



# **This Book belongs to:**

Your name:

Your Junior Forest Warden Club:

## **Report Forest Fires to:**

In Alberta **310-FIRE**

In BC 1-800-663-5555 (or \*5555 on your cell)

In Saskatchewan 1-800-667-9660

In Newfoundland 1-866-709-FIRE(3473)

# Welcome to the Junior Forest Warden Adventure!

Five kinds of fun and adventure are waiting for you:

- The Bronze Badge
- Forestry Adventures
- Woodstravel Adventures
- Ecology Adventures
- Leadership Adventures

This manual is for Junior Forest Wardens in the Blue Tree Program; it belongs to you. Your manual is full of information to help you on these adventures.

Use the Warden Record pages at the back of this manual to plan your goals and record what you do and when you do it.

Welcome to the Junior Forest Warden family!



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# Bronze Badge

**F**orests are special places where people can work and play. The forest is the home of many creatures from the tiny shrew to the huge grizzly bear. The wood violet, the lodgepole pine and many other plants live in forests. Both your life and their lives depend on the forest.

Junior Forest Wardens learn how to use natural resources wisely and to plan for their future use. Natural resources are things like trees, water and animals that are already on earth and are important to our lives. Here is one way to remember what natural resources are: think of things that are not made by people.

You will learn about nature by doing many activities and by learning how to live in the outdoors.

You will also learn about these Junior Forest Warden traditions:

- History of Junior Forest Wardens
- Our Motto
- Our Watchword
- The Junior Forest Warden Code
- Our Pledge
- The Junior Forest Warden Program and Badges
- The Uniform

Once you have learned these, you will receive the Bronze Badge.

You will then be a Junior Forest Warden.

***Good luck on your journey!***

# History of Junior Forest Wardens

Charlie Wilkinson started the Junior Forest Wardens in 1930. He worked with the Canadian Forestry Association in British Columbia. Charlie believed that children could teach their families and friends about the dangers of wildfires to forests.

The first group of Junior Forest Wardens planted a Douglas Fir tree in Stanley Park in Vancouver. It was planted in soil collected by wardens from every part of British Columbia. Today, you can see this tree in Vancouver. It is a healthy, growing symbol of Junior Forest Wardens.

At first, only boys were Junior Forest Wardens. In 1944 more than 500 girls became members. Today, JFW clubs have girls and boys as members.

**In 1991, Junior Forest Wardens planted a Blue Spruce Tree in Hinton, rooted in soil collected from all member clubs to honour 30 years of JFW in Alberta!**

**Then in 2011, Junior Forest Wardens planted a second Blue Spruce Tree to honour 50 years of JFW in Alberta! Soil was once again collected and added from all the Alberta JFW clubs.**

## Motto

**“Keep Our Forests Green”**

## WatchWord

**“Watch and Warn”**

Could you be a “walking, talking” poster who tells your school friends to do their best to keep forests green? That’s what the first Junior Forest Wardens were.

Every May, their school superintendent appointed wardens. They were “walking, talking posters” until October.

That’s how long the forest fire season lasts. They told and showed everyone how to watch for forest fires and who to tell if they spotted one.

The Pledge tells us how to live the JFW Code everyday. When we say the Pledge, we agree to appreciate and to responsibly use our natural environment and its resources.

**The Pledge**  
"As one who believes in the aims of the Junior Forest Wardens, I pledge myself and my services to the appreciation and responsible use of our forests, wildlife and natural heritages."

**The Traditional Code:**

"God has given us the earth for our life. It is a great entail. It belongs as much to those who come after us as to us, and we have no right by anything we do, or neglect to do, to involve them in unnecessary penalties or to deprive them of benefits which are theirs by right."

**The Code**

**"We have been given the earth for our life. It is a great entail. It belongs as much to those who come after us as to us, and we have no right by anything we do, or neglect to do, to involve them in unnecessary penalties or to deprive them of benefits which are theirs by right."**

John Ruskin wrote these words. He loved to travel in the rugged mountains of Switzerland. They excited him more than any other natural area. Later he heard that the clear lakes and clean air had become polluted. He wrote and told people that they had to learn to wisely use natural resources. He said that they should care about all of our planet. John Ruskin wrote about Ecology and Conservation 100 years ago.

*In your own words write what the code means to you . . .*

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# Junior Forest Warden Program and Badges

Junior Forest Wardens help to plan their club program. First, all wardens earn the Bronze Badge. Then, each club chooses to do the Tree Challenge Program or to earn Maple Leaf Badges. Your club may also decide to do a little of both programs.

## Tree Challenge Program

There are four kinds of Junior Forest Warden Challenges: Once you have completed the four challenges you can receive the Blue Tree Badge. Read the Blue Tree Record Card at the back of your manual to find out what activities you need to complete to receive your Blue Tree Badge.



**Forestry**



**Woodstravel**



**Ecology**



**Leadership**



## Maple Leaf Badge

You will receive a Maple Leaf Badge after you have completed one year of JFW activities.

## Identification Badges

These badges show what club you belong to. You can wear three types of identification badges on your uniform.

- a provincial badge
- a club identification badge
- a Pathfinder badge

Wear the Provincial badge on the uniform pocket. Wear the club and program badges on the left sleeve.

# Special Badges

There are three special badges. You can earn each badge only once in your life as a Junior Forest Warden. They are presented for extra special work for JFW's.



Fire Honour

# Badges from other Associations

You can wear the highest badge you have earned from:

- Red Cross
- St. John Ambulance
- Royal Life Saving Society
- Alberta Conservation Hunter Education



Silver Honour

Wear the badge on the bottom half of the left sleeve of your uniform.



Gold Honour

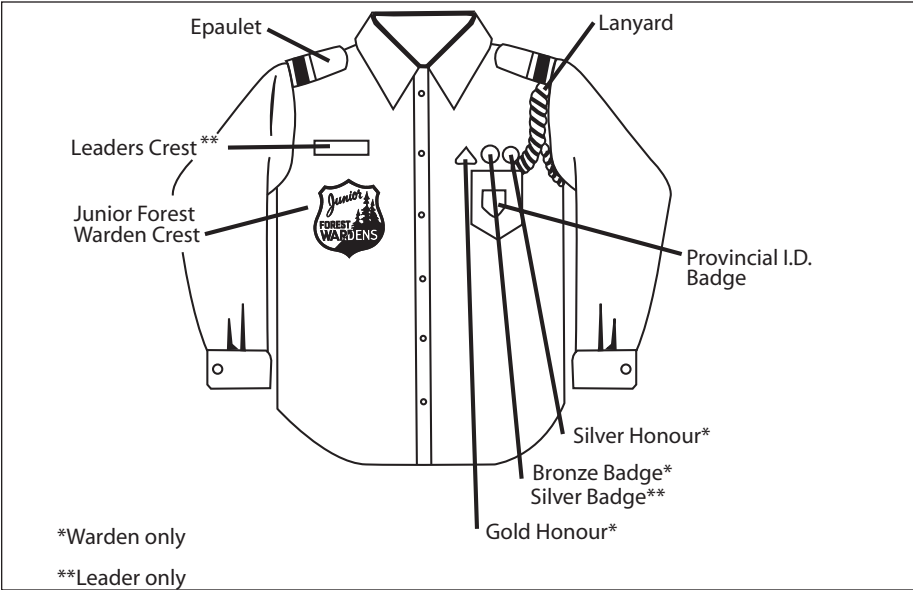


# The Uniform

The Junior Forest Warden red shirt and slacks are the official uniform. Keep your uniform neat and clean. Sew the badges you have earned on the red shirt.

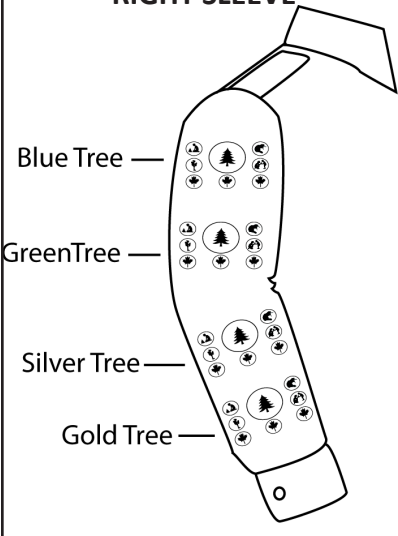
Use this drawing to draw the place where you would put your own badges.

The **JFW Crest**, **Bronze Badge** and some special badges are worn on the front of the shirt.

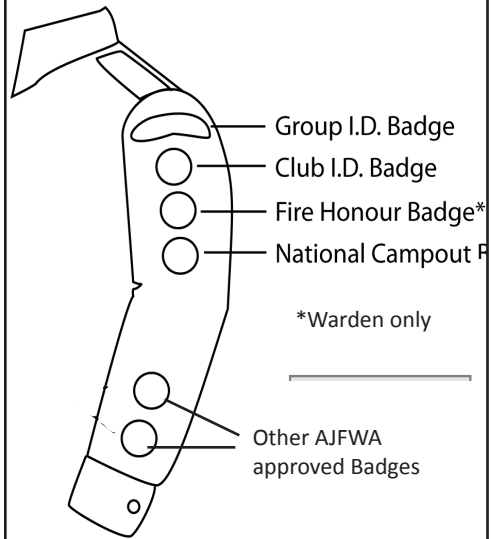


**Program Badges are worn on the right sleeve.**

**RIGHT SLEEVE**



**Special Badges are worn on the left sleeve.**  
**LEFT SLEEVE**



***Enjoy the Challenges!***



# Forestry

Forestry is an exciting study of how trees, animals and people live together. You will be surprised at how much we depend on the forests for many things.

**Can you imagine a world without chewing gum and houses?** Those are only a few of the things that we get from our forests.

Forests are home to trees, flowers, animals, insects and a wonderful place for people to learn and play.

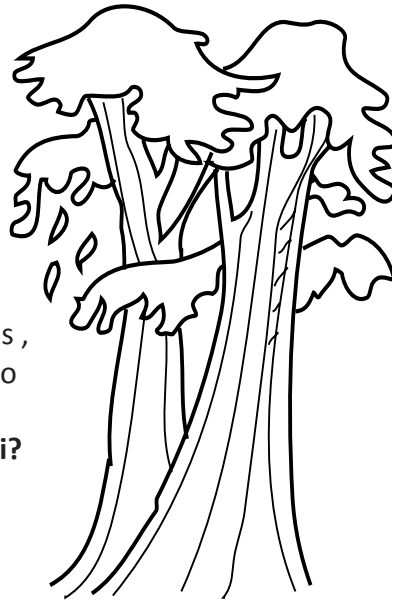
**Have you ever gone on a mini beast safari?**

or how about lying on the forest floor and looking up through a tree and discovering all the things that live on the tree?

**What if:** you were walking through the forest and you saw a tree on fire! What would you do?

**Imagine:** you were walking through the forest and suddenly a tree started talking to you! What do you think it would say? What would you say back to the tree?

These are only a few of the things that you will learn while travelling through this manual.



*Friends are the leaves on the tree of life.*

**George Meredith**

**Enjoy your adventure!**

# Fire Prevention

You can prevent Forest Fires. You can tell other people that forests are important and that everyone must help to prevent forest fires.

**Motto: Keep our Forests Green**

**Watchword: Watch and Warn**

You can help to prevent forest fires by carefully putting out campfires and by using matches only when an adult is helping you. What else can you do?

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You can report forest fires to the Forest Service, so that firefighters will put it out. Write the number for your area in this box.

*Call:*      **310-FIRE**  
To Report a FOREST FIRE

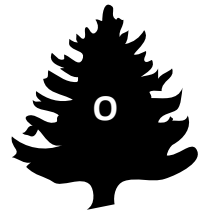
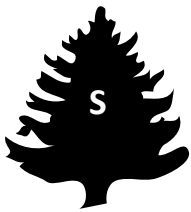
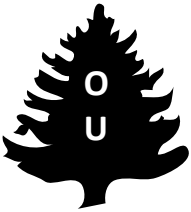
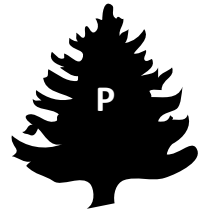
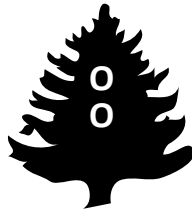
***Remember...*** people cause most Forest Fires.  
**Help to prevent Forest Fires.**

# A Special Message

Use the letters on the trees to complete this very special message.

*Hint:* Two of these trees don't belong here.

\_\_\_\_\_ests give \_\_\_\_\_ple and animals  
\_\_\_\_\_lter, home and f\_\_\_\_d. \_\_\_lease hel\_\_\_\_  
pre\_\_\_\_\_ for\_\_\_\_\_ \_\_ res. Thank y\_\_\_\_\_.



# Forest Diseases

Have you ever been sick? Did you know that trees can get sick too? There are two ways that trees can get sick.

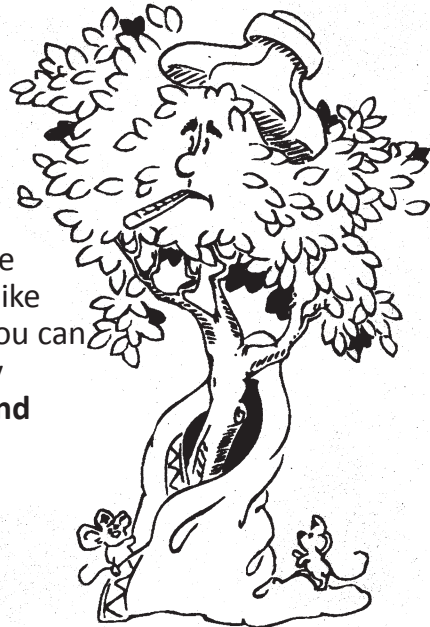


## Injured Trees

Some injuries are caused by frost, high temperatures, not enough water, too much water, pollution, acid rain and ground fires. The most common injury to trees is caused by people: peeling bark, carving initials in tree trunks etc. One tree can not catch this kind of injury from another tree. It is the same as breaking your arm – your friend could not get a broken arm from you.

## Sick Trees

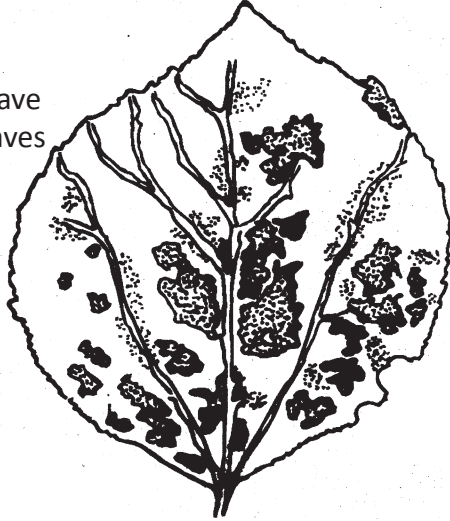
Trees can also get sick from diseases caused by tiny living creatures. Trees can catch these diseases from each other, just like you can “catch” the measles. You can usually tell that a tree is sick by looking at the: **leaves, stems and branches, and the roots.**



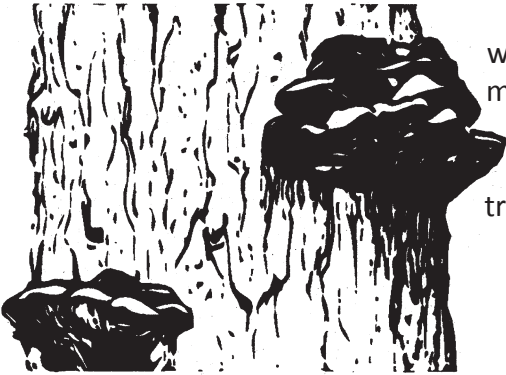
# How to tell if a tree is sick

## Leaves

The leaves and needles may have spots or dead patches. The leaves may drop off the tree.



## Stems and Branches



These diseases damage large amounts of trees in Canada. The wood may be decaying. Something may be growing on the tree, or the stem or branch may be swollen. The tree may grow slowly, or the tree may have branches growing in an unusual way.

What other ways can you tell if a tree is sick?

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## Roots

Fungi can cause root diseases. They enter the tree's roots, kill the roots and then the tree dies.



## "Around a Dead Tree"

"Climbing animals, wind, and snow  
break off small branches.

Beetles burrow around the loose bark and spores of fungi enter the open space and grow. Woodpeckers make holes to find bugs. Squirrels, raccoons, and other small animals enlarge these holes for homes.

When the tree falls, birds and squirrels leave, but centipedes, slugs, earthworms and salamanders, come to live in the underside of the log.

Chipmunks and squirrels hide nuts in the hollow parts. One or two take root in the damp moss growing on the log. Soon ferns and other plants cover the area.

Eventually there is only a mound of soft soil to show where the tree was."

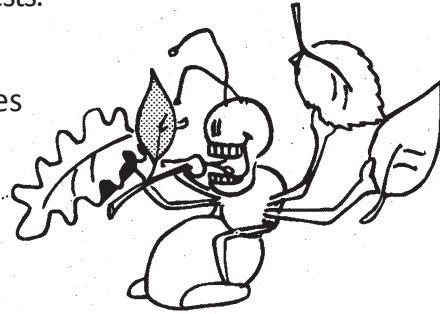
Source: Joy Finlay's Workshops

# Forest Insects

There are about two million different kinds of insects in the world. Beetles, butterflies, moths, wasps, flies and bugs are insects. Some insects eat plants. Some insects eat insects. Other insects eat dead plants and animals. Many insects help trees. Some wasps, flies, moths, beetles and caterpillars attack trees. They are called forest insect pests.

