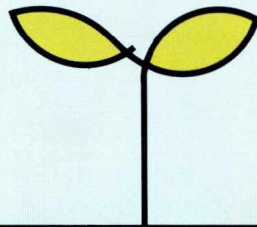
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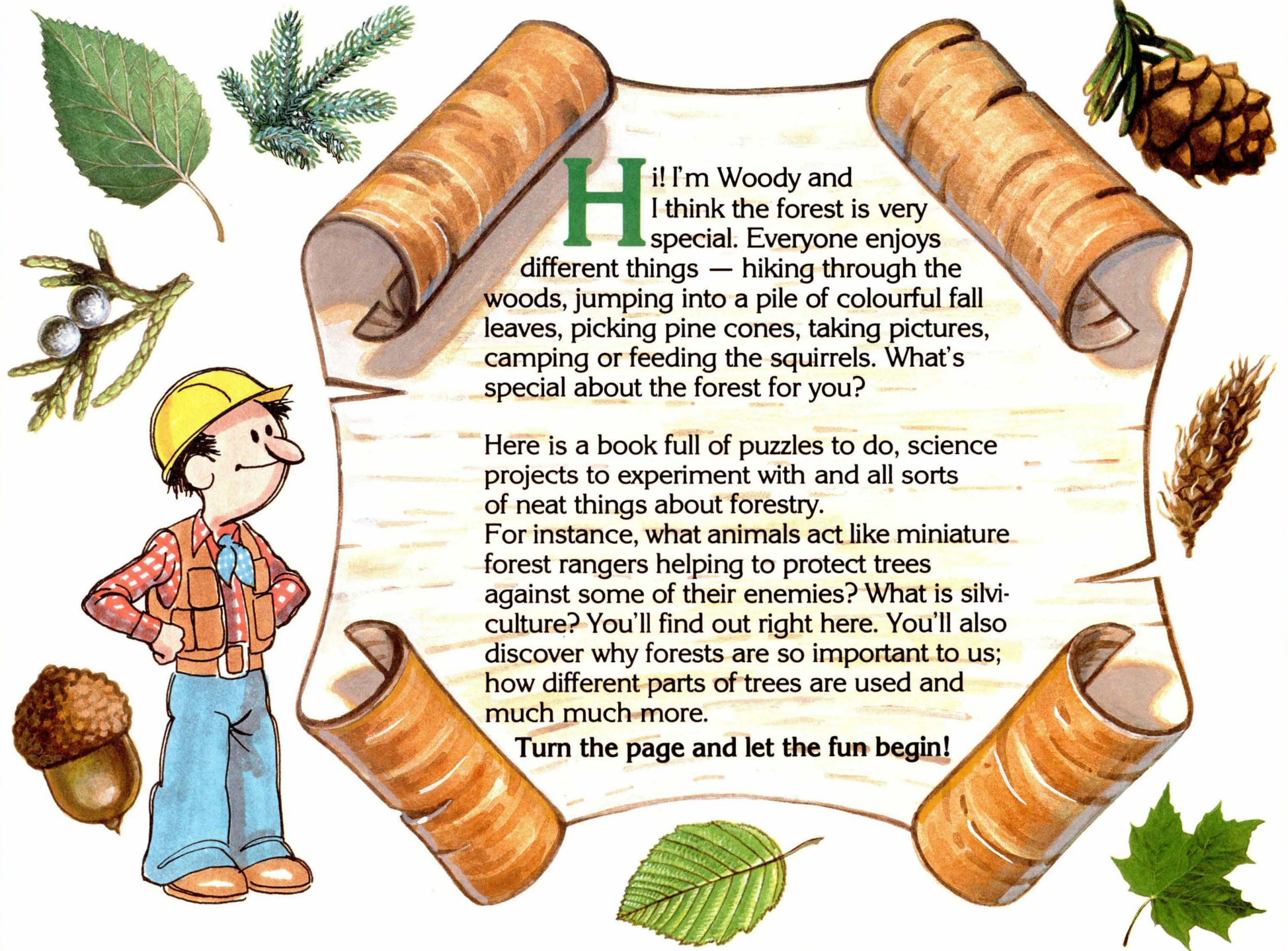
# TREE CHEERS **ACTIVITY BOOK**





This book was produced especially for you by the Canadian Forestry Service. We believe that forests are beautiful places full of adventure and recreation and that they need managing. Every day we do forestry research to find better ways to manage, use and enjoy our Canadian forests. We hope this book will help us to share our love for the forests with you.