## Munchers

Some insect pests eat leaves and needles. They are leaf and needle munchers.



## Drillers

Some insect pests make holes in the growing tip of a tree. The tip is called the “terminal” of the tree. These pests are drillers. An example is a Terminal Weevils which drills holes through the tip of the tree.

Design your own insect here.  
What do you call your insect?  
What does it eat?

# Insect Homes

Insects live in many places. Use your eyes, ears, nose and fingers to discover who lives in insect homes. You can look for insects on buds, leaves, flowers stumps and the trunks of trees.

If you want to see some insects close up, spread a white sheet under a tree branch and then shake the branch. Collect the insects in a magnifying box. You can then examine them closely.

Don't forget to let your insects go after you have finished looking at them. They are important food to other birds and insects in the forest.

Here are some insect homes to look for:

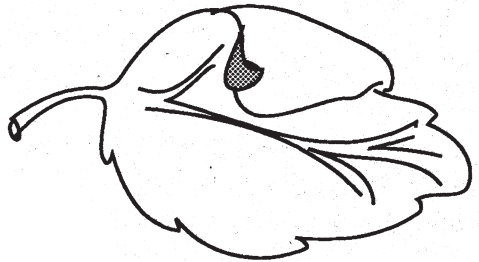


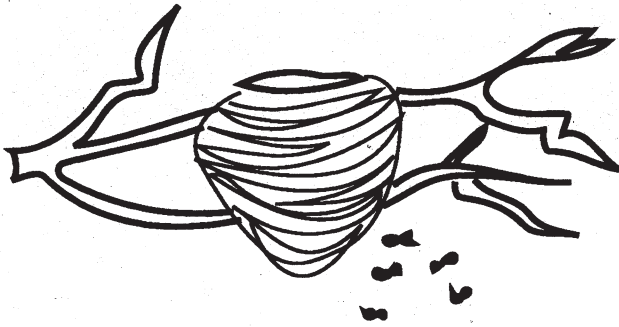
## Leaf Miner

Leaf miners lay eggs in a leaf. They make tunnels by munching through leaves. Hold the leaf up to the light to see the tunnels.

## Leaf Roller

A leaf roller cuts part of a leaf and rolls in it. Tiny silky ropes hold the roll in place. Young insects eat inside the roll until they are old enough to find their own food. Some moths and butterflies are leaf rollers.





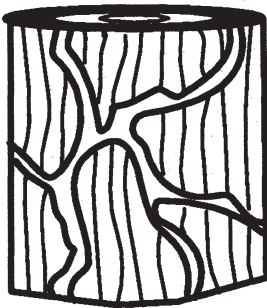
## Nests

Wasps and hornets make paper nests. They make the nest by chewing wood into pulp, which is like ripped up paper soaked in

water. This pulp is stuck together to make a football shaped home. Stay away from nests with insects living in them. Tell an adult if you get stung.

## Ground Nests

Ants, termites and other insects live in the ground. Some insects tunnel into dead or sick wood.



## Bark Tunnels

Bark beetles make twisting tunnels under the bark of trees. Eggs are laid under the bark. The larva make the twisting tunnels as they eat and grow up.

## Rotten Logs

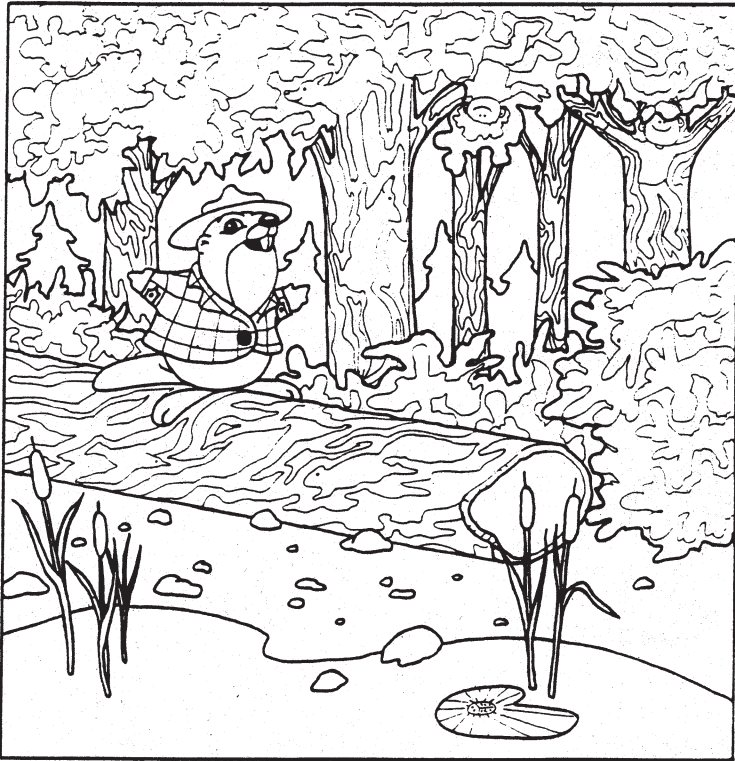
Rotten logs and stumps are homes for many animals, insects and plants. Some live on the logs and stumps and some live in them. See how many plants and animals you can find in the drawing on page 16.

# Forests and Me

Trees and the products we get from trees are important to our lives.

Trees give us shade and beauty. The forests are also home to many things.

In this picture Bertie Beaver is looking for 9 friends. Can you find them? Color them red.



Find:



fox



bird



bear



rabbit



boy



deer



squirrel



girl



beetle

## Forest Products in your Life

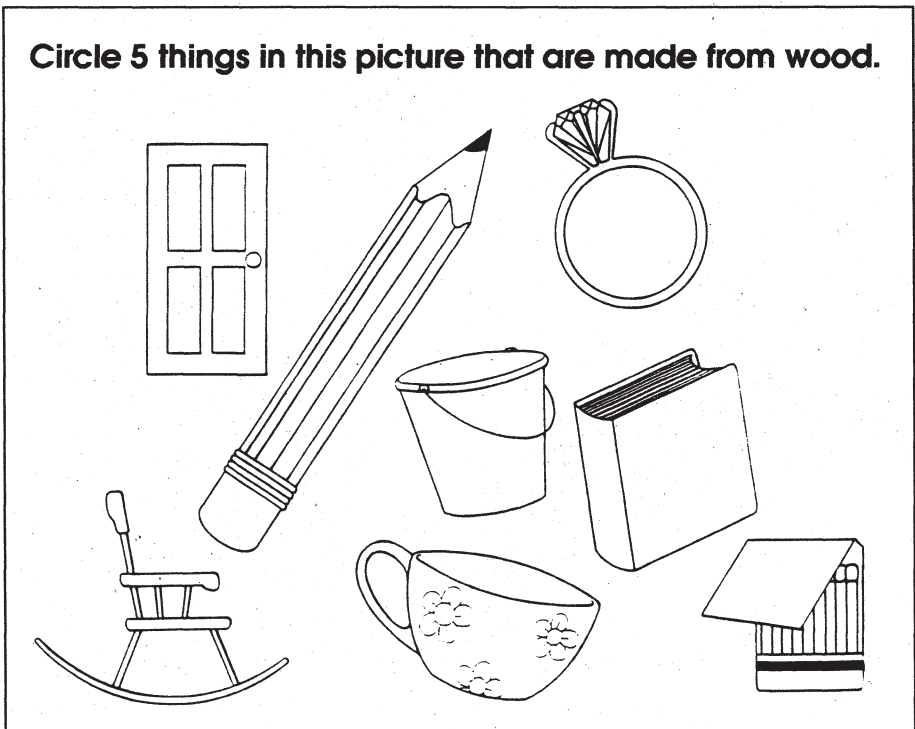
The most common product of wood is lumber. About 1/2 of the lumber is used for buildings. The rest is used for things like: railroad ties, fuel, boxes, furniture, toys, mop handles and many other things.

The second most common use for wood is making paper and paper products. Did you know...**It takes 17 trees to make a pile of scribblers 10 meters tall!**

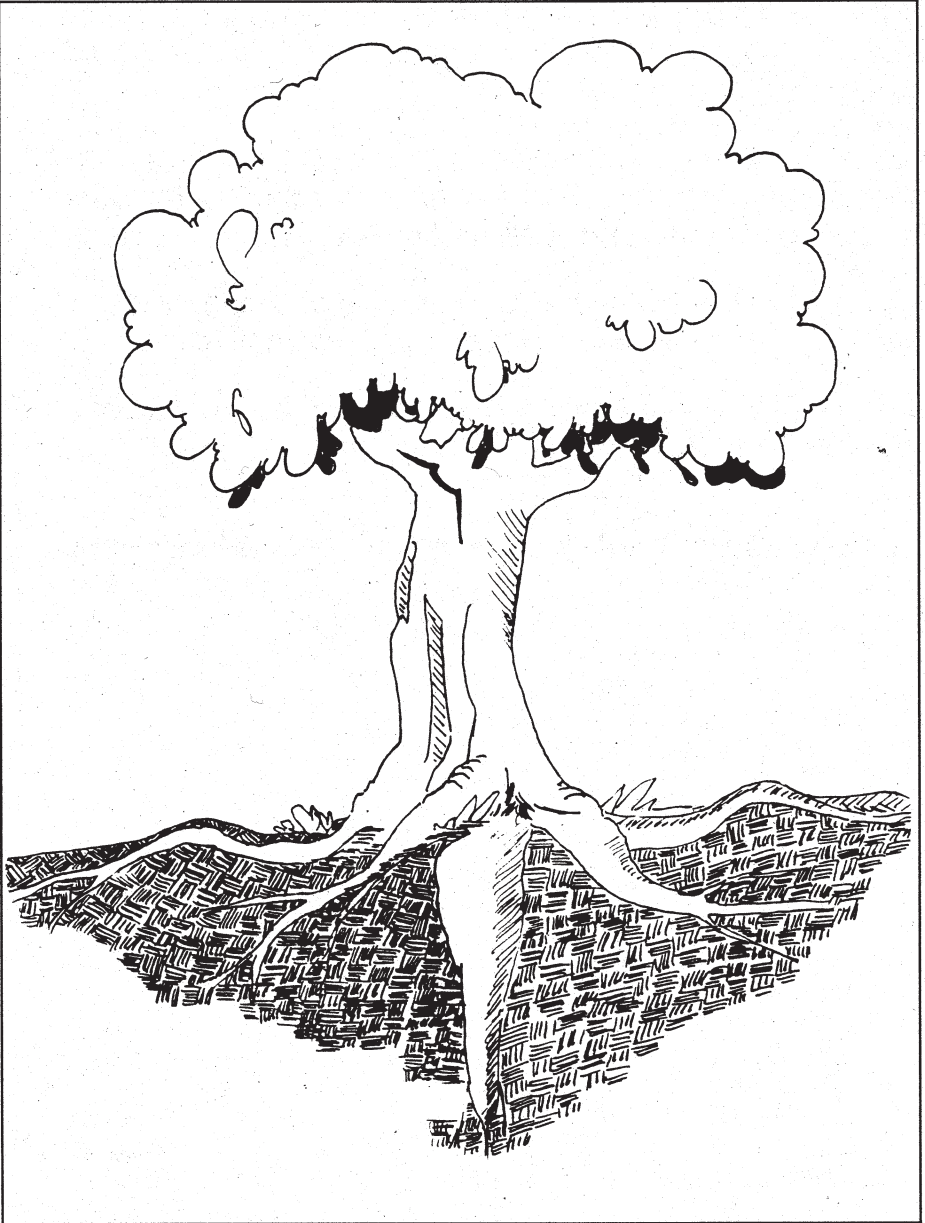
Another product of wood is rayon, which is used for clothing. It is made from plant and wood fibers.

Trees also give us many other products such as: turpentine, maple syrup, and dyes.

**Circle 5 things in this picture that are made from wood.**



# How a Tree Grows



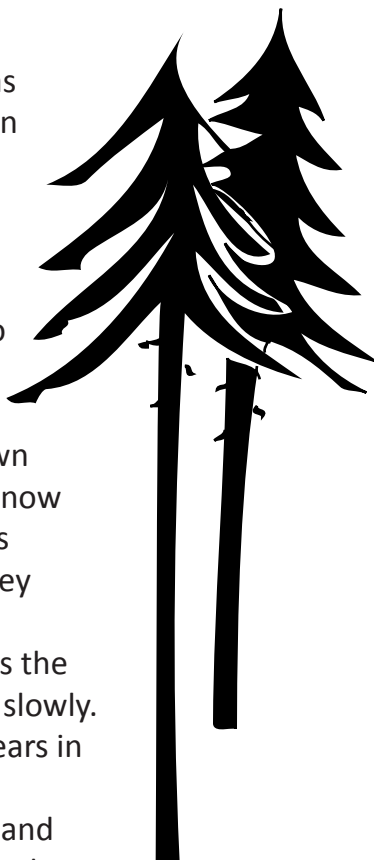
With your Leader's help, name the parts of this tree and colour it in.

# Mystery of the Tall Spruce Trees

It all started when Sammy planted me, a spruce seed, out in the forest. I was not very happy about being pushed down into the ground. I had no idea what a beautiful tall spruce tree I was going to be one day.

By the time I was one year old I had sprouted out of the ground. It felt so good to stretch my short branches with their small needles towards the sun.

I was proud of myself because I had grown taller than the flowers around me. I was now a seedling! I looked at all of the tall trees around me and wished I was as tall as they were. I did not realize that it had taken those trees many years to get that big. As the years went on I grew too, but oh so very slowly. Many things happened during my first years in the forest, some of which I did not really understand. Some trees were cut down and carried away. Other trees got sick and died.

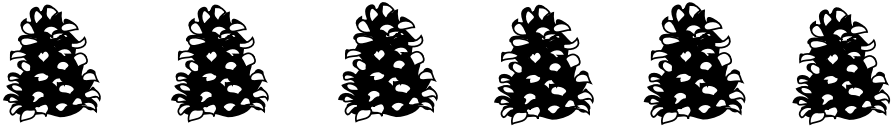


But there always seemed to be a lot of trees left. Seedlings, like me, were taking the place of those trees that had died or had been cut down. Where did they all come from? Once a tree was cut down, how could a new one sprout up? Unless, of course, someone had planted a new seed like Sammy had done with me. But I never saw anyone planting any seeds in the forest! This sure was a mystery to me!

When I was seven years old I had grown to be as tall as a young child. I could feel my branches getting a little longer and my trunk getting thicker. But, I was still growing so slowly! I had hoped to be as tall as the other trees by now, but was I ever wrong! I still looked very little standing next to all those tall trees. As I grew older I tried to solve the mystery of the seedlings. I looked for many clues to help me find out where all those seedlings had come from, but I still could not find the answer.

One spring , when I was a teenager , I noticed that a great change had come over me. I was as tall as an adult now and had started to develop oddly-shaped needles on my branches. In the next few months I found out that those new needles were not needles at all but small cones!

I did not really know what they were for. I wondered if they



were a clue to the seedling mystery, but it seemed impossible that these cones could have anything to do with the seedlings. Even though they did not help me solve the mystery, I was proud of my cones as I was finally starting to look like the older trees around me. In the next year, during the fall, something terrible happened to me! My cones fell off my branches and dropped to the ground. I did not realize that this would happen to me for the rest of my life. I would grow new cones in the spring and the old cones would drop off my branches in the fall. By the time I was thirty years old I had grown to be a giant. I was taller than a house! During that year I had begun to notice that I wasn't growing as fast anymore. I was growing so slowly that I felt little change in my trunk or branches.

One day just after my thirty-second birthday, something exciting happened to me! It was during springtime that I noticed something new inside my cones. They were tiny seeds, which soon grew little wings around them. Later, when my cones opened up, the wind blew the seeds out. I was surprised to see the seeds whirl through the air and land on the ground far from me.

After a year went by, another surprising thing happened! I noticed that where my seeds had landed the year before, new seedlings had sprouted up. Suddenly I understood! So that was where all those little seedlings in the forest had come from.

Seeds had flown from the cones of the tall trees, landed on the ground, and sprouted. The mystery was solved! I now understood— as long as there are trees with seeds to share there will always be new trees growing in our forests.

## The End



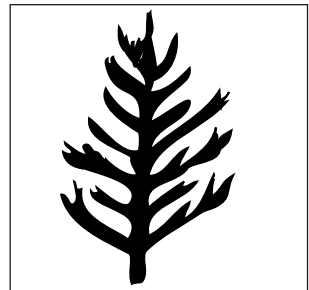
—Adapted from “Mystery of the Tall Pines”, Author Unknown.

### How old are you?

You can tell how old you are by counting the number of years since you were born. You can do the same thing with trees to find out how old they are.

The circle of spreading branches (whorls) on a conifer tree show the years of growth. Count the whorls on a conifer tree to see how old it is.

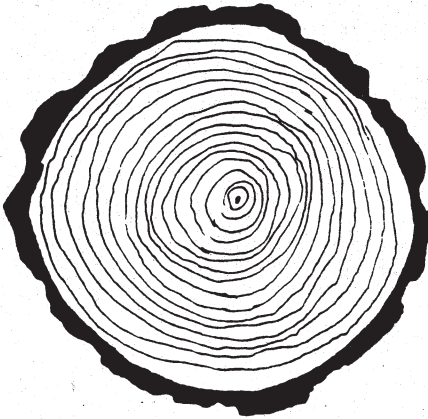
A conifer is a tree that has cones and usually keeps its needles all year long.



## Tree Cookies

You are probably wondering how you can get a cookie from a tree! A tree cookie is actually the trunk of a tree cut into slices to help foresters find out many things about the tree including how old it is. It also tells them which years the tree grew slowly or fast. because of sickness or poor weather. But, you can't eat this cookie—that is unless you are a beaver!

Count the rings on a tree cookie. Each ring is one year in the tree's life. Here are two trees that are the same age.



This tree grew quickly. How old is this tree?



This tree grew quickly for 6 years and slowly for 7 years. Then what happened?

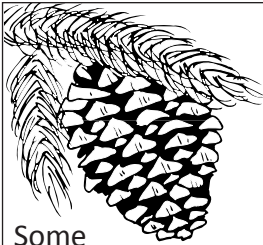
Everything is made of cells; people, plants, and animals. Wood is also made of cells (the rings on the tree cookie). The white part grows in the spring and is called the early wood. The dark wood (the ring) grows in the summer and is called late wood.

You can see these cells (rings) very clearly if you observe a very thin slice of wood through a microscope.

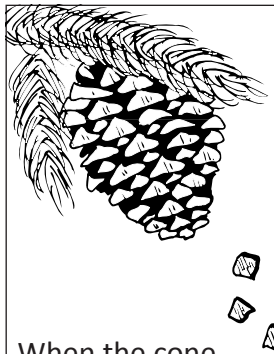
# How to Grow a Seedling

## From a seed to a tree

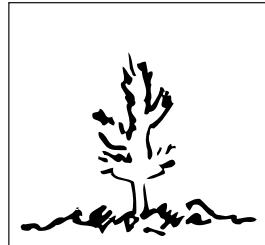
This is how a tree grows in the forest:



Some trees protect their seeds in cones. In the fall, the cone opens.



When the cone opens the seeds will fall out.



The seed starts to grow in the soil of the forest.



### Tree Pops !

You can grow your own seedling in a plastic pop bottle.

Here's how!

You will need:

- a plastic pop bottle
- potting soil
- seedling
- clear tape

Cut the pop bottle in half. Fill bottom half with potting soil. Plant your seedling in the soil. Tape the pop bottle back together, water lightly, and seal top with tape.

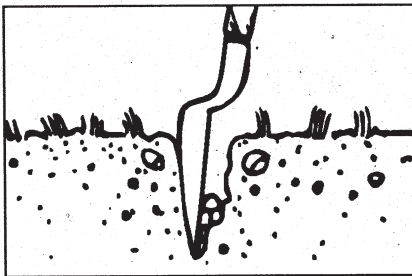
## Planting a Seedling

When your seedling is about 10 cm tall and has needles or leaves on it you are ready to plant it outside.

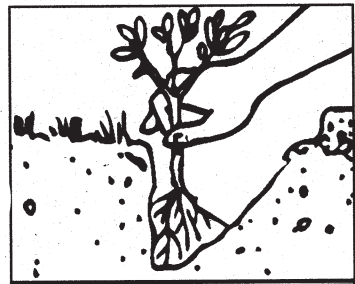
- Plant your seedling in an area protected from wind away from the house. It should get lots of sun.
- Water it once a week.
- Protect it from pets and other animals.
- If you live in an apartment:
  - Plant it in a flower pot.
  - Put rocks in the bottom for drainage.
  - Use garden soil.
  - Put it in a protected area on a balcony or in a window where it will get lots of sun.
  - Water it once a week.

## How to plant a seedling

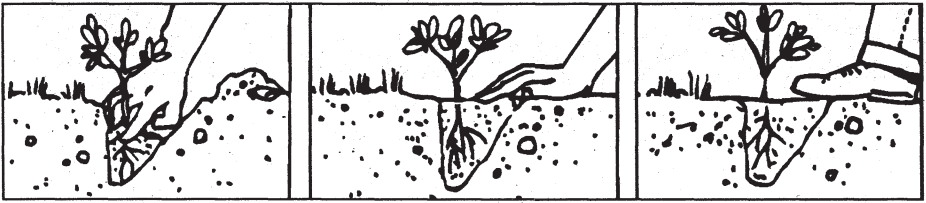
Dig a hole big enough for all of the roots.



Place the roots in the hole.  
Point the roots down in the hole. Keep  
the roots from drying out in the air.  
Make sure the roots are not tangled,  
turned up or crowded.



Fill in the hole.



Crumble the soil around the roots. Use the top soil first. Make sure the trunk is at ground level. Fill the hole level with the ground around it, pack the soil around the seedling. Remember to water the seedling and to protect it from animals that eat seedlings.

### Seedling Chart

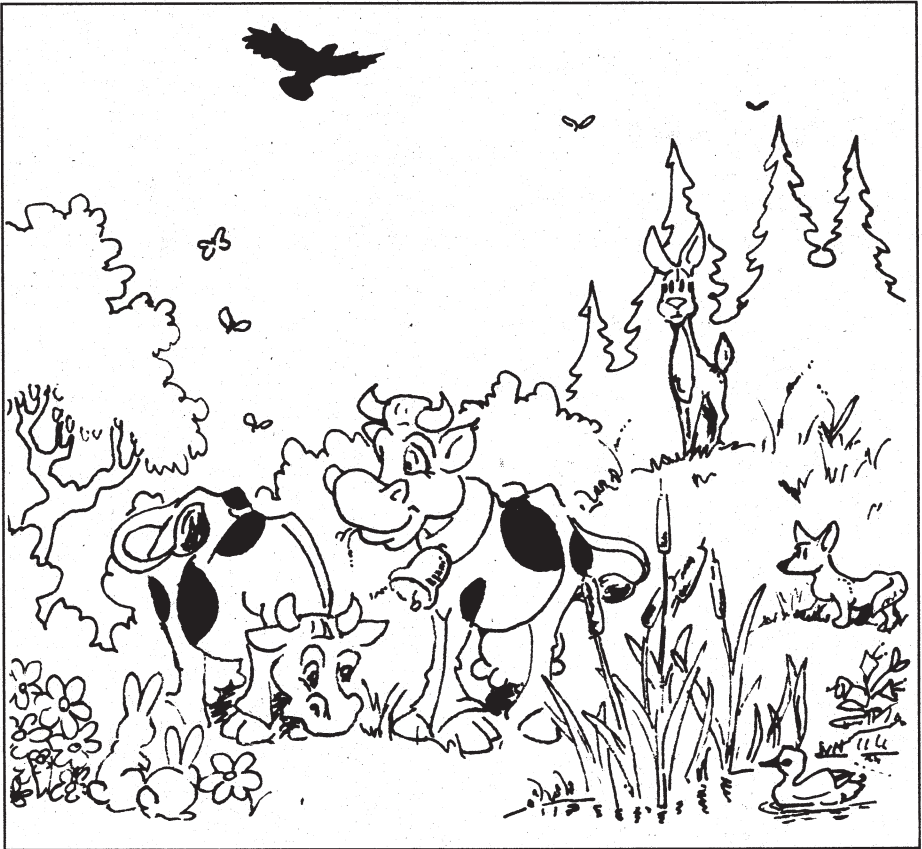
Write in the day when you watered your seedling and how tall it was. You can ask your family to help you with this.

Date	Watered	Height

# Rangelands

Rangelands are the homes of many plants and animals on the prairies. Domestic animals such as horses, sheep and cattle live on the range. Deer, gophers, coyotes, elk, butterflies, sparrows, robins, owls, worms and rabbits are some wild animals which live on ranges. Flowers, grasses, and shrubs also live on rangelands.

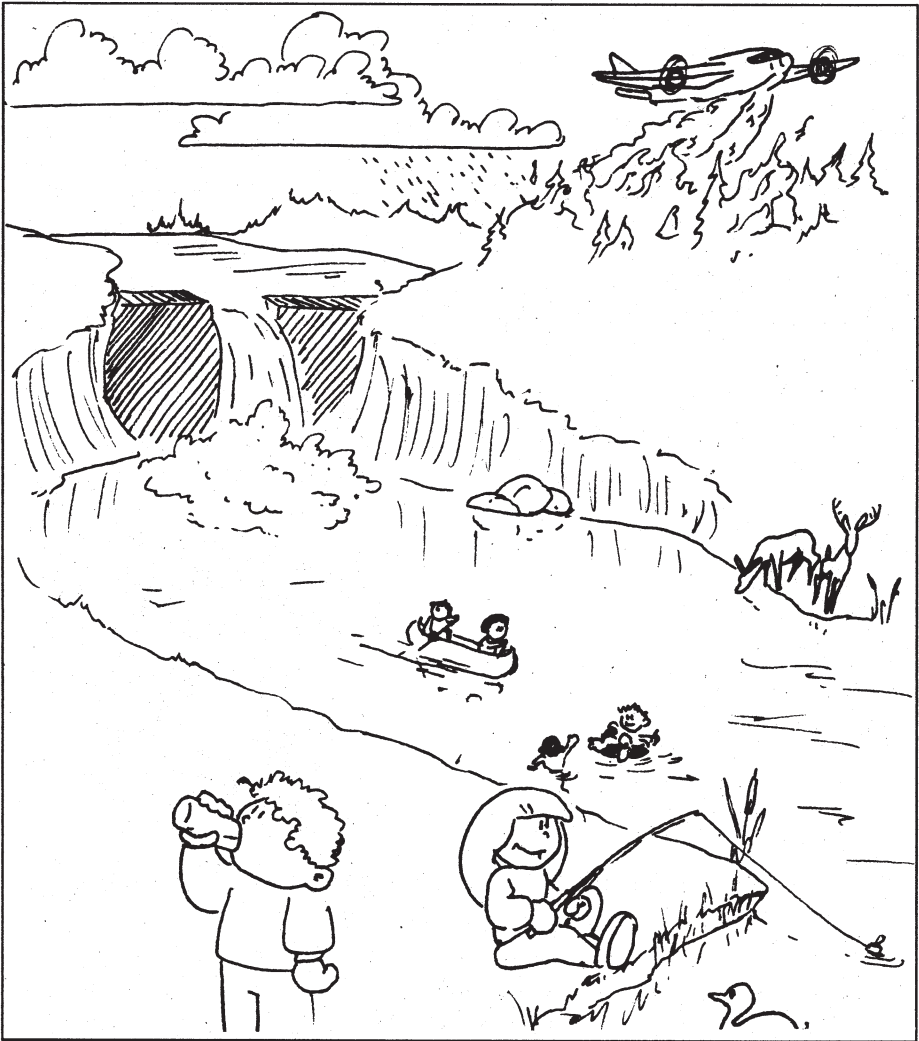
What plants and animals can you see on this range?



# Water for All

This picture shows some ways water is important to plants, animals and people.

What other ways can you think of?



## Celery Tree

Have you ever wondered how a tree gets water from the soil? Try this experiment to see how trees drink water.

### You will need :

- a knife
- celery stalk with leaves
- 2 drink glasses
- food coloring (2 colors)
- spoon

Trim away the bottom of the celery. Slice halfway through the center of the celery stalk with a knife. Pour about 350 ml. of water into each glass. Add a different color of food coloring into each glass. Stir well.

Place the two glasses next to each other. Put one end of the cut celery stalk into one glass and the remaining end into the other glass.

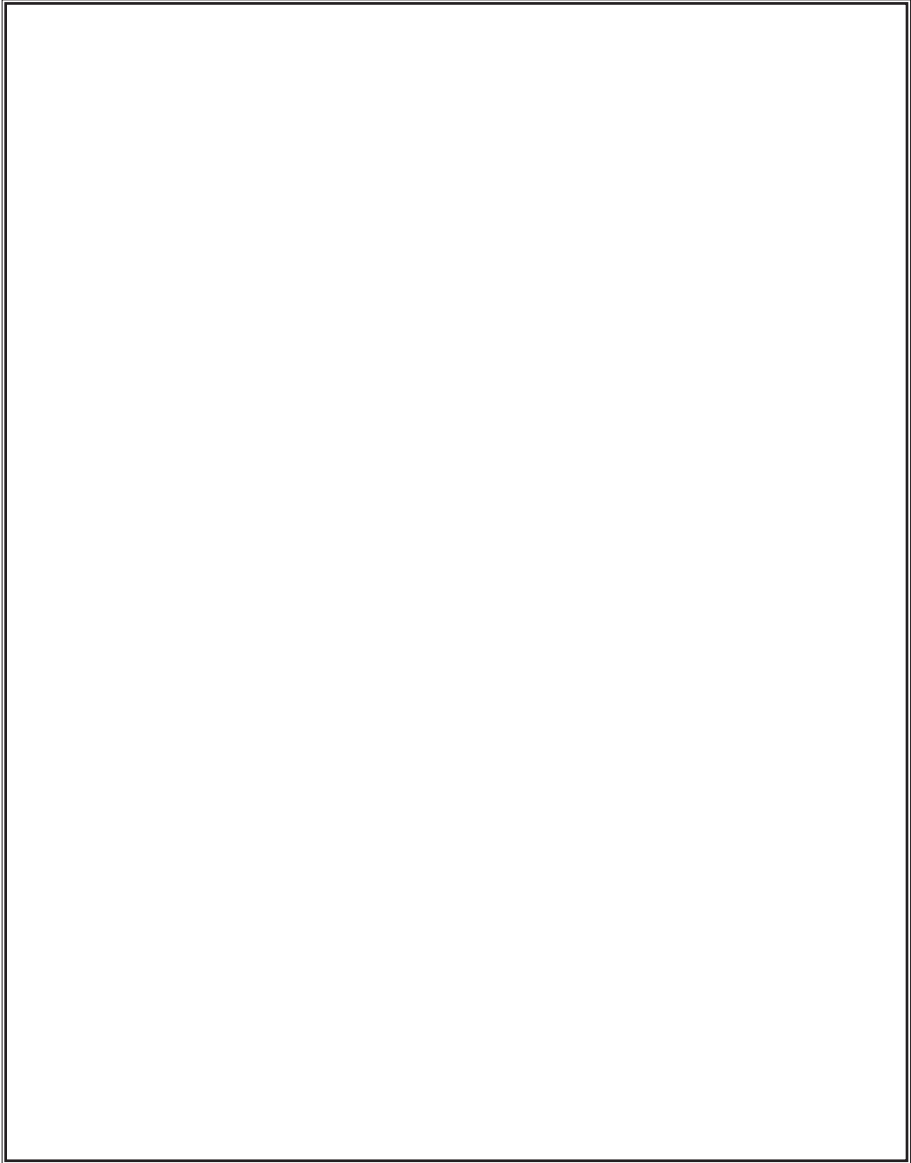
Let the celery stay in the food coloring for at least three hours. When you come back, you will see how the food coloring in the water travelled up the celery stalk and colored the leaves.



This is how a tree gets water into it's branches and leaves.

# What's important about Wildlife ?

Your club will do a special project. Take a picture of it and put it on this page. Or, draw a picture of how wildlife is important to you.



# Playing Outdoors

It is important to work and play in a safe way. Below are some things that Junior Forest Wardens do. What else does your club do? your family?



Write down two things you can do to work and play safely in the outdoors.

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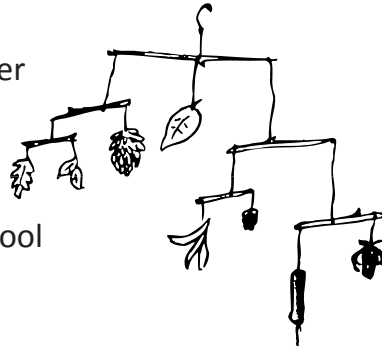
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# Nature Crafts

You can make many crafts from natural objects. Collect your twigs, leaves, stones, cones and other treasures carefully. Make sure it is not alive and that it is not a home for an animal. Here are some nature crafts you can make. Library books, your friends, leaders and teachers can help you to think of other ideas.

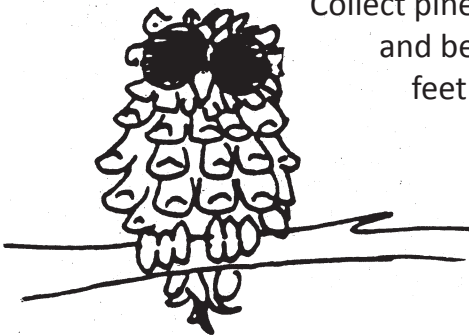
## Nature Mobile

Collect leaves, twigs, and other natural objects. The leaves should be dried and pressed before using them. Hang the objects from a branch with wool or thread.



## Pine Cone Birds

Collect pine cones. Cut out felt eyes, and beak. Use pipe cleaners for feet. Glue the eyes, beak and feet on the pine cone.



Presto! You have a pine cone bird to decorate a table or shelf.

## Rubbings

Rubbings show the textures of natural objects. Rub leaves, branches, bark, rocks, feathers, bones...anything!

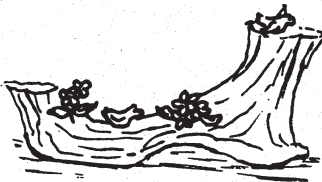
### You will need:

natural objects, lightweight paper, crayons.