**H**i! I'm Woody and I think the forest is very special. Everyone enjoys different things — hiking through the woods, jumping into a pile of colourful fall leaves, picking pine cones, taking pictures, camping or feeding the squirrels. What's special about the forest for you?

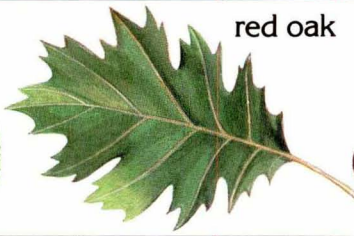
Here is a book full of puzzles to do, science projects to experiment with and all sorts of neat things about forestry. For instance, what animals act like miniature forest rangers helping to protect trees against some of their enemies? What is silviculture? You'll find out right here. You'll also discover why forests are so important to us; how different parts of trees are used and much much more.

**Turn the page and let the fun begin!**



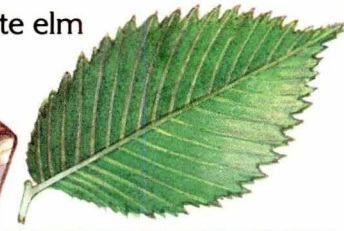


trembling aspen



red oak

white elm

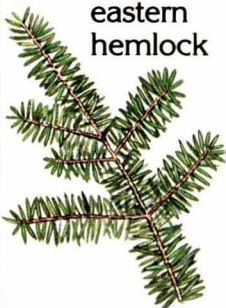


eastern white pine

# Sensational Trees



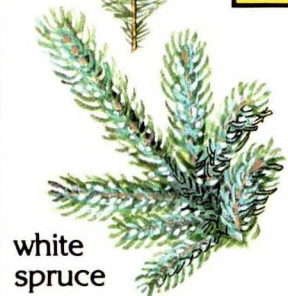
red cedar



eastern hemlock



balsam fir



white spruce



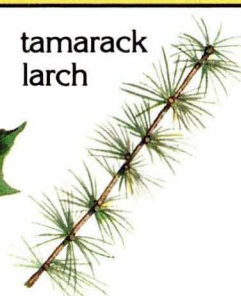
white birch



Douglas-fir



sugar maple



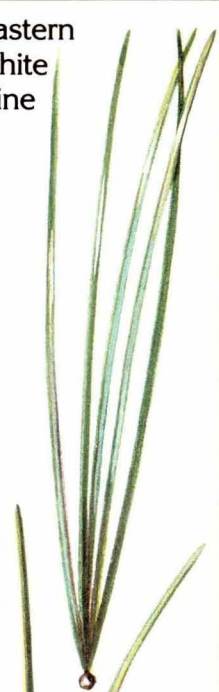
tamarack larch



speckled alder



black spruce



jack pine



chestnut

**W**e experience our world through five senses; sight, sound, touch, smell and taste. Here are some ideas for re-discovering trees with these senses. First, pick a tree which you like, either in your backyard, on your street, in the schoolyard, or in a nearby park. What does it look like? Why do you like it?

Hold one of its leaves up to the light. If you have chosen an evergreen, look closely at the needles. Do they have ridges? Describe their shape.

Crush some needles or the leaf in your hand and smell it. How would you describe the smell?

Now, lightly put the tip of your tongue on the edge of the crushed leaf or needles. Does it have a taste?

Close your eyes and feel the bark of your tree, let your fingers explore its texture. Is it smooth or rough? Look at the bark and see if it has a pattern.

Stand very, very still and listen. What sounds come from your tree? Are there bird sounds? Do the leaves make a sound when the wind goes through? What does it sound like?