Place a piece of paper on the object to be rubbed. If you are using a leaf, make sure the raised side of the leaf is up.

Rub on the paper with wax crayon.

Use the rubbing in collages, stationery, placemats, coasters and bookmarks.



## Driftwood craft

You can find driftwood around a shoreline or in the woods. Scrub and sand it until it is really clean. You can finish the driftwood in any of these ways:

- all natural, leaving the shade of the weathered or bleached wood.
- dull finish with linseed oil rubbed into the wood.
- dull gloss with varnish or shellac.

## Nature Jewellery

You will need: leather scraps, acorns, pine or spruce cones.

Cut a leather thong or shoelace that fits your neck. Attach ornaments to the lace. Shapes can also be cut from leather or birch bark and decorated.



# Woodstravel

Our woods and forests are fun places to be. You will learn about playing and travelling safely in the woods. You can enjoy the woods without bothering the animals or the trees and flowers. As a matter of fact, after you have been in Junior Forest Wardens for a while, you will be so careful they won't even know you were there!

**What if:** you were lost in the woods? What would you do?

**What if:** you needed to start a fire to keep warm? What would you do?



Follow the footprints to find out!



# Camping with Care

Every Junior Forest Warden must treat the environment with special care. Remember that you are a visitor in the forest. You can learn to hike and camp so that no one will know you were there. Here are some things you can do:

## Garbage

Follow this rule...**What you pack in—pack out!**

The garbage that you leave behind will leave a mess for other campers. It will be dug up and chewed by wild animals. Carry a garbage bag in your pack so that you can carry your garbage out...and pick up any garbage that you see on the trail.



## Outhouses

Use an outhouse when you need to go to the toilet. If there are no outhouses nearby, you must learn to bury human waste and dispose of your toilet paper.

- Use a spade to dig a “cat hole”, 15 to 25 cm. deep.
  - Your “cat hole” should be at least 150 meters from water.
  - Remove the sod and set it aside.
  - After use, fill the hole with loose soil and tramp the sod back into place.
- Put your toilet paper in a plastic bag. Put it in a garbage bag or burn it in the fire back at your campsite.

## Washing dishes

The biggest problem with washing dishes at your campsite, is getting rid of the dirty and soapy water. Use a dish pan to hold the water.

Small amounts of water can be dumped into a “cat hole”. Large amounts should be poured into a “sump-hole” that is 25 to 30 cm. deep. The “sump-hole” should be near your cooking area and should be at least 50 metres from water. You can also put your dishwater in the ashes of your fire.



Use soap that is bio-degradable (like Sunlight). Never wash your dishes in a lake or stream because the soap and food will pollute the water.

### Your story . . .

Write a story about a Junior Forest Warden going on a camping trip in the woods and the things they must do to protect the environment.

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# What to Wear

## Keeping Warm

The best way to keep warm is to wear your clothes in layers. This traps your body heat between each layer and “insulates” you so that you stay warm.

**Head:** Wear a warm, waterproof and windproof hat which covers your head and ears.

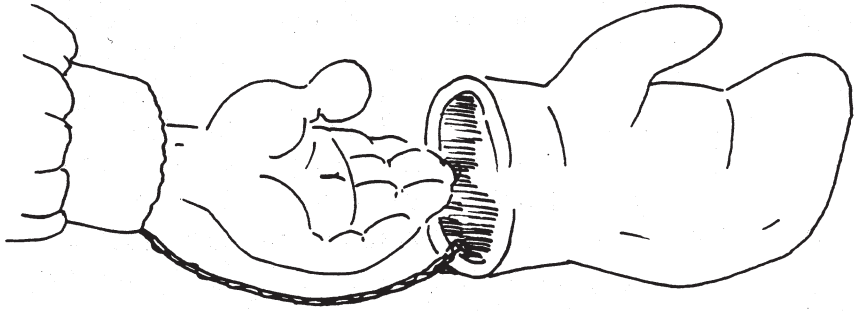
**Neck:** Wear a scarf of wool or nylon to keep your neck warm. **Did you know?** You can lose up to 20% of your body heat through your head and neck. When you are active and playing you can lose up to 70% this way! So, if you are ever cold playing outside, put on your hat and scarf, and you will quickly warm up!

**Chest and arms:** Dress in layers so you can add or take off layers to keep you feeling just right. Some clothes you can wear are:

- long underwear or turtleneck
- thin wool shirt
- thick wool sweater
- wool coat or ski jacket

**Legs:** Pants that keep you warm, dry and windproof are important. Shorts are fine for sunny summer days. For cool weather and winter, your layers might include:

- wool underwear
- heavy sweat pants
- heavy wool pants
- nylon outer pants (wet pants)
- snow suits



- Hands:** Mittens are warmer than gloves. Mittens should:
- Be easy to put on and take off.
  - Have a woolen liner and a nylon or leather overmitt.
  - **Stay found!** Try tying your mittens to a cord that is threaded through your coat.

## Keeping Dry

Wet skin gets cold much faster than dry skin. So, put your rain gear on when the first drops of rain fall.

You can also get wet by sweating. Sweating is a sign that your body is too hot and that it is trying to cool off. When you know you will be working hard, you can prevent your clothes from getting sweaty by taking off your clothes, one layer at a time. This is something that you will learn from experience. Try following this order for removing layers:

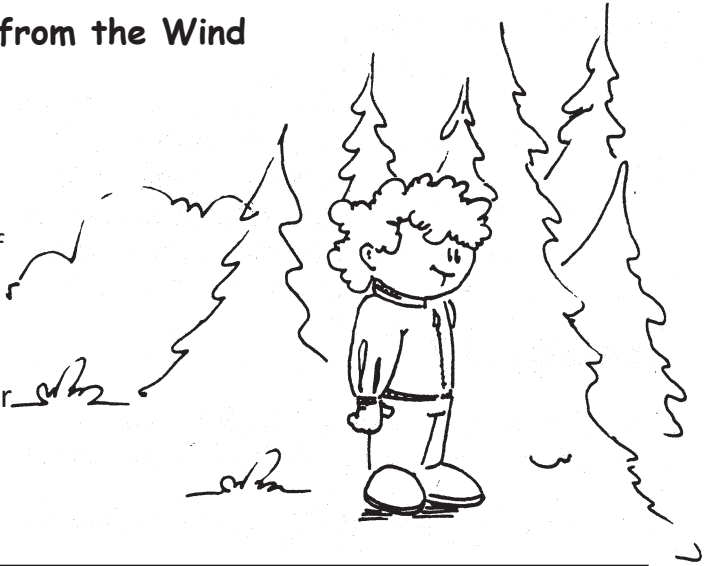
- uncover your ears
- uncover your neck
- uncover one hand
- uncover the second hand
- open your clothing at the neck
- open your clothing at your wrists
- remove your head gear altogether
- remove one or more layers of clothing

If you have taken off too much you can put some clothes back on. You can cover your ears, your neck or put on your mittens.

Keep your hands and feet warm. Because your feet sweat, they get cold faster and are hard to keep warm. If your feet are warm and your body is dry, you will be warm. **Try to always keep your hands warm**, because you may need them to zip up your jacket. Or to light a fire to help you and your friends stay warm.

## Keeping safe from the Wind

Put on a windbreaker. A windbreaker is any nylon jacket or jogging suit. If you don't have one, try to get out of the wind. Get into a shelter to get out of the wind.



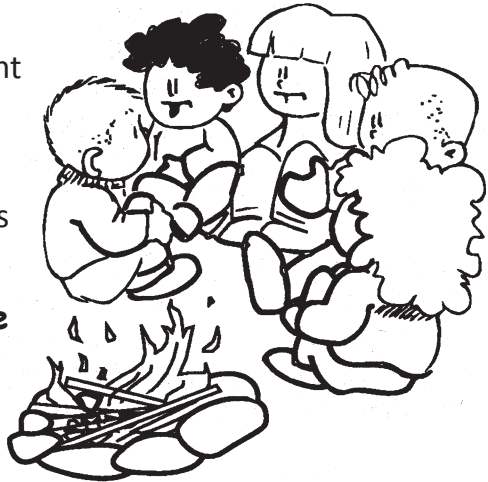
What will you do the next time you are on a day hike and you get cold? Draw a picture or write what you would do.

# Fire Lighting Skills

Fire lighting is a very important woodstravel skill to learn. Fires are used for cooking, warmth, and as a place to gather around to share stories and songs.

## Where to build your Fire

Find a place where a fire has been built before or find a campfire pit.



**Ask your leader where a fire can be lit safely.** It could be on sand or gravel or in the woods. Remove all of the “duff” (leaves, roots, etc.) and build your fire on the soil. If you are not using a designated fire pit, carry some grass seed in your pack so you can plant the seed and water it once your fire is out. Be sure to choose a spot where the sparks from your fire will not light trees on fire. Look for a clearing in the woods where you can see open sky.

## What to use ?

**Tinder:** Dry material to hold the spark.

**Kindling:** Dry material that produces the flame. Dead (red) pine needles, wood shavings, birch bark (never peel bark from a living birch tree), dry grass, dead pine branches, twig bundles.

**Fuel:** Wood from “finger thick, wrist thick and thigh thick” size.

**Wood:** Logs split or unsplit should be dry. Green wood is not good for cooking because it smokes.

**Soft wood**—for quick fires—pine, spruce, poplar.

**Hard Wood**—burns slowly—birch, willow

## Matches

Always carry matches in a protective container in the following places:

- in your pants pocket
- in your coat
- in your pack

**Matches should never be carried loose in any pocket.** Keep your matches in waterproof containers that can be opened easily when your hands are cold.

You can test how cold your hands are by touching your thumb to your little finger on the same hand. **If you cannot do this, tell your leader, you must start trying to warm up!**

Practice lighting a match. Practice in warm, cold, rainy, snowy and windy weather. Practice using wooden and paper matches. **Never wear nylon (e.g., windbreaker etc.) when working with fire.**

**Always ask an adult or your leader before you light a match!**

Safety is really important when building fires. What are some things that you **don't do** when working with campfires?

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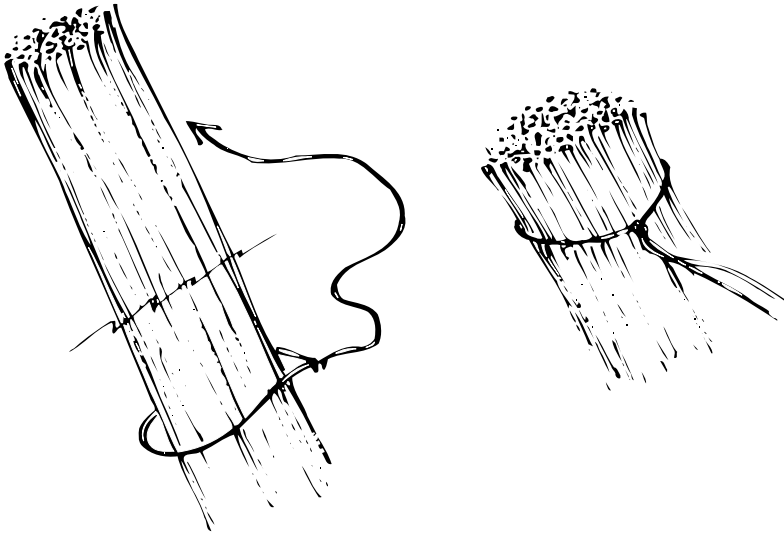
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## Building a Fire

### Twig Bundles:

Gather a large handful of twigs that are no thicker than a match stick. (e.g., Dry twigs from spruce, willow or poplar).



Tie the bundle and lay it in the fire pit. Light your twig bundle and once it is burning add more wood in this order:

- 10 finger thick sticks
- 2 wrist thick sticks
- 2 leg thick sticks

Keep your fire burning by adding more sticks.

### Using a twig bundle when it is wet outside:

Add very dry things to the inside of your twig bundle. Here are some ideas:

- twigs
- dry pine needles
- “old man’s beard” (only if it is very dry)
- inner bark of black poplar
- feathersticks (ask your leader how to make these)
- grasses
- birch bark\*

**\* Never strip birch bark from living trees. This will kill the tree!**

## Fire Building

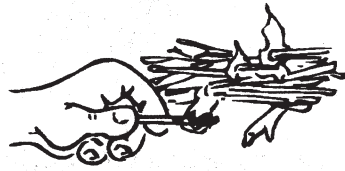
Place a handful of tinder inside a small loose pile of twigs. The twigs will hold the kindling up so it won't smother the lighted tinder.

The kindling should be loose, but each piece should touch another piece.

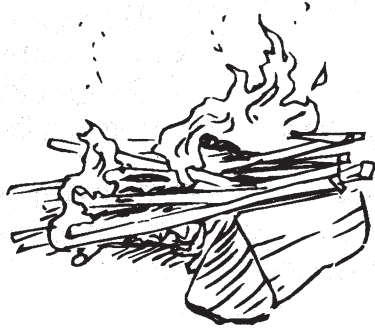
Use plenty of tinder and leave a little space for air—this is where you will put the lit match.



Wood may be added piece by piece once the tinder flares up and the kindling is in flame. Always add wood so that air can get into the fire. Add larger pieces gradually.



The last step is adding more fuel. You can add larger pieces of wood now. Add it slowly so that you don't smother your fire.



**Always ask your Leader before lighting your fire!**

# Fire Safety

**Fires are like people – they need a lot of attention!**

**Always** ask your Leader before lighting your fire.

**Always** check your fire.

**Always** clear a wide area before building a fire.

**Never** put a fire near the base of a tree.

**Always** keep the fire **small** and in control at all times.

**Always** keep fire fighting material close by: a pail of water, broom, sand, shovel.

**Always make sure your fire is completely out before leaving it.** Use the dirty hand test. Put your hand in the ashes of the fire to check that it is out.

What are some things you can do to enjoy your campfire in a safe way?

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# Fire Safety

Circle the things that are wrong in this picture.



# First Aid and Outdoor Safety

## What to do when you get cold

Keep warm to enjoy cold weather. It is easy to do, if you plan ahead.

There are three cold injuries that seem to go together in cold weather: **Frostbite, Dehydration and Hypothermia.**

- **Frostbite:** The skin turns white. It becomes numb. Re-warm it immediately with your hand. Check yourself and your buddy every few minutes in cold weather. Tell your Leader if you feel cold.
- **Dehydration:** You are using more water than you are drinking. Drink more even if you are not thirsty (one cup every 10 minutes).
- **Hypothermia:** A special kind of feeling cold—so cold that you are cold both inside and out. You may shiver very hard. You may have trouble doing up your zipper. If you are cold, tell your leader. **Hypothermia is very serious. Tell your Leader as soon as you are cold.**

## How to stay warm when it is cold outside

- Stay healthy. Eat properly. Bring snacks and lunches on your trips. Have a good rest or sleep before going into the cold. If you have a cold or the flu, get better before going on a camp out or long hike.
- Drink plenty of water all day long. Carry your water bottle in your daypack at all times.
- Wear clothes that will keep you warm, dry and windproof from head to toe. Carry extra clothes in your day pack.
- Too hot? Cool off by taking off a layer of clothes. Put the layer back on if you start to get cold.

## How to stay warm when it is cold outside

Do you know how to keep warm when you come to a stop? You can put on more clothes. Do you have clothing to change into if you are wet with sweat? Can you find a wind protected spot? Can you light a fire to keep warm? Learn how to do these things.

- **Stay put in very strong winds**, unless you have very windproof clothes.

- **Feeling cold? Take action!** There is no better time to take care of problems than right now! Tell your Leader. Put up your shelter, build a fire, make some hot drinks, put on more clothing.

- **Uncontrollable shivering is your last warning! Get warm now!** Tell your leader—"I can't stop shivering. Please help me".

What are some things you can carry in your daypack to help you if you are cold?

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## What to do if you are too Hot

Sometimes you can get very hot, and not feel very good. When this happens:

- Tell your Leader exactly how you are feeling.
- Sit down in a cool place.
- Drink lots of water.

## The importance of Water

We need to drink lots of water everyday, especially when we are camping and playing hard. You should drink at least 2 cups of water every hour. Drink more if you are working and playing hard.

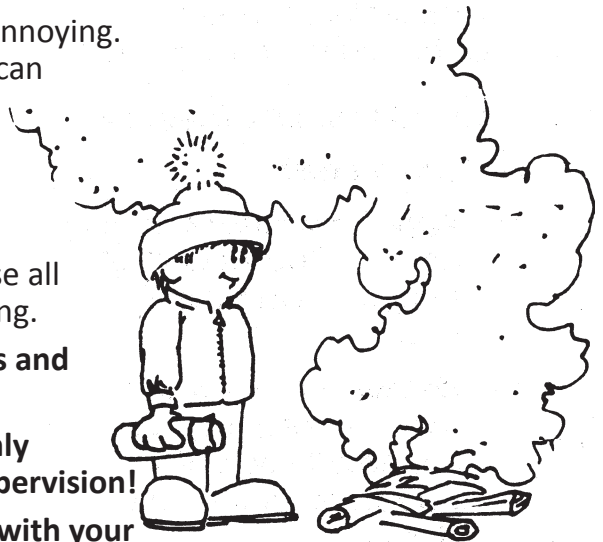
**Always bring a full water bottle to JFW day hikes and campouts.** Often if you are feeling tired, all you need is a drink of water to “pick you up” and feel better.

## Annoying Insects

Flies and mosquitoes are annoying. Their bites are itchy. Bites can become infected.

### How to stay bug free!

- **Button up! Zip up!** Close all openings in your clothing.
- **Wear long sleeve shirts and long pants.**
- **Use insect repellent only under your Leaders supervision!**
- **Make a “smudge pot” with your leader.** This is a smoldering fire made of rotten wood, grasses and moss.



## Sunburn

You must act to prevent sunburn before it happens. Use proper sunscreen and do not stay out in the sun too long. You should wear a hat and sunglasses. If you are feeling sick or dizzy, tell your Leader. **Sunburn can be dangerous!**

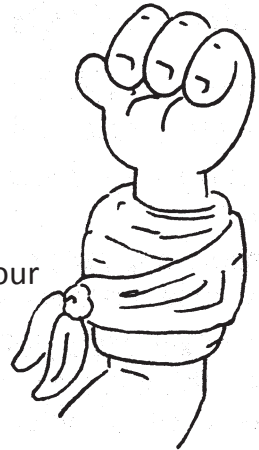


## Bleeding

Always tell your Leader or an Adult if you cut yourself. Treat all cuts, big or small in the same way:

**You must stop the bleeding!**

- **Call for help!**
- **Apply Pressure!** Press your bare hand on the wound. Use a triangular bandage if you have one.
- **Elevate.** Raise your arm or leg if that is where you have cut yourself. If you have cut your head, stomach or chest—**lay down!**
- **Remember** the word **RED**. It means:  
**REST/ELEVATION/DIRECT PRESSURE**

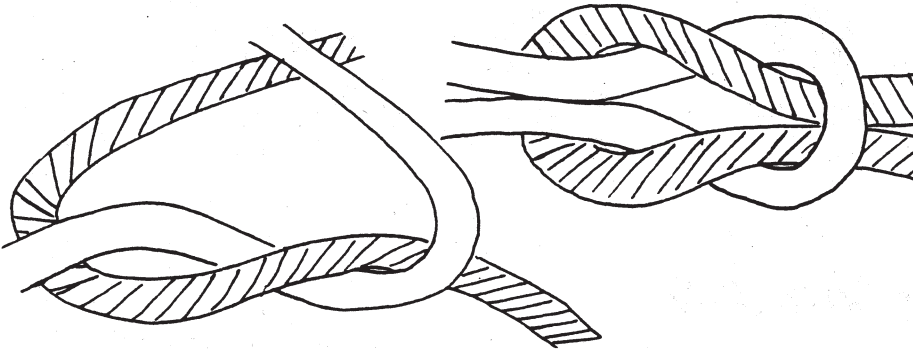


# Knots and Lashings

## The Reef Knot

You can use this knot to tie bandages and parcels.

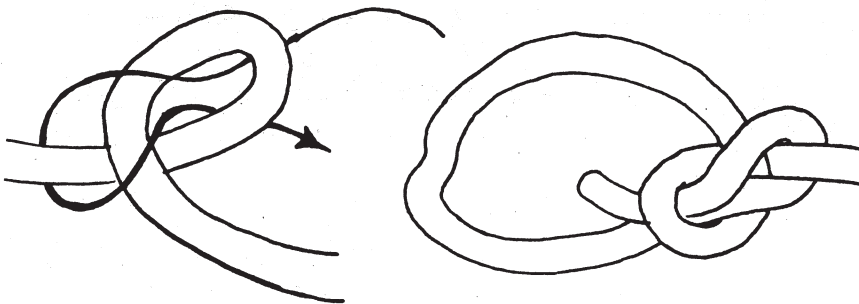
**To tie a reef knot:** Put the ends of the rope right over left and through, then left over right and through.



## The Bowline

You can use the bowline to lower a pack from a tree or to tie a canoe to a dock or to make a clothes line.

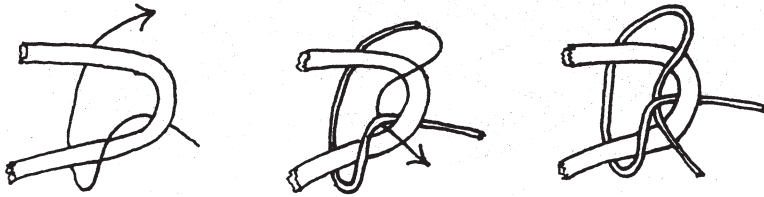
**To tie a bowline:** Make an overhand loop in the standing part of the rope. Put this end of the rope up through the loop, around the back of the standing rope and back through the loop.



## The Sheet bend

Use the sheet bend to join two ropes that are different sizes.

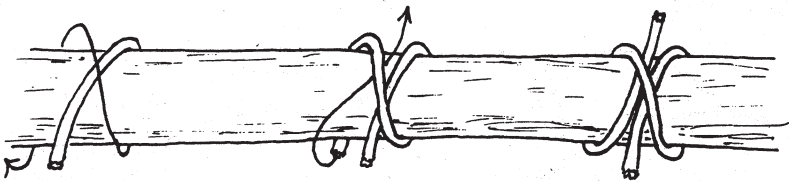
**To tie the sheet bend:** Make a loop in the large rope. Run the small rope up through the loop and then around the loop. Tuck the end of the small rope under its own standing part.



## The Clove Hitch

The clove hitch is a strong hitch. Use it to tie a line to a stake or an anchor knot around a tree.

**To tie a clove hitch:** Make a loop around the object. Keep the running end on top of the standing part. Make another loop beside it and tuck the end under the standing part between the two loops.



# Lashings

## Tripod Lashings

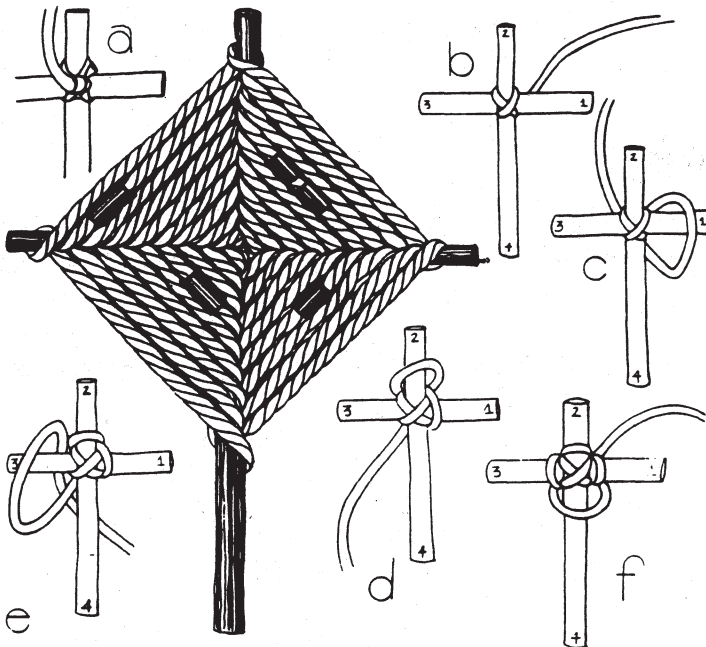
Use this lashing to join poles together. You can make a tripod to hang a pot over a fire.

Try this craft to practice tripod lashings:

### Eye of God

This interesting craft comes from Mexico. It is made with two twigs and different coloured yarn. The twigs are crossed and the yarn is tied around them. If you use several colours, it will look like a big eye.

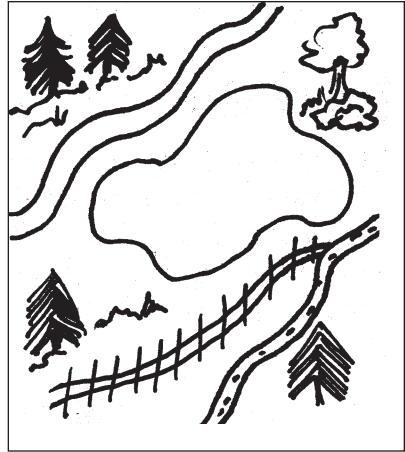
Follow the pictures to learn how to make this craft.



# Maps and Compass

## What is a Map ?

A map is a bird's eye view of the land. There are many different sizes and types of maps. One type you may have seen your parents use, is a road map. You can use a road map to find your way around a city or to drive from town to town. Another type of map is a Topographical Map. These maps can be used on a dayhike or campout to help you follow a trail through the forest.



## Map Symbols

Map symbols tell you about the land and objects of the land. Look on the back or side of a map to find the map legend.

Invent your own map symbols for the following things:

Road

Bridge

River

Swamp

Foothills

Railway

Campsite

Stream

Lake

Mountains

## Map Colors

Some maps are marked with different colours. The colours show different types of ground cover such as: water, trees, and roads. What colours do you think the following should be? Draw and colour them.

Lakes, rivers, streams, marshes

Forests and vegetation

Trails, cut lines, railway lines

Meadows, avalanche chutes

Paved highways

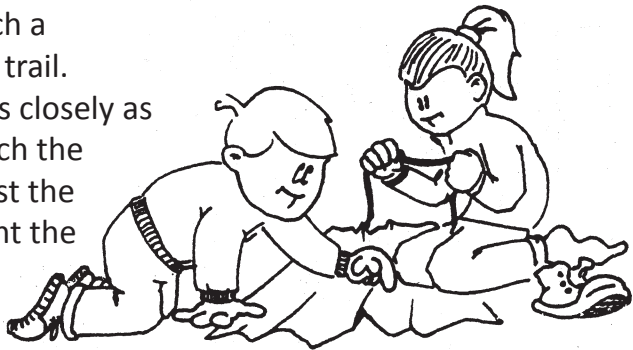
Gravel and dirt roads

## Map Scale

The scale of a map helps you to find out the distance between two points on the map. For example: The distance from where you are—to where you want to go!

You will usually find a scale on the bottom border of the map. Distances will be shown in miles or kilometers.

One way to measure the distance is to stretch a shoelace along the trail. Follow the bends as closely as you can. Now stretch the shoelace out against the map scale and count the kilometers you will travel.



## What is a compass ?

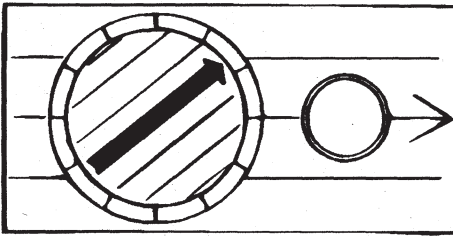
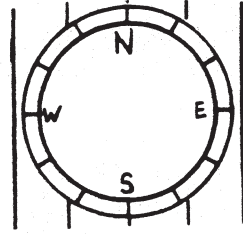
A compass is a tool that can help you find direction.

The four major directions of a compass are: North, East, South and West.

**Tip:** Remember this:

**Never Eat Soggy Weiners**

The needle always points to magnetic North.



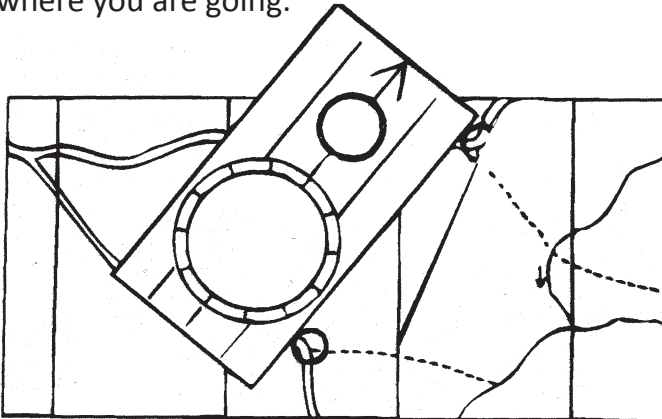
## Parts of a compass

Try and locate these parts on a compass:

- Direction of travel arrow
- Baseplate
- Housing
- Magnetic Needle
- Orienting Lines

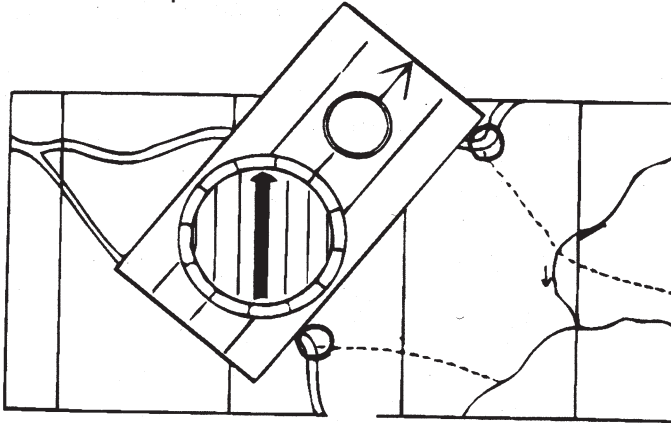
## How to take a compass bearing

Place a compass on the map. Draw a line on the map from “where you are” to “where you are going”. Place the compass edge along the line you just drew. Point the direction arrow of the compass in the same direction as you drew the line to where you are going.



Maps have lines running from the top of the map to the bottom. These are north-south lines.

Turn the housing dial until the lines in it are parallel with the map north-south lines. Make sure that the dial is pointing to north on the map.

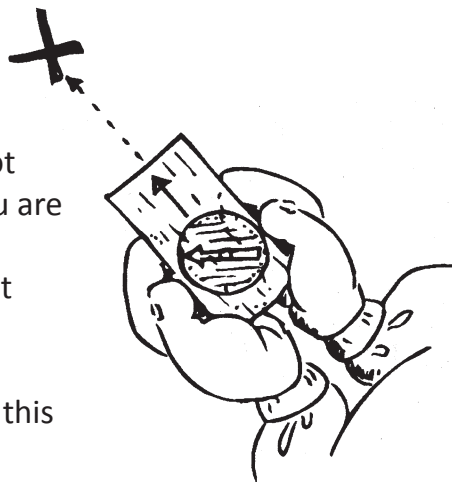


Without changing the housing dial setting, place the compass flat in your hand. Hold it in front of you at about waist level.

Turn yourself until the red end of the compass needle points to N (North). Your direction of travel is shown by the arrow on the compass. Make sure the compass needle is lined up with the housing dial.

Look straight ahead.  
Choose a landmark or a spot which is in the direction you are facing. Walk towards your landmark without looking at the compass.

When you get there repeat this until you reach your goal.



## Design your own map

You can draw your own map here. It could be your school playground, your backyard, or a forest area that you go to often. Use your compass to draw your map, or try using your compass to find your way after you have drawn your map.

My Map of \_\_\_\_\_

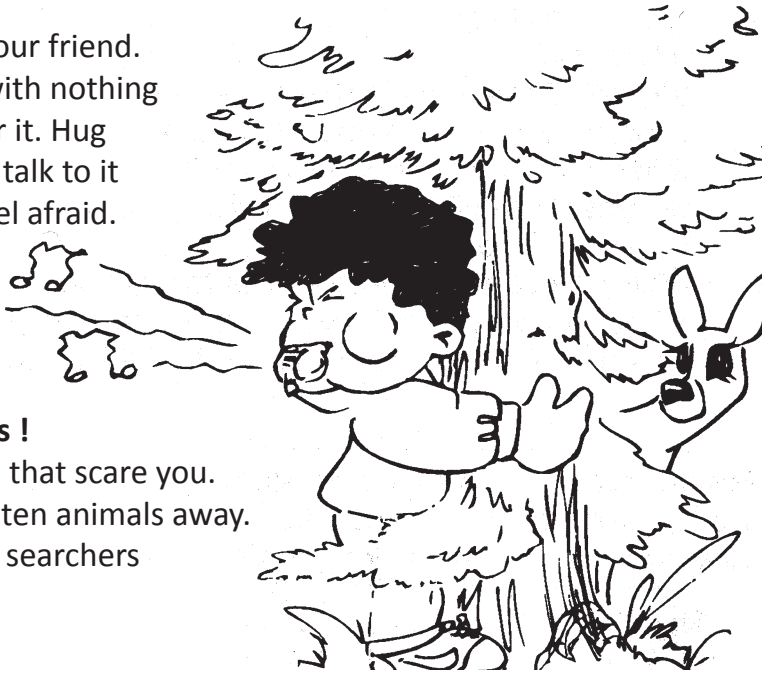
Legend:

# Lost and Found

## What to do if you are lost

### Hug a Tree !

The tree is your friend.  
Find a tree with nothing  
growing near it. Hug  
the tree and talk to it  
when you feel afraid.  
Stay near  
the tree.  
Someone  
will find you.



### Yell at Noises !

Yell at noises that scare you.  
You will frighten animals away.  
You will help searchers  
to find you.

### Whistle !

Blow your whistle loudly three times, wait a minute, then blow three more times. Keep doing this until you are found. (Three is the universal distress signal).

### Stay at your tree !

If you are cold, put on more clothes. Jump up and down or walk around your tree to get warm. Drink your water.

### I'm here !

If you see or hear someone, shout "I'm here". They are trying to find you, so let them know you see them.

## Have you ever lost something ?

Everybody has lost something at one time or another. Maybe it was a pencil, or your favourite toy, or even your mitts!