Draw The Shape of Your Tree

Draw One of The Leaves

Describe How the Bark Feels and Looks  
(make up new words if you want)





black  
spruce



white  
spruce



tamarack  
larch



trembling  
aspen



# Tree●mendous Forests

**I**n Canada, we are very lucky. Forests cover almost half of our land. Look around you right now and list all the things that you see that are made from wood. Think of other wood products in the six categories on the next page. Woody's activities should give you some hints.

jack pine



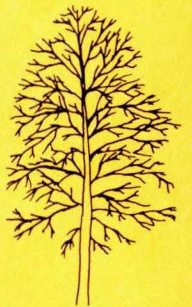
eastern  
white  
pine



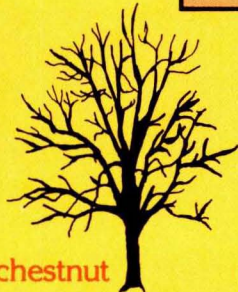
red  
cedar



white birch



chestnut



red oak



Douglas-fir



white elm



sugar  
maple



balsam fir



speckled  
alder



eastern  
hemlock





School



Transportation



Music



Home



Sports



Construction





## Did you know?

**T**here are over 130 species of trees in Canada.

- Almost everyone has at least one piece of clothing that comes from wood! When wood is reduced to a **pulp**, it can be used to make rayon and other fibres that are then woven into cloth.

- All trees belong to one of two categories: **deciduous** or **coniferous**. Deciduous trees usually lose their leaves every year and their wood is known as **hardwood**. Coniferous trees have cones which contain their **seeds** and they usually remain green throughout the year. They are also called evergreens and their wood is known as **softwood**.

- Bowling pins, hockey sticks, baseball bats, lacrosse, tennis and racquetball equipment all have wood in them.

- Early settlers in Canada used dried beech leaves to fill their mattresses, because the leaves gave more comfort than straw.

- Explosives, record albums, camera film, wigs and cellophane wrap all have something in common. You guessed it! They come from wood! These chemical products and others come from **cellulose** which comes from wood pulp.

- The spruce tree has a gum which is used to make candy, chewing gum and medicine.

- Some trees grow so slowly that it takes over 200 years for them to reach a size large enough to cut.

- The wood of the black willow is used for making polo balls.

- Some wood transmits sound vibration better than any other material and is used to make musical instruments.

- Automobile wheels used to have wooden spokes.

- YOU can get involved in a tree planting project! Check the Sources and Resources section at the back of this book to find out more.





- Trees have three major enemies: fire, insects and disease.
- Canada supplies about a third of the world's newsprint. The comic strips and newspaper we read are printed on newsprint, which is a product of our forests.
- Indians used the roots of some trees for making fire by friction.
- Tea made from cedar or spruce twigs was used to treat scurvy, a human disease caused by lack of vitamin C.
- A Ray Gun Probe device is used to detect forest fires. It is an infra-red scanner which is sensitive to heat and can be used on the ground or from an airplane or helicopter.

1. Grasslands
2. Acadian
3. Deciduous
4. Great Lakes-St. Lawrence
5. Columbia
6. Boreal
7. Coast
8. Subalpine
9. Montane



- 80% of forest fires are caused by people and every year Canada loses an average of almost one million hectares of forest because of fires.
- Insects can help keep the forest floor clean by eating dead or decaying wood that falls to the ground, but some insects can be tree killers.
- Birds act as miniature forest managers by eating insects and keeping their populations down, so that they are not harmful to the forest.
- There are nine different forest regions in Canada: Grasslands, Acadian, Deciduous, Great Lakes-St. Lawrence, Columbia, Boreal, Coast, Subalpine and Montane. Look on the map and note which forest region you live in!

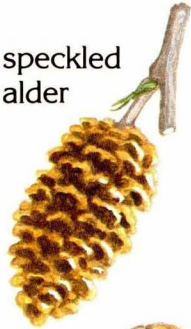




eastern hemlock



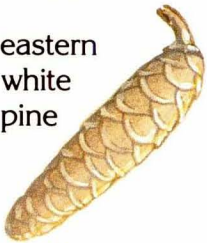
speckled alder



jack pine



eastern white pine



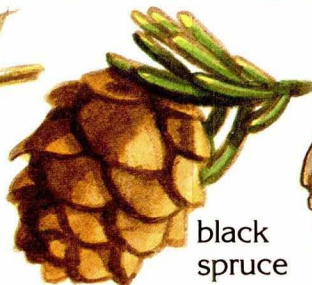
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trembling aspen