If you lose something:

**Stand still.**

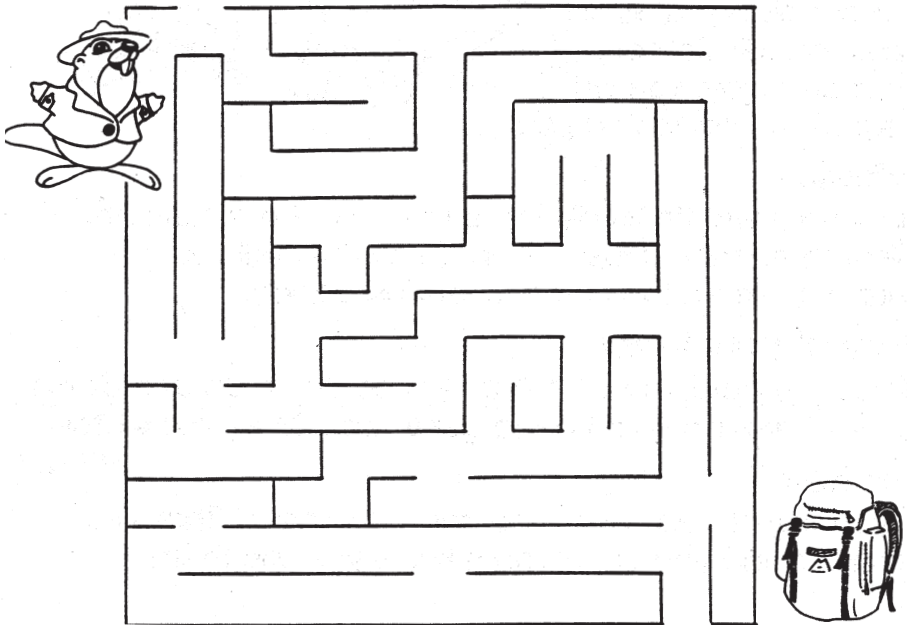
**Try to find the missing thing.** Look around you, in your pockets and in your daypack.

**Think.** Try to decide where it might be.

**Tell your Leader** what you have lost and what you have done to find it.

**With your Leader decide what to do.** You might send one person to look for it or have everyone search. Think of other ideas that might work.

Bertie Beaver has lost his day pack. Can you help him find it before it is time to go into the woods? Do you know why he needs his daypack?



# Survival Kits

Can you imagine how you would feel if you were lost and alone in the woods? What would you do?

Most people would feel some of these things:

Afraid

Hurt

Cold

Thirsty



Tired

Hungry

Bored

Lonely

Have you felt this way before? When you are lost and alone in the woods, these feelings can make you forget how to care for yourself. They can hurt a lot.

Junior Forest Wardens woodstravel activities teach you what to do when you are lost, how to build fires, and how to build a shelter. Remember to do these things, so that you can be warm and safe even when you are lost and alone.

Carry a survival kit in your daypack. Learn how to use everything in the kit.

What do you think should be in your survival kit?

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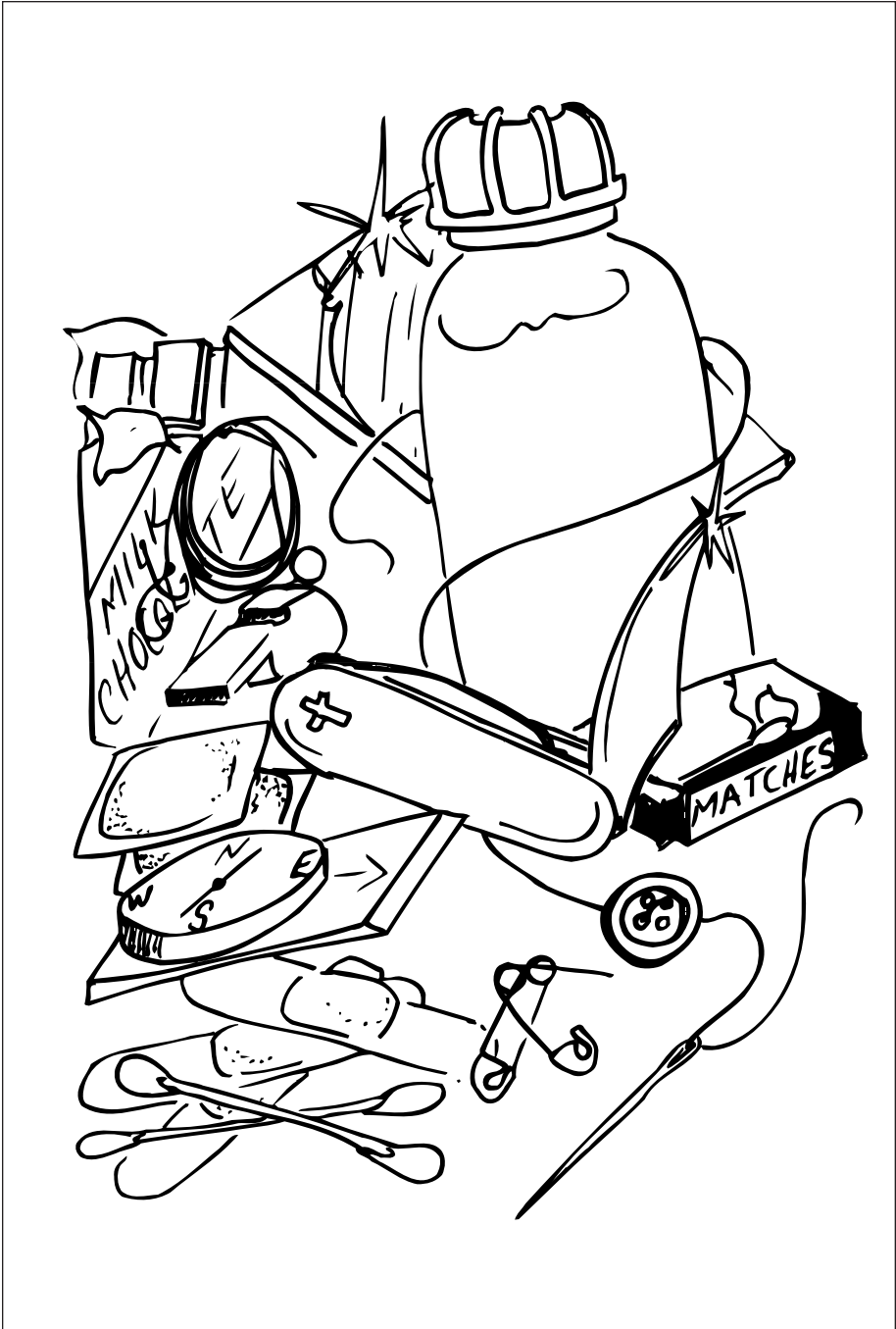
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Turn the page to find out more.

# What to put in your survival kit . . .



# Shelters

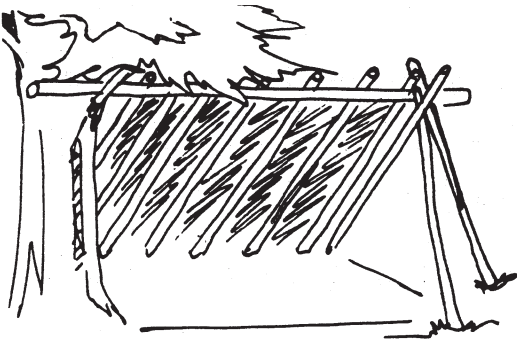
Camping shelters come in many different sizes and shapes. You can make a shelter out of logs and branches or snow. The shelter you build will depend on the weather, the location and the materials you have.

## Tents

Each tent is set up in a special way. Follow the directions that came with the tent. Practice putting up your tent before you take it camping.

## Plastic Tarps

Here is a quick and easy emergency shelter. You can keep a group warm by using a plastic tarp to form a bubble over you. This shelter can keep you warm and dry during a short rainstorm.



## A Lean-To

A good shelter will keep off the rain and snow and will keep out the wind. It will also trap the heat of a fire.

A properly built "lean-to" can be built anywhere

that there are trees. The base of a tall spruce with large overhanging boughs makes a good site. Make sure you have permission to cut trees and take boughs.

**Never do this in a park unless it is an emergency.**

## Make-Shift Shelter

If you don't have any materials to make a shelter and you need to get shelter quickly you can:

Look for a large evergreen tree, such as a spruce. If it is summer any tree will do.

Cut or break off some boughs of the tree for your bed. Cut or

break off some more boughs of the tree and cover yourself with them. Snuggle up at the base of the tree, away from the wind.



## Snow Shelters

A shelter made out of snow is called a Quinzhee (sounds like Kwinzee).

To make a Quinzhee you shovel a pile of snow out of a circle. Then, you shovel all of the snow back into the circle. Let the snow harden for about 1 to 3 hours. Dig a tunnel out of the pile of snow to hollow it out. Keep the doorway small.

You can line the bottom of your Quinzhee with grass, reeds or evergreen tree boughs.

You will need a sleeping shelf a least 2 feet off the floor to maintain body heat for sleeping.

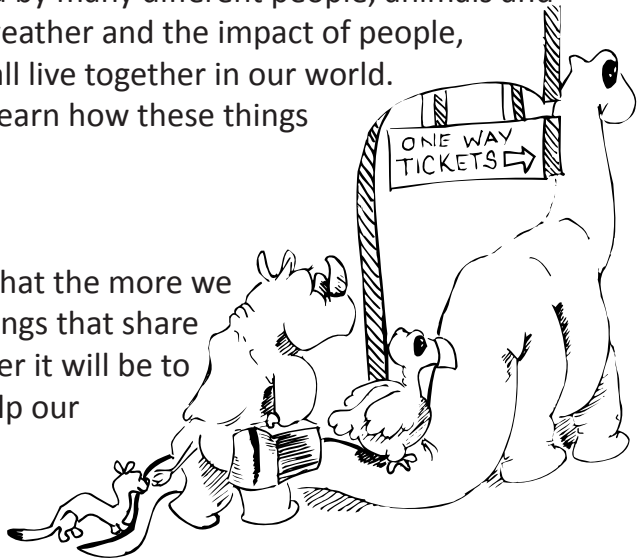
Ask your Leader to show you how to make a Quinzhee that you could sleep in.



# Ecology

Our world is shared by many different people, animals and plants. Pollution, weather and the impact of people, affect the way we all live together in our world. In Ecology we will learn how these things affect each other.

We will also learn that the more we know about the things that share our world, the easier it will be to understand and help our environment.

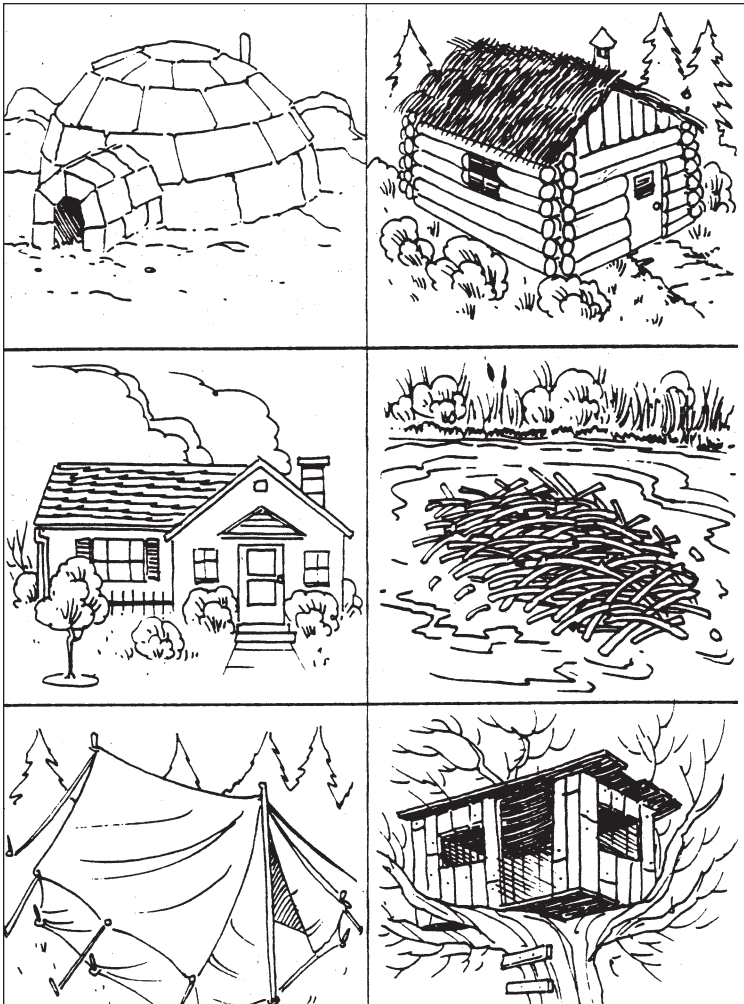


In Ecology we will also learn to appreciate the beauty of the birds, animals and forests, and, how to look after them so that they will be here for us to enjoy for a long time.

# What we need to Live

Plants, animals and people live in homes. Their homes are called “habitats”. Plants, animals and people all need air, water and shelter.

Who can live in each of these habitats?



# Looking for Animals

You can tell where people live by looking at the signs around you. You will see houses, telephone poles, and roads.

You can also tell where animals live by looking at the signs around you. When you are walking along your favourite trail or hiking in a new area, look carefully from side to side and look high and low.

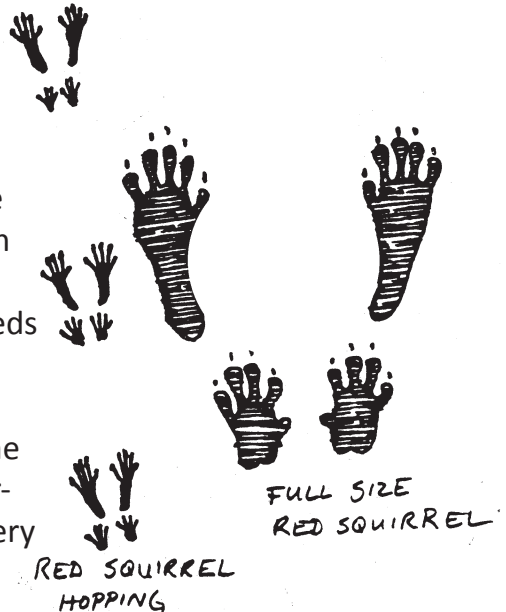
One clue will lead to another. Chewing marks on bark could be a sign of a hare at the base of a tree, or a porcupine high up in branches. Look at the land around you. You wouldn't expect to see a porcupine where there are no trees just as you wouldn't see people living in the middle of the ocean.

Another important clue to finding animals is to look for tracks.

## Red Squirrels

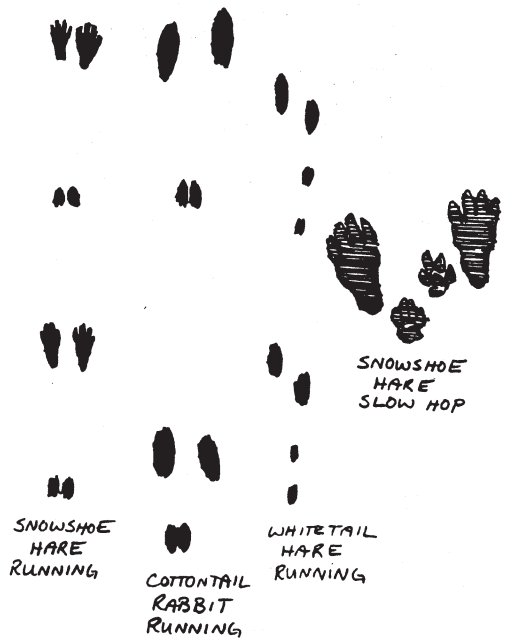
You can often see red squirrel tracks leading from tree base to tree base in spruce and pine woods and sometimes in aspen forests. Look for tracks around stumps where the squirrel shreds spruce cones, looking for their small seeds.

Squirrels often tunnel under the snow. The squirrel is active during the day except when it is very cold, below -30C.



## Hares and Rabbits

Rabbits are bounders who place their hind feet ahead of their fore feet. Hares belong to the rabbit family. Hares change color with the seasons. The snowshoe hare of northern and western woodlands has a white winter coat and a brown summer coat. In winter it grows extra hair on the feet and toes which provide "snowshoes", and result in big tracks.



## Porcupine

A rut in the snow with rounded tracks and dragging "S" marks is the trail of a porcupine. They will spend days in one tree chipping away the outer bark to reach and eat the inner bark layer. This results in a pile of bark, twigs, cones or seeds under the tree. When cornered, the porcupine will curl up, turn its back and wave its tail. The quills on the tail come out easily but it cannot throw them. The porcupine is very fast, so be careful!

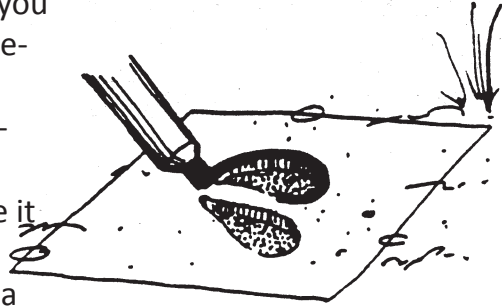
## Making Tracks

If you see animal tracks you may want to take a souvenir of the track.

Sketch the track on cardboard.

Cut out the sketch. Paste it on colored paper.

Or, lay clear plastic over a track and trace the outline with a large felt pen.



## Bird Watching

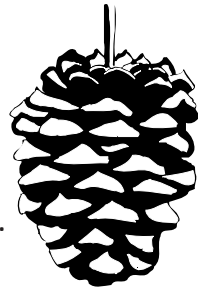
You can learn a lot about birds by watching them. Look up, for nests in trees and listen for birds in the air. In the winter you can also look for bird tracks in the snow.

You can attract birds to your yard by putting up a bird feeder and keeping it well stocked with seed.

You can also help birds in the bush by putting up nesting boxes. This may be a project your club could do.

## Pine Cone Bird Feeder

Tie a string or wool to a large pine cone. Roll the pine cone in unsalted peanut butter or suet. Then roll the pine cone in seed or millet. Hang on a tree as a treat for the birds.



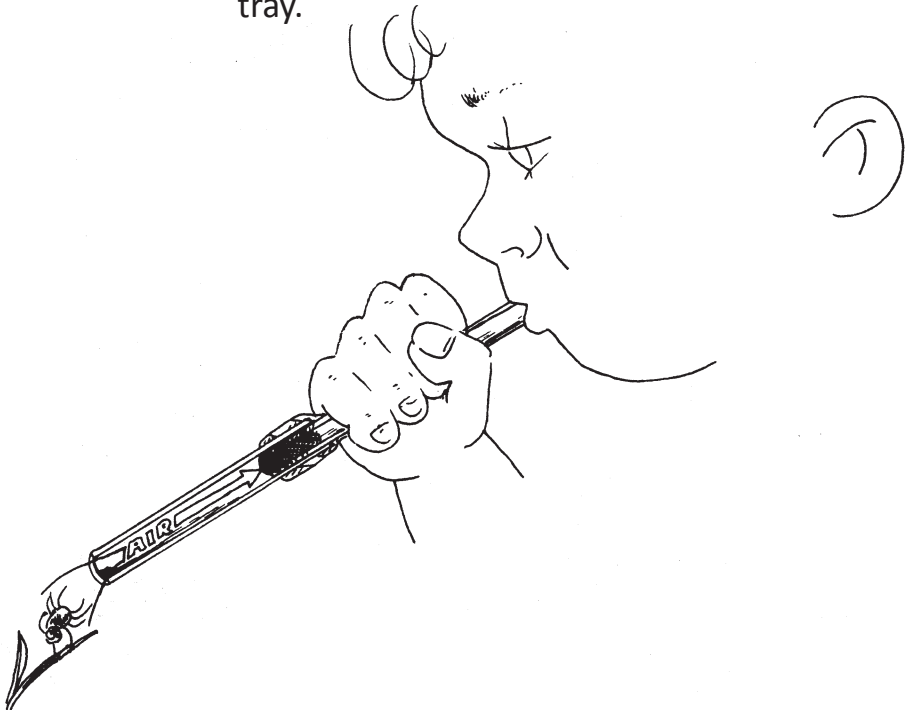
# Mini Beasts

Insects are everywhere. Use a pooter to collect insects. Look at the insects, then let them go.

- You will need :**
1. One narrow straw and one wide straw.
  2. Tape.
  3. A piece of pantyhose about one centimetre square.

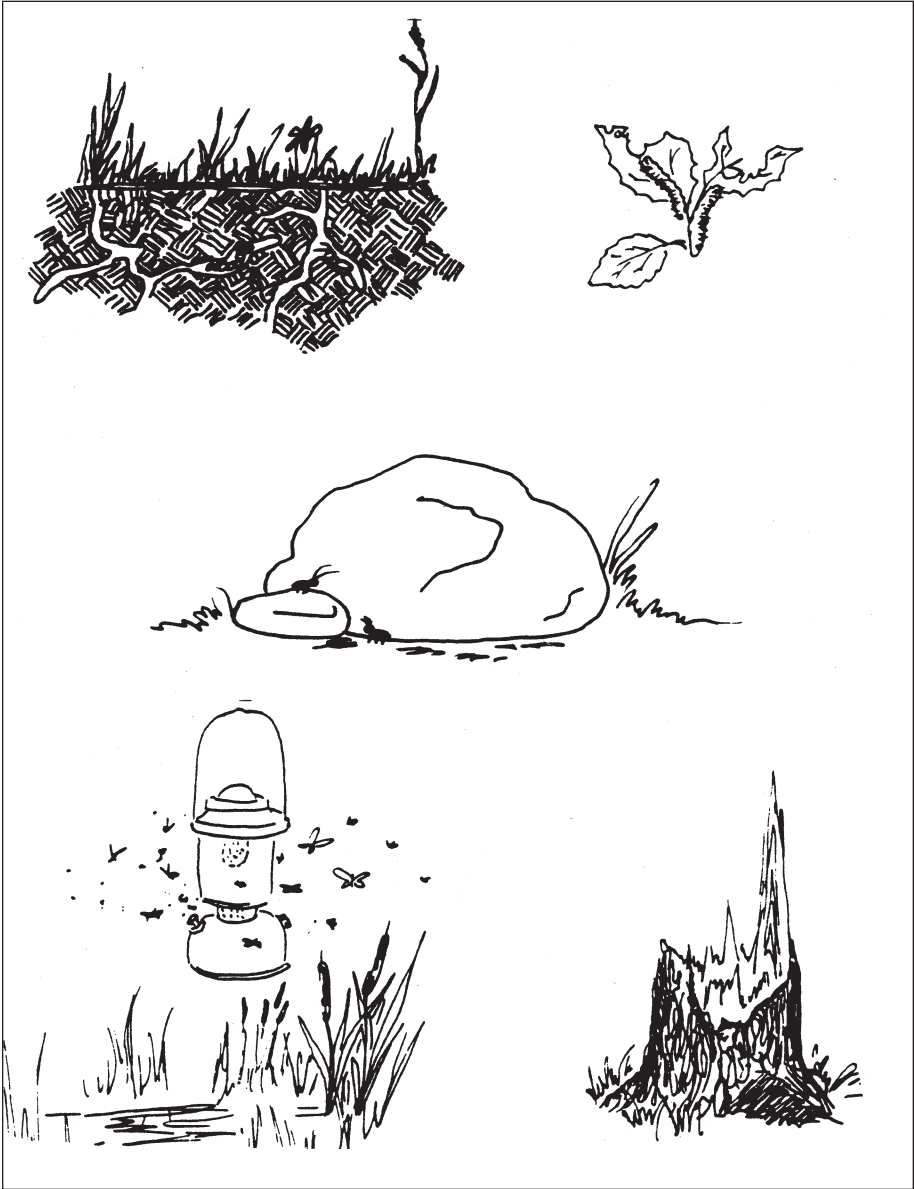
Use the illustration for instructions on how to put the pooter together.

- How to Use :** Put thin straw to mouth, suck in mini-beast, put index finger over thick straw opening. Take finger off and gently blow out mini-beast into box magnifier or tray.



## Looking for Insects ?

Here are some places you can look for insects. Can you think of other places?



# Leaf Collections

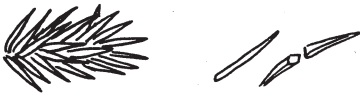
## Coniferous or Needle Leaves

Find a needle to match the picture. Tape it to the page.



**A Pine  
Needle  
comes in  
pairs or  
bunches.**

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**A Spruce  
Needle is  
square.**

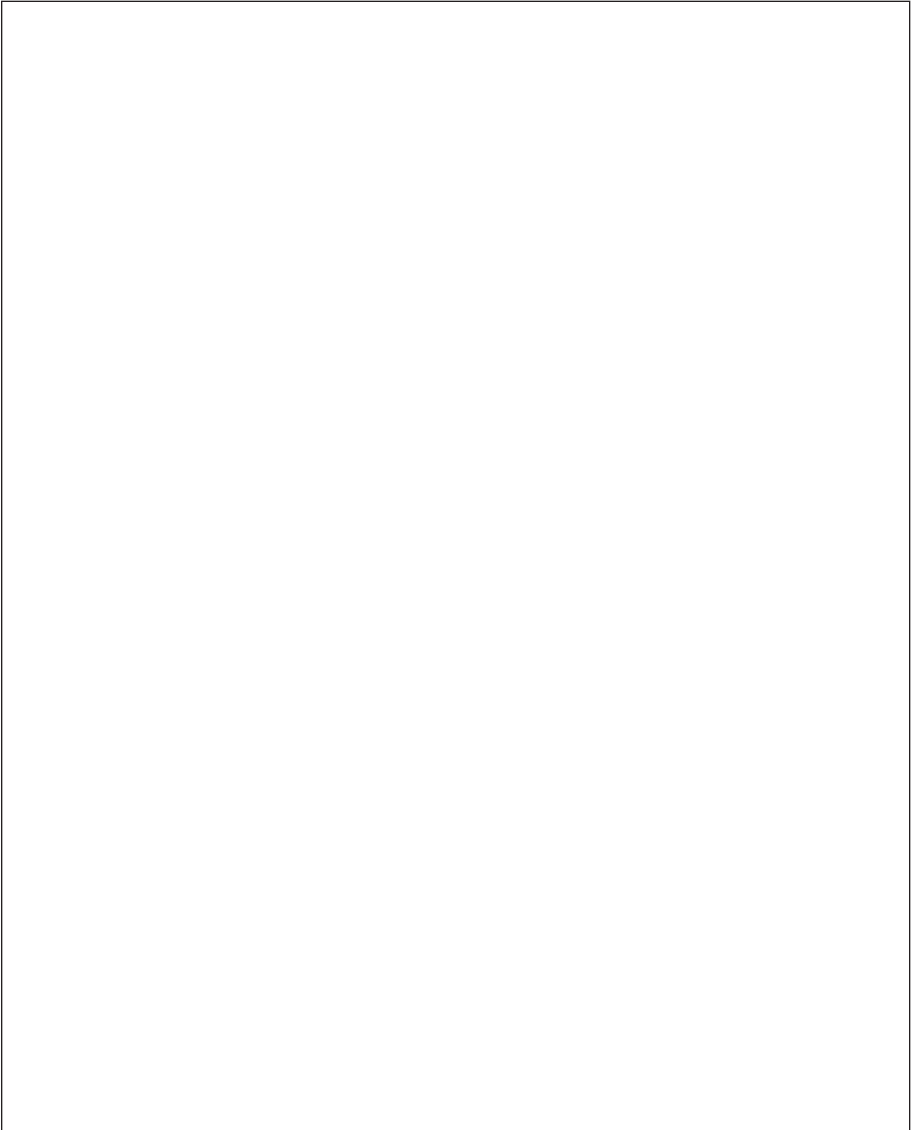
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**A Fir Needle is  
flat.**

## Deciduous or Broad Leaves

Draw or tape in two broadleaves. Write down their names.



Make a leaf collection book. Carry it in your daypack on all JFW dayhikes and campouts. Learn the names of many trees and their leaves.

# How different can a leaf be?

## Size

Look at each leaf. \_\_\_\_\_

How long is the longest leaf? \_\_\_\_\_

How long is the shortest leaf? \_\_\_\_\_

How long is an average leaf? \_\_\_\_\_

How wide is the widest leaf? \_\_\_\_\_

How wide is the narrowest leaf? \_\_\_\_\_

How wide is an average leaf? \_\_\_\_\_

## Shape

Drawing of an average leaf.

Drawing of some other  
leaves.

## Description

What difference did you notice? Tell your ideas to your group.

# Budding Out

Tape your twigs in these boxes. Use the chart on the following page to record your observations.

**Twig #1**

**Twig #2**

**Twig #3**

# Budding Out Chart

My Twigs	Twig 1	Twig 2	Twig 3
How big is the biggest bud?			
How small is the smallest bud?			
How far apart are the buds?			
How many buds on a twig?			
Are the buds opposite?			
Are the buds alternate?			
Are the buds smooth?			
Are the buds sticky?			
Are there marks on the twig? They are leaf scars from where the leaves dropped off last fall.			
Is it a flowering twig? If so, which comes first, flowers? leaves?			
Record any other observations about your twigs here.			

# Make Friends with Two Trees

## Find a Coniferous Tree

What type of tree is it? \_\_\_\_\_

Name your tree: \_\_\_\_\_

How does your tree: Feel? \_\_\_\_\_

Smell? \_\_\_\_\_

Sound? \_\_\_\_\_

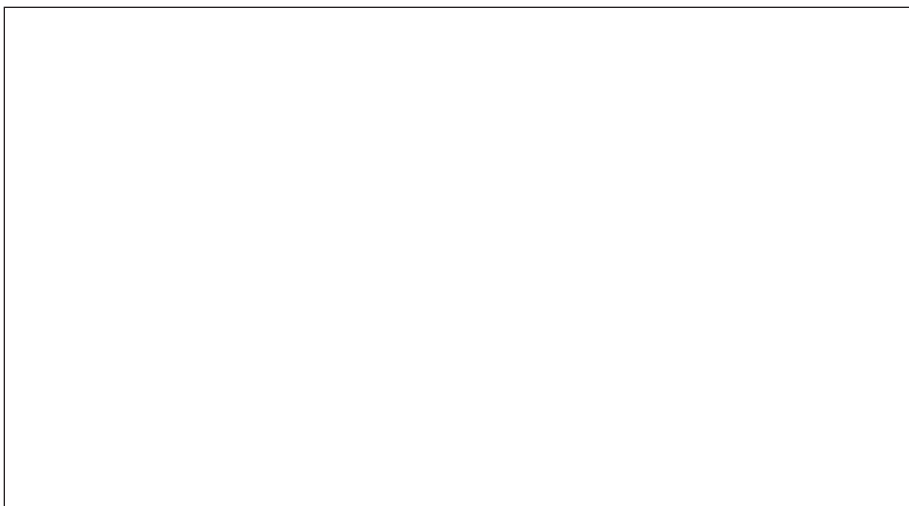
How tall is your tree? \_\_\_\_\_

(Measure the height by your height, e.g. "This tree is two of me tall.")

How wide is your tree? \_\_\_\_\_

(Measure the width by putting your hands around the tree, e.g. "This tree is 5 hands wide".)

Draw the shape of your tree: \_\_\_\_\_



Draw a needle from your tree.

Make a bark rubbing and tape it here.

Draw the cone and seed from your tree.

How do animals use this tree for shelter?

Which insects use your tree for food?

Does your tree show any signs of being sick?

Draw the branching pattern of your tree.

# Find a Deciduous Tree

What type of tree is it? \_\_\_\_\_

Name your tree: \_\_\_\_\_

How does your tree: Feel? \_\_\_\_\_

Smell? \_\_\_\_\_

Sound? \_\_\_\_\_

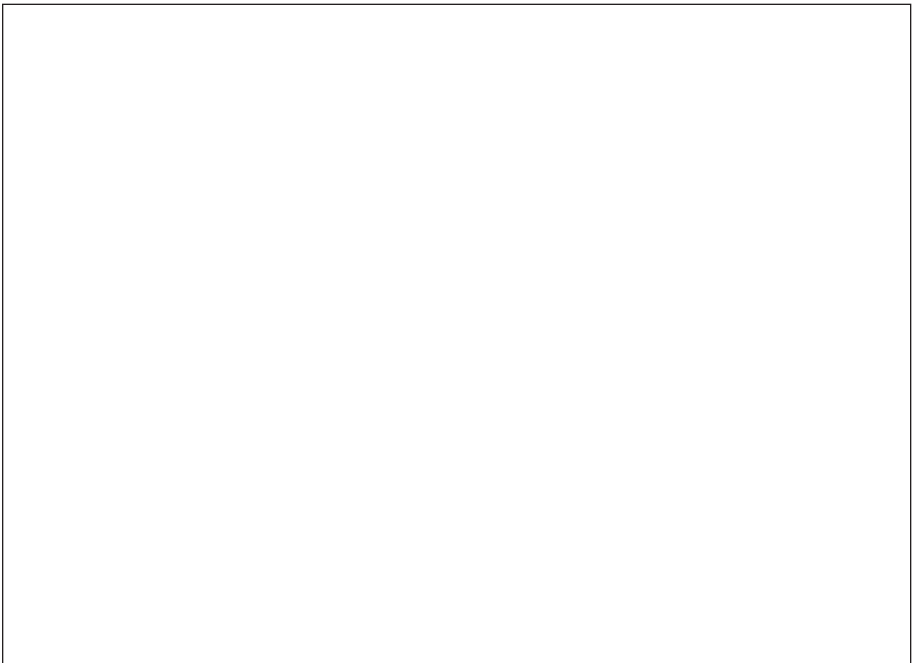
How tall is your tree? \_\_\_\_\_

(Measure the height by your height e.g. "This tree is two of me tall.")

How wide is your tree? \_\_\_\_\_

(Measure the width by putting your hands around the tree.e.g. "This tree is 5 hands wide".)

Draw the shape of your tree:



Draw a leaf from your tree.

Make a bark rubbing and tape it here.

Draw a seed from your tree.

How do animals use this tree for shelter?

Which insects use your tree for food?

Does your tree show any signs of being sick?

Draw the branching pattern of your tree. Is the pattern alternate or opposite?

# Trees for all Seasons

Trees look different at different times of the year. Here are some questions to ask yourself when you are looking at trees in Fall, Winter, Spring and Summer:

## Fall

What type of tree is this?  
When did the tree lose its leaves?  
Measure the diameter and width of the tree.  
Can you find a birds nest?  
What kinds of plants are growing under the tree?  
Are there any insects on the bark or leaves of the tree?  
What birds and animals visit the tree?