black spruce



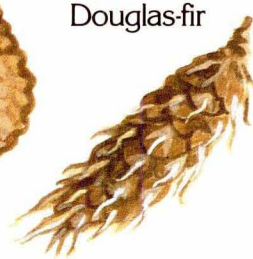
tamarack larch



red oak



Douglas-fir



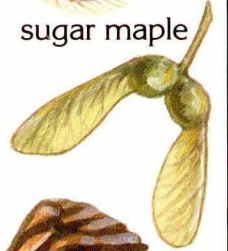
chestnut



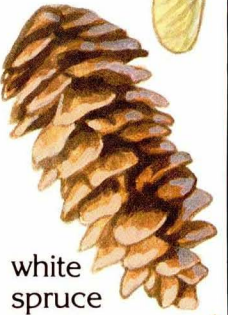
white elm



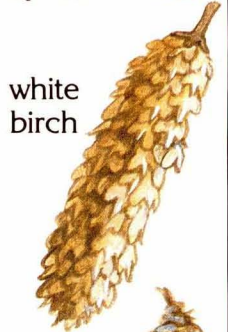
sugar maple



white spruce



white birch



balsam fir



# Silviculture

**W**ith all the uses for wood, it is not surprising that we are rapidly using up our natural forests. Shortage of wood is becoming a real problem and the situation is getting worse each year.

The way to solve this problem is to manage our forests, much like a farmer manages his crops. After he **harvests** his wheat or corn, the farmer will plant another crop on the same land. The science of cultivating forest crops is called **silviculture**.

More and more these days, trees which are cut for uses that make our lives better

are being replaced with new trees. This is called **reforestation**. It is how man can make sure that there will always be trees. It is how we renew our forests. Because we can do this, forests are considered **renewable resources**. Other natural resources, like oil and gas are not renewable.

Reforestation starts a new forest by using either **seeds** or **seedlings**. Seeds come in all shapes and sizes and some are even good to eat. Some trees produce seed with wings that spin like helicopter blades, others have seeds surrounded by a soft cottony fluff.



It is fun to start a collection of different tree seeds, label them and store them in a collection box.

You can even use fresh seeds to grow our own little trees. Start with a layer of pebbles in a glass container or pot. Add sandy soil until the pot is almost full and press down on the soil. Then put your seeds in. Cover them with a centimeter of soil and press down again. Keep the soil moist, but not wet and leave your container on the window sill. Cover it with a paper or piece of glass until your seeds start to sprout. You will see results in a few weeks or less depending on the type of seeds you have planted.

In a **reforestation program**, the seedlings (that's what you get after your seeds have sprouted) are usually kept in **nursery beds** for about two years before they are strong enough to be planted in areas that have been harvested for **timber** or destroyed by wildfire. Think of all the things you have done in the last two years. That is a long time!







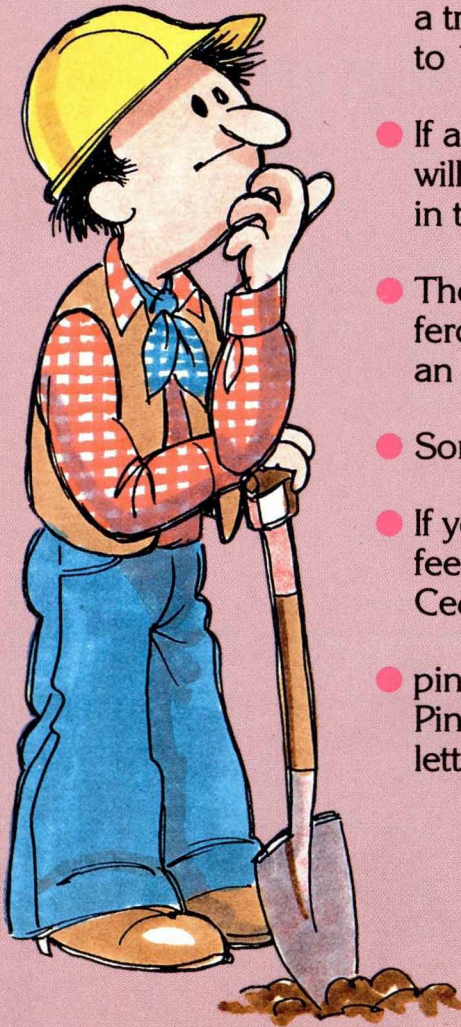
## Weird Facts

Forest managers sometimes set fires to prevent accidental fires! That may seem weird but after a forest area has been harvested, there are a lot of branches, twigs and debris left on the ground. This is a potential fire hazard. Forest managers will either set fire to the whole area in a “broadcast burn” or they will pile the debris into rows and set smaller fires to these. This does two things: it cleans the area and it prepares the soil for reforestation.

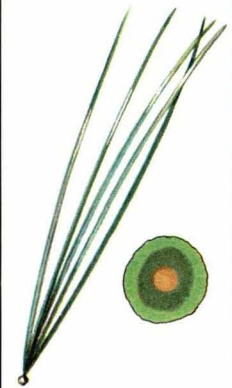
- Sick trees in the forest usually cannot be cured! There is forestry research being done in this field right now, but today, this is still an unfortunate fact.
- Arbutus and holly trees do not shed all their leaves in the autumn but they are classed as deciduous trees, because they do not have cones.
- The three most popular drinks in the world are coffee, tea and cocoa. All three are products of trees.
- There is a strange looking tree in the African forests called a baobab. Its trunk is a huge water tank that stores 4000 litres or more of fresh water.



# More Weird Facts



- In a natural forest, only one seed in one million has a chance to grow into a tree. The odds are much, much better in a managed forest, where up to 100% of trees planted by man will survive. HOORAY!
- If a tree's roots get too much water, the roots will drown and the tree will die. Cells in the roots need oxygen which they get from air spaces in the soil.
- The larch tree is special because it has cones, therefore it is a coniferous tree, but it sheds all its needles in the fall of each year so it is not an evergreen!
- Some trees, like the Douglas-fir, can have bark that is 26 cm thick!
- If you hold a group of pine needles with your fingertips they will always feel round. Spruce needles feel square and fir needles always feel flat. Cedar has scales on its needles, so it will feel scaly to your fingers.
- pine needles come in groups or clusters of two, three or five. The white Pine has needles in groups of five which coincides with the number of letters in the word "white".





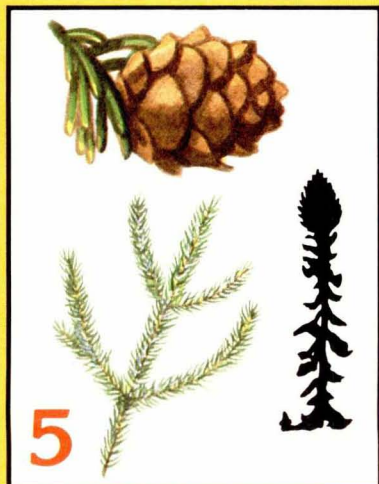
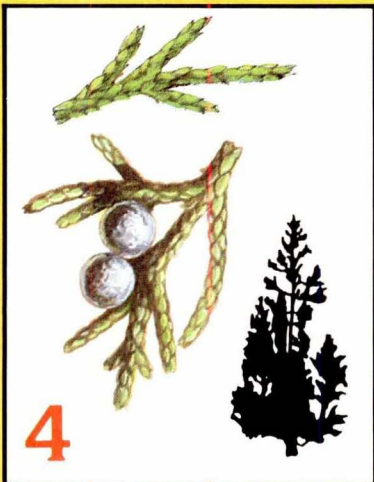


Here are some drawings of the cones, needles and shape of Canadian coniferous trees. See if you can match them with their names listed below, without looking back through the book! The first one is already done for you.

JACK PINE  
WHITE SPRUCE  
DOUGLAS-FIR  
EASTERN RED CEDAR  
TAMARACK LARCH

EASTERN WHITE PINE  
BALSAM FIR  
BLACK SPRUCE  
EASTERN HEMLOCK

Answers are on page 20.





# Deciduous Matches

These are the leaves, seeds and shapes of seven Canadian deciduous trees. See if you can match these to their proper names without looking back through the book.

SUGAR MAPLE

WHITE BIRCH

WHITE ELM

TREMBLING ASPEN

CHESTNUT

SPECKLED ALDER

RED OAK

Answers are on page 20.