## Winter

Make a diagram of a small twig. Carefully open and observe a bud.  
What color is the bud inside?  
What animals or birds visit the tree?  
Are there any signs of insects on the tree?  
Have any animals made their homes in this tree?  
Has anything fallen from the tree?

## Spring

When did the buds first start to swell?  
When did the leaves first appear?  
Did anything appear before the leaves?  
Make a drawing of the flower.  
How long does it take for the leaf to be full grown?  
Are birds building nests in this tree?  
What plants grow under the tree?  
Are there any signs of insects on this tree?

## Summer

Are there any holes or markings on the leaves?  
What animals and birds visit the tree?  
When did the young birds leave their nests?  
Are there any insects on the leaves or bark?  
Did you hear any noises coming from the leaves high in the tree?  
Are there any branches without leaves on them?  
Did you notice anything coming from the bark?  
Measure how much the small branches have grown this season.

**Draw what your tree looks like in the different seasons.**

Fall

Winter

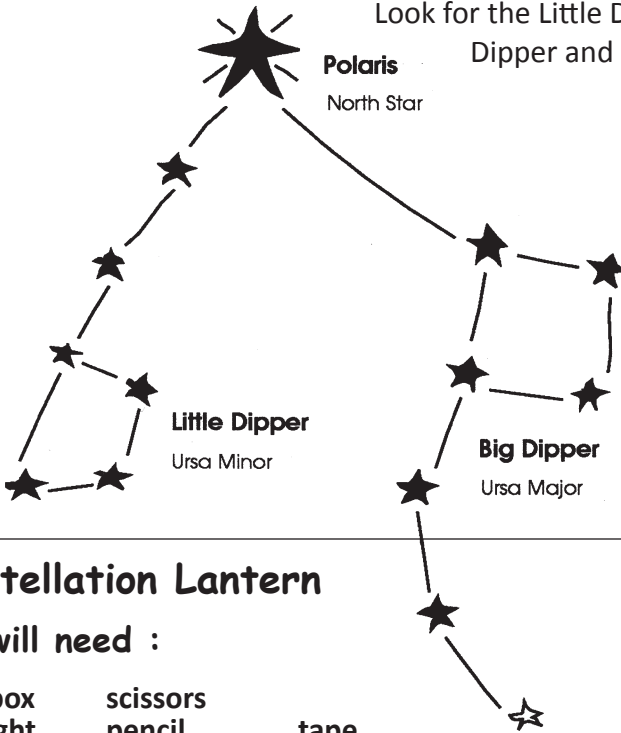
Spring

Summer

# Night Hikes

Night hikes are lots of fun. Everything looks different at night. Walk on crunchy leaves and crunchy snow. Look for stars and night animals.

Look for the Little Dipper, the Big Dipper and Polaris.



## Constellation Lantern

You will need :

Shoe box      scissors  
flashlight      pencil      tape  
black construction paper

1. Cut off one end of the shoe box
2. Draw your constellation on the black paper. Use a pencil point to make small holes for your stars.
3. Tape the black paper to the open end of the shoe box.
4. Put the flashlight in the box and turn it on.
5. Close the curtains and turn out the lights. Do you see stars? Take your constellation lantern with you on a hike. Find the constellation you have drawn, in the night sky.

## **My Story**

What did you see? What looks different at night than it does during the day? Did you see or hear anything different? What animals and birds are awake at night?

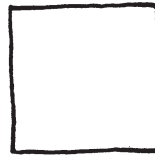
# Weather Watching

The wind can tell us a lot about the weather. It can tell us if a storm is coming or if it is going to be a nice day.

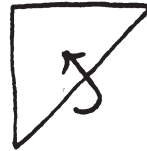
You can use a pinwheel to learn about the wind.

## Making Pinwheels

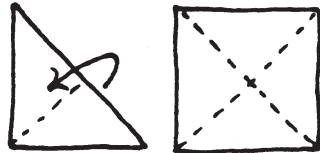
Take a square piece of paper.



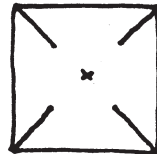
Fold one corner to the opposite corner, to make a triangle.



Open up the paper.  
Fold the other two corners together.



Open up the paper.  
Cut halfway down each crease.



Bend over every second corner to the center.

Do not fold. Put a pin through the middle of the points and a popsicle stick.



Blow the pinwheel. What happens?

Test the wind all over. Find a windy place and a calm place.

# Watching Weather

<i>Look for:</i>	<i>When:</i>		
	<b>Clouds</b>	<b>Temperature</b>	<b>Winds</b>
Weather to stay fair.	Move higher, decrease in number when morning fog disappears.	Normal for the season.	Are west to northwest & gentle.
Weather to get worse	Thicken, lower and darken to the west.	Is too high or too low for the season.	Shifts to between east & south.
Rain or snow	Change from Cirrus to lower types of rain or snow clouds.	Goes up.	Increase in speed, usually from the east.
Thunder Storms	Change from cumulus to cumulo-nimbus.		Increase in speed rapidly.
Weather to clear.	Rise and break up.	Rises after warm, drops after cold front.	Swing from east through south to west.
Colder Weather		Goes down.	From north to north-west.
Warmer Weather		Goes up.	From the south.



# Leadership

You can learn how to be a leader in your own group by following the 3 Rs.

That is how you set an example for your friends at school, at home and in Junior Forest Wardens.



**What if :** you have a problem. How would you solve it?

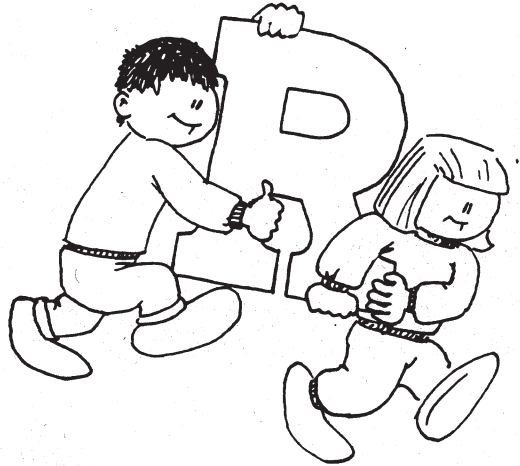
***Follow the Rs to find out...***

# The 3 Rs

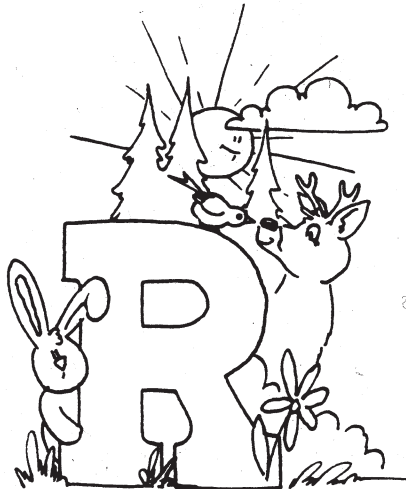
Junior Forest Wardens have three responsibilities.  
You are:



Responsible for Yourself



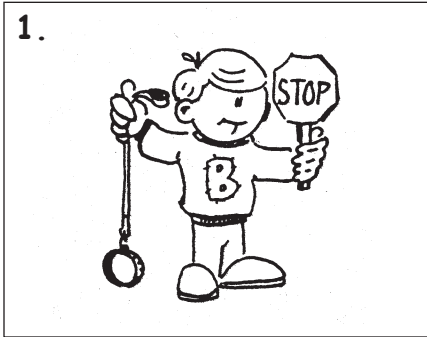
Responsible to Others



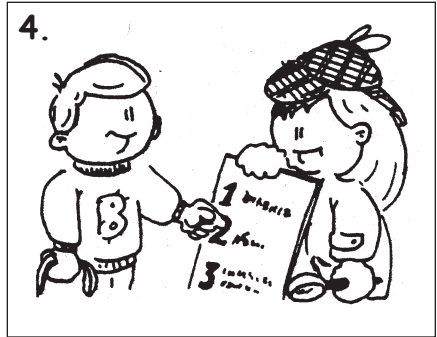
Responsible to Junior Forest Wardens and the Environment

# Problem Solving

Here's one way to solve a problem:



STOP! Say "I've found a problem"



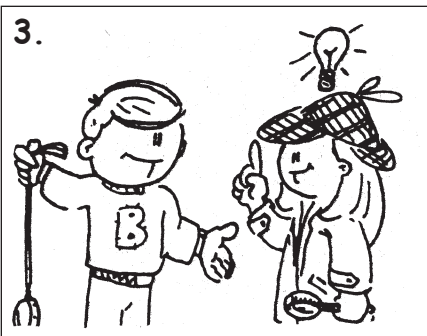
Pick one thing to do.



What's happening now?



Do it!



What can I do?



Did it work?

# Junior Forest Warden Planner

Choose an activity:

Ask:

- When?
- Where?
- Who?
- What?
- Why?
- How?

Think of ways to do this activity.

For each way you think of, think of at least one:

- plus
- minus
- interesting thing



Make a group decision.

Make a to do list.

Do your job.

After the project is finished, ask:

- What worked?
- What could be changed?
- What did I learn?

# Your Record Cards

## The Blue Tree Challenge

<i>Program Area</i>	<i>Date</i>	<i>Leader Signature</i>
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Bronze Badge

---

Forestry Badge

---

Woodstravel Badge

---

Ecology Badge

---

Leadership Badge

---

Blue Tree Badge

---

**Notes :**

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# Forestry



## Trees

*Date Completed and  
Leader's initials.*

Make three crafts from forest materials

Craft 1 \_\_\_\_\_

Craft 2 \_\_\_\_\_

Craft 3 \_\_\_\_\_

Identify the parts of a tree. \_\_\_\_\_

Use a tree cookie to tell the age of a tree \_\_\_\_\_

Make a poster to show why we need  
to plant trees. \_\_\_\_\_

Grow a six month old seedling from a seed /or plan and care for  
10 trees for six months. \_\_\_\_\_

“Harvest” and use a tree with your club. \_\_\_\_\_

Tell why forests are important to you  
and your family. \_\_\_\_\_

## Wildlife

Make a mobile to tell how  
your family uses fish and wildlife. \_\_\_\_\_

Participate in a habitat project  
for an animal. \_\_\_\_\_

## Outdoor Fun

Describe your responsibilities when working and playing in natural areas. \_\_\_\_\_

Talk about activities you can do in natural areas. \_\_\_\_\_

## Water

Make a poster, story, etc., to show how water is important to plants, animals and people. \_\_\_\_\_

On a dayhike or campout, practice saving water. \_\_\_\_\_

## Range Lands

Describe plants and animals that live on range lands near you. \_\_\_\_\_

## Insects

Identify two insects in your community that can harm trees. \_\_\_\_\_

Identify damage caused by these two insects. \_\_\_\_\_

## Tree Diseases

Make a collection, poster or photo album of two tree diseases in your local community. \_\_\_\_\_

Identify and name these two diseases on trees. \_\_\_\_\_

# Forest Fires

Learn the phone number used to report forest fires.

Describe what you would do if you spotted a forest fire.

# Community Service

Participate in a club conservation activity.

Participate in one club community service project.

*This will certify that* \_\_\_\_\_

*of the* \_\_\_\_\_

*Junior Forest Warden Club has completed all of the requirements of the Blue Tree Forestry Badge.*

*JFW Leader Signature* \_\_\_\_\_

*Date* \_\_\_\_\_

**Congratulations**



# Ecology



## Enjoying the Outdoors

*Date Completed and  
Leader's initials*

Participate in three nature walks. \_\_\_\_\_

Walk 1. \_\_\_\_\_

Walk 2. \_\_\_\_\_

Walk 3. \_\_\_\_\_

Watch a sunrise. \_\_\_\_\_

Make five crafts with things you  
have found on the forest floor.

Craft 1. \_\_\_\_\_

Craft 2. \_\_\_\_\_

Craft 3. \_\_\_\_\_

Craft 4. \_\_\_\_\_

Craft 5. \_\_\_\_\_

## Plants, Animals and Homes

Make a leaf collection of trees  
that live near you. \_\_\_\_\_

Learn the names of five trees. \_\_\_\_\_

Identify the leaves from five trees. \_\_\_\_\_

Show and tell the homes (on a hike or in a drawing) of three  
animals and three plants. \_\_\_\_\_

Tell what plants and animals  
need in a home. \_\_\_\_\_

Watch two different trees in  
three different seasons.

Make posters to show the changes. \_\_\_\_\_

Keep a weather chart on  
one dayhike and one campout. \_\_\_\_\_

Dayhike: \_\_\_\_\_

Campout: \_\_\_\_\_

**This will certify that** \_\_\_\_\_  
**of the** \_\_\_\_\_  
**Junior Forest Warden Club has completed all of the  
requirements of the Blue Tree Ecology Badge**

*JFW Leader Signature* \_\_\_\_\_

*Date:* \_\_\_\_\_

**Congratulations**



# Woodstravel



## First Aid

*Date Completed and  
Leader's initials*

Talk about the steps of rescue breathing. \_\_\_\_\_

Control one bleeding injury. \_\_\_\_\_

Make and use a first aid kit. \_\_\_\_\_

## Fire

Gather tinder, kindling and fuel for a fire. \_\_\_\_\_

Light a match. \_\_\_\_\_

Build a fire, light it and put it out. \_\_\_\_\_

## Clothing

Show how to dress for windy,  
cold and rainy weather. \_\_\_\_\_

Show how to dress for warm weather. \_\_\_\_\_

Pack clothing for two dayhikes  
(one winter, one other season). \_\_\_\_\_

Hike 1: \_\_\_\_\_

Hike 2: \_\_\_\_\_

## Shelter

Tell why shelter is important. \_\_\_\_\_

Show types of natural shelters  
in the case of a storm. \_\_\_\_\_

Show how to keep from getting wet. \_\_\_\_\_

## Compass Work

Walk a straight line bearing with a compass. \_\_\_\_\_

Tell how to get from point A to point B  
by drawing a simple map. \_\_\_\_\_

## Outdoor Safety

Talk about five hazards in the outdoors. \_\_\_\_\_

Tell how to prevent sunburn. \_\_\_\_\_

Tell how to prevent loss of body heat. \_\_\_\_\_

Tell how much water you  
should drink daily. \_\_\_\_\_

## Responsible Dayhiking

Talk about five foods to bring  
on a dayhike and why. \_\_\_\_\_

Tell why we should not litter. \_\_\_\_\_

Tell where to go to the toilet on a dayhike. \_\_\_\_\_

Talk about where dishes should be washed. \_\_\_\_\_

## **Knots and Lashings**

Tie three different knots and/or lashings. \_\_\_\_\_

Build something using the three knots and/or lashings. \_\_\_\_\_

## **Survival**

Make a simple survival kit. \_\_\_\_\_

Show how to use the survival kit in a "survival activity". \_\_\_\_\_

## **Search and Rescue**

Search for and find a lost article. \_\_\_\_\_

Show how to keep from getting lost. \_\_\_\_\_

Describe what you would do if you got lost. \_\_\_\_\_

Practice a search and rescue plan with your club. \_\_\_\_\_

## **Dayhikes and Campouts**

Go on six dayhikes.

Dayhike 1. \_\_\_\_\_

Dayhike 2. \_\_\_\_\_

Dayhike 3. \_\_\_\_\_

Dayhike 4. \_\_\_\_\_

Dayhike 5. \_\_\_\_\_

Dayhike 6. \_\_\_\_\_

(continued next page)

Go on three campouts.

Campout 1. \_\_\_\_\_

Campout 2. \_\_\_\_\_

Campout 3. \_\_\_\_\_

Go on two of the following:

Hiking \_\_\_\_\_

Snowshoeing \_\_\_\_\_

Canoeing \_\_\_\_\_

***This will certify that \_\_\_\_\_***  
***of the \_\_\_\_\_***  
***Junior Forest Warden Club has completed all of the requirements of the Blue Tree Woodstravel Badge.***

*JFW Leader Signature* \_\_\_\_\_

*Date:* \_\_\_\_\_

**Congratulations**



# Leadership



*Date Completed  
and Leader's initials*

Help to plan three club activities or projects.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Help to plan one club dayhike. \_\_\_\_\_

Make a poster of a way to solve a problem. \_\_\_\_\_

Solve three problems by yourself: \_\_\_\_\_

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Make a poster which shows what the 3 R's are.

Complete 10 tasks that are helpful to your club.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

(continued next page)

6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

Complete an assigned activity or project at home. \_\_\_\_\_

Complete five group activities.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

<p><i>This will certify that</i> _____</p> <p><i>of the</i> _____</p> <p><i>Junior Forest Warden Club has completed all of the requirements of the Blue Tree Leadership Badge.</i></p> <p><i>JFW Leader Signature</i> _____</p> <p><i>Date:</i> _____</p> <p><b>Congratulations</b></p> 
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### **The Code**

We have been given the earth for our life. It is a great entail. It belongs as much to those who come after us as to us, and we have no right by anything we do, or neglect to do, to involve them in unnecessary penalties or to deprive them of benefits which are theirs by right.

### **The Pledge**

As one who believes in the aims of the Junior Forest Wardens, I pledge myself and my services to the appreciation and responsible use of our forests, wildlife and natural heritages.

### **The Motto**

Keep our Forests Green

### **The Watchword**

Watch and Warn

# Thank you

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