4



5



6



7



1



2



3





# Super Challenger Word Search

These words are all in this word search game. See if you can find them all. Circle each letter in each word you find. Some of the words are written backwards as well as up and down and every which way. You are really a super challenger if you get them all!

SILVICULTURE  
REFORESTATION  
INSECTS  
BARK  
SPECIES  
POPLAR  
ELM  
NEEDLES  
ROOTS  
LOG  
SHARP  
TWIGS  
TREES\*

TAPE  
HARVESTING  
BOARD FOOT  
CONES  
FIR  
FRUIT  
WOOD  
MAPLE  
BRANCH  
OAK  
NUT  
SAP

SEEDLINGS  
PINE  
RENEWABLE  
INVENTORY  
ASH  
STEM  
BEECH  
SEEDS  
SOIL  
CEDAR  
EARTH  
BUD

\*(This word is so important, it is in there twice. Find both of them.) There's a secret message too! After you've found all the words, write down the leftover letters starting from the top left hand corner, moving left to right. The secret message is on page 20.



E	S	I	L	V	I	C	U	L	T	U	R	E	H
P	E	C	E	S	P	O	P	L	A	R	E	S	A
A	E	E	A	H	C	N	A	R	B	F	F	O	R
T	D	D	V	A	O	E	A	R	T	H	O	I	V
P	L	A	E	R	R	S	E	S	C	T	R	L	E
I	I	R	S	P	E	C	I	E	S	E	E	D	S
N	N	N	E	E	D	L	E	S	L	M	S	A	T
S	G	V	E	D	U	B	N	P	N	U	T	A	I
E	S	R	E	N	E	W	A	B	L	E	A	K	N
C	L	O	G	N	S	M	S	E	E	R	T	R	G
T	S	G	I	W	T	G	H	O	A	K	I	A	E
S	S	A	P	T	O	O	F	D	R	A	O	B	E
T	R	E	E	S	O	O	R	I	M	E	N	N	L
F	R	U	I	T	R	T	D	Y	R	S	T	E	M





## Sources & Resources

Need more information on trees and forests?  
Want to get involved?

A number of organizations provide different kinds of forest information; some sponsor programs especially for young people.

For more about the Canadian Forestry Service (CFS), write to the CFS Enquiry Centre, Ottawa K1A 0H3, or contact one of the eight CFS research establishments located in Victoria, B.C.; Edmonton, Alberta; Sault Ste. Marie and Chalk River, Ontario; Ste.-Foy, Québec; Fredericton, New Brunswick; and St. John's, Newfoundland.

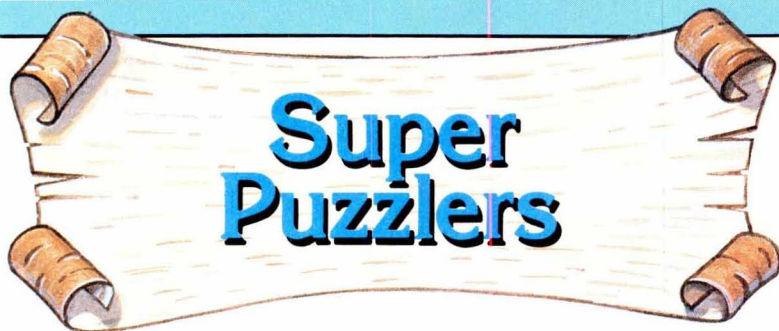
Your provincial department of forests or natural resources is a good source of information on forestry and tree-planting programs.

Information may also be obtained from the Canadian Forestry Association's headquarters at Suite 203, 185 Somerset St. West, Ottawa K2P 0J2 and from its member associations in every province except Prince Edward Island.

In British Columbia, Alberta, Ontario and New Brunswick, Junior Forest Warden and Junior Ranger programs are sponsored by both provincial governments and Forestry Associations.

Other organizations sponsoring forestry and tree-planting projects or providing information include: the National Survival Institute, 53 Queen St., Suite 27, Ottawa K1P 5C5; Canadian Pulp & Paper Association, 2300 Sun Life Building, Montréal, Qué. H3B 2X9; KATIMAVIK, 2270 ave. Pierre-Dupuy, Cité du Havre, Montréal, Qué. H3C 3R4; Boy Scouts, Girl Guides and 4-H Clubs in all provinces.





## Forest Products Crossword

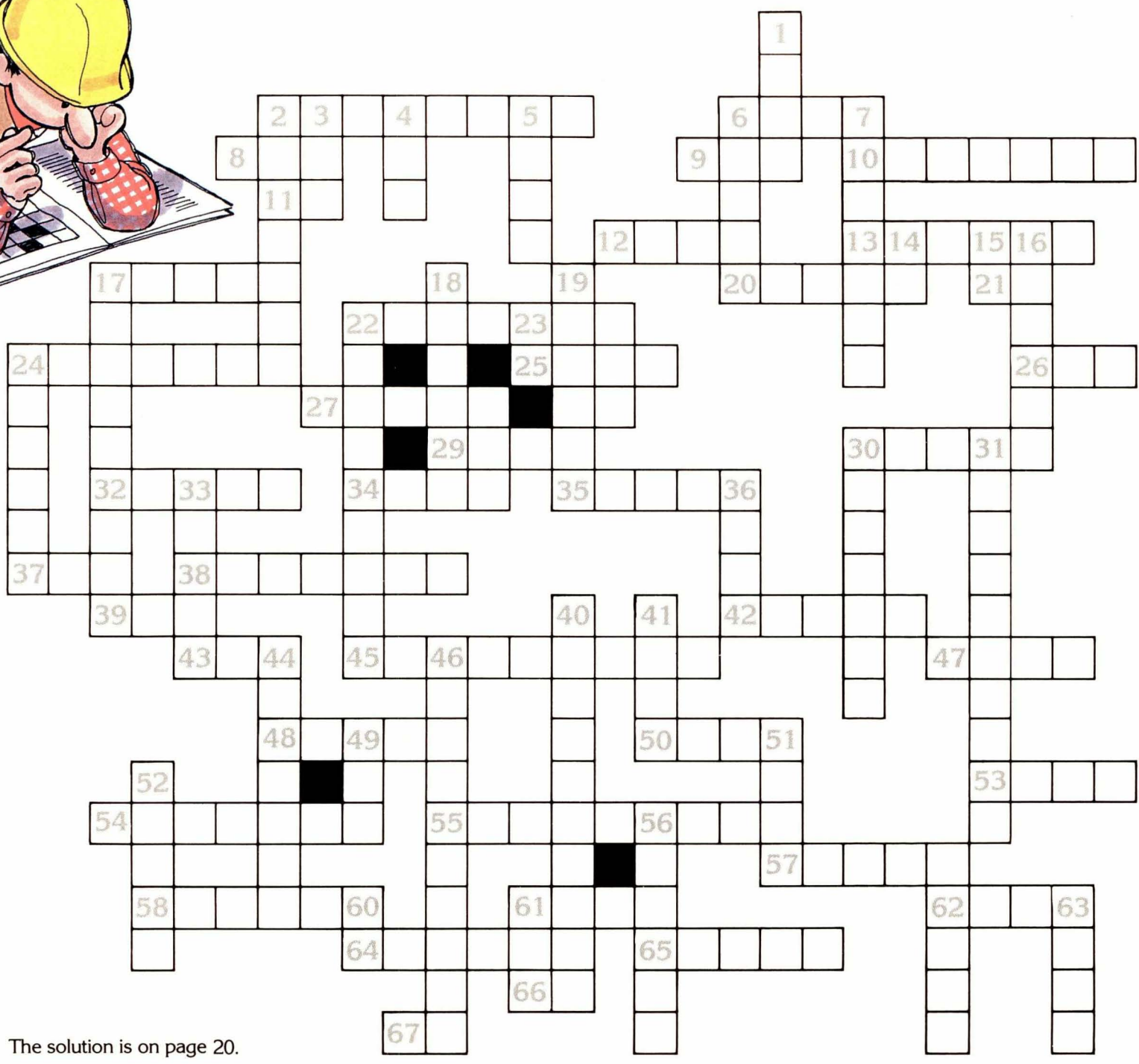
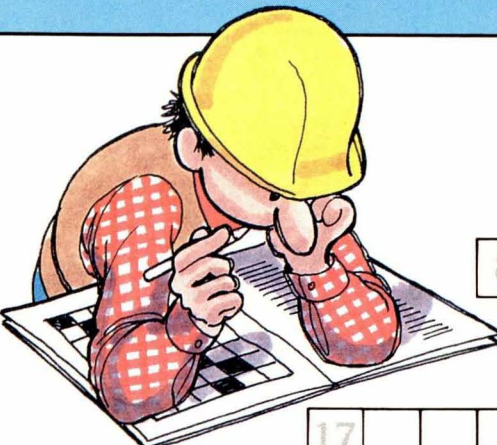
### Down

1. A woodwind orchestral instrument.
2. They come in handy but are definitely not to be played with.
3. A long period of time.
4. Liquid used in writing.
5. A bird's home.
6. Columbus had three of these large vessels that travel on the seas.
7. Toy dolls that can be controlled by strings.
14. Woody \_\_\_ walking through the forest.
15. Opposite of yes.
16. We breathe it in and trees help to supply it.
17. A type of wooden covering for walls.
18. Some people still hunt with a bow and \_\_\_\_\_.
19. Buildings we live in that rely on forest products.
22. The core part of a tree which gives it strength and durability.
23. The name \_\_\_ this tree is birch.
24. Liquids that are often used to colour walls.
30. The sloping beams used in roofs.
31. Used inside walls to keep out the cold.
33. Long wooden poles used to hold the sails on ships.
36. Soft substance used to make paper.
40. Type of strong smelling oil used to thin 24 down.
41. Types of seeds, sometimes delicious, a favourite among squirrels.
44. Flooring of wooden blocks arranged in a pattern.
46. The classification for trees that produce cones.
49. Is it ready? Not \_\_\_\_\_.
51. Part of a leaf that connects it to the twig or branch.
52. Cleopatra had one and used it to float down the Nile.
56. Wood that has been prepared for building or carpentry.
58. Hard heavy black wood from a tropical tree of the same name.
60. Short form for "Recreational Vehicle".
61. Type of coniferous tree.
63. Tracing your roots means tracking your family \_\_\_\_\_.

### Across

2. A substance prescribed by doctors which has healing properties and is not always very tasty.
6. You use this in your bath.
8. A dark, thick liquid from wood that is used on roads; not great with feathers.
9. Female version of "he".
10. Small stringed musical instrument used in Hawaii.
11. British slang for "thank-you".
12. Angels play this large stringed orchestral instrument.
13. Elton John and Billy Joel both play these.
17. Fuzzy fruit.
20. In Holland some of these are made of wood.
21. Large animal used for pulling heavy things.
22. Spear with rope attached; rhymes with balloon.
24. You use one everyday and should be using one right now to write your answers.
25. Source of energy and heat.
26. You can chew this, but not in school.
27. Made of wood; used on water for fun and transport.
29. Opposite of narrow.
30. A natural adhesive substance from fir and pine trees; rhymes with cousin.
32. Sometimes branches are called the \_\_\_\_\_ of a tree.
34. Scottish contest using a large wooden pole: Caber \_\_\_\_\_.
35. Great on pancakes and used to make sugar!
37. Every plant needs air, water, nutrients and \_\_\_\_\_.
38. The part of a tree through which water and nutrients move from the roots to the crown.
39. Obtained.
42. You can shred it, colour it, cut it, wear it, shape it, fold it and burn it, but usually you write on it.
43. Juice that circulates in 38 across.
45. The classification for trees that shed their leaves annually.
47. The "skin" of a tree.
48. A type of fiber or cloth made from cellulose; rhymes with nylon.
50. Long, narrow pieces of wood strapped on your feet for a winter sport.
53. Type of liquids that burn, treat wood, are used in perfume and paint and candy.
54. Squash and tennis are known as \_\_\_\_\_ sports.
55. The movable contents of a room; usually made of wood.
57. A type of tree and part of the Canadian flag.
58. It's a classical, it's Spanish, it's electric and it's made with wood. It's a musical instrument.
61. It features stars, sound, light and action and is also a forest product.
62. Small vessel for transportation over water; rhymes with goat.
64. A musical instrument you'll need a bow to play.
65. Long thin wooden slab; rhymes with lord.
66. Short form for "regarding".
67. You and me.





The solution is on page 20.







# Credits

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Government  
of Canada

Gouvernement  
du Canada

Canadian  
Forestry  
Service

Service  
canadien des  
forêts