

THE OUTDOORS

CAMPING AND SURVIVAL SKILLS

Member's Manual

Draft 2007



Manitoba Agriculture, Food and Rural Initiatives

www.gov.mb.ca/agriculture/



4-H Motto

Learn to do by doing.

4-H Pledge

I pledge
 My HEAD to clearer thinking
 My HEART to greater loyalty
 My HANDS to larger service
 My HEALTH to better living
 For my club, my community and my country.

4-H Quality Equation Principles

Quality People

Promote responsibility, respect, trust, honesty, fairness, sportsmanship, citizenship, teamwork and caring.

Quality Experiences

Provide members with personal development and skill development experiences.

Quality Projects

Promote and value quality effort.

Promote high quality, safe food production within industry standards.

Table of Contents

TOPIC	PAGE
Project Completion Requirements	3
Introduction	4
List of Activities	5
Project Evaluation	8
Camping Skills	10
Outdoor Cooking	36
Winter Survival	52
Orienteering	64
Hiking the Back Country	74
Credits	82

Manitoba 4-H
 project material is
 cost-shared
 between
 Manitoba
 Agriculture, Food
 and Rural Initiatives
 and
 Agriculture and
 Agri-Food Canada.

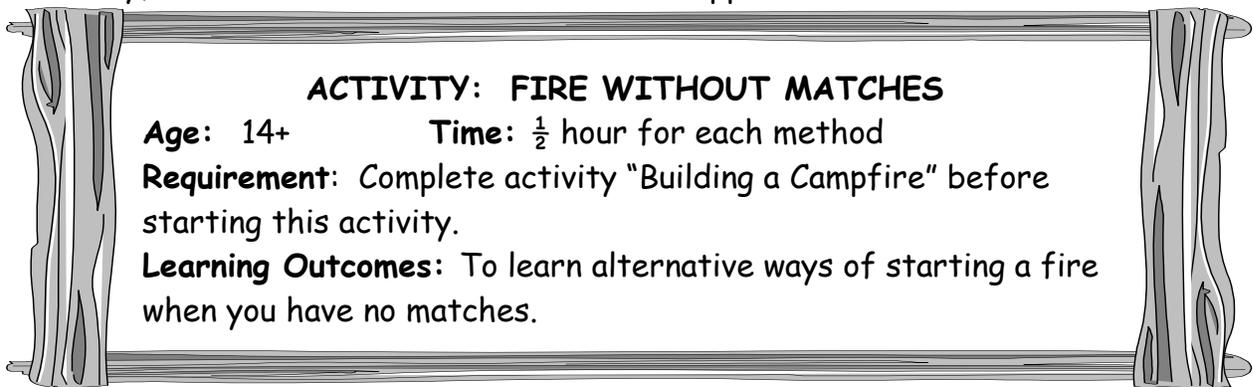
We gratefully acknowledge the support of

 Agriculture and Agri-Food Canada / Agriculture et Agroalimentaire Canada

THE OUTDOORS CAMPING AND SURVIVAL SKILLS PROJECT COMPLETION REQUIREMENTS

For completion of this project, each 4-H members must:

- Spend a minimum of **12 hours** completing their chosen activities. Each activity is assigned an approximate time length to help plan and organize the activity. It is not necessary to take all of the activities in each theme or to take them in a specific order, unless the activity has a requirement activity.
- Complete any "**requirement**" activities before attempting the new activity. It is important to do the requirement activity first as it teaches skills needed to complete the more advanced activity
- Guidelines are given for approximate age suitability for each activity. Keep in mind that these are only guidelines and may be adjusted according to individual skill levels. The **ACTIVITY**, suggested **AGE**, estimated **TIME** needed for the activity, **REQUIREMENTS** needed before beginning the activity, and the **LEARNING OUTCOME** will appear in a box like the one below.



ACTIVITY: FIRE WITHOUT MATCHES
Age: 14+ **Time:** ½ hour for each method
Requirement: Complete activity "Building a Campfire" before starting this activity.
Learning Outcomes: To learn alternative ways of starting a fire when you have no matches.

- **Leaders and members are required to initial each completed activity in the space provided at the end of the activity.**
- Check off **completed activities** in the check box provided in the **Activity Listing** on Page 5/6.
- The **Activity Talk** and **Member/Leader Initial Space** will appear in a box like the one below.

Activity Talk:

Do you know how to use each of the items in the kit?

Have you taken a first aid course?

"Make a First Aid Kit" activity has been completed.

Member's Initials _____ Leader's Initials _____

- Choose **different project activities for each year** the project is taken.
- Complete the **My 4-H Record**. (green sheet) Members are required to list the activities they completed in the "Project Meetings" section of My 4-H Record.
- Participate in the Project/Club Achievement activities as decided upon by the project group. Ideas for Achievement are listed below.

IDEAS FOR ACHIEVEMENT

The project group can choose one of these ideas or come up with an idea of their own for Achievement, keeping in mind that the purpose of the "Achievement" is to celebrate what has been learned through the project. The celebration could include any of the following: items made, skills learned, a demonstration or presentation about your project or skills, or an outing where skills are actually put into practical use. The achievement could include community members, families, and friends.

- If part of a multipurpose club, where other projects will be displaying their achievements, the Camping and Survival Skills could display items used or made in project work, set up photograph display, or give demonstrations.
- Invite friends, family, and community members to an outdoor cook-out and demonstrate some skills learned in the project.
- Take an overnight or a several day backpacking or camping trip to practice some of the skills you learned in the project. Make a poster or a write-up for the local paper to inform them about your experiences.

**LIST OF ACTIVITIES
CAMPING and Survival SKILLS**

ACTIVITY	Age	Time	Page	Chosen Activities Completed/
CAMPING SKILLS				
Making a First Aid Kit	9+	1 hr.	11	
Safety Coloring Sheets	9-10	.5 hr.	12	
Choosing a Camp Site	9+	4 hrs	14	
Building a Campfire	9+	1 hr.	15	
Making a Fire Without Matches	14+	.5 hr.	17	
Making Fire Starters	9+	1 hr.	18	
Making a Lean-To Shelter	11+	3 hrs.	19	
Making Emergency Shelters	11+	20 min/ method	21	
Digging a Latrine	11+	2 hrs.	23	
Making a Camp Stool	11+	2 hrs.	24	
Making Camp Utensils	9+	.5 hr/ item	25	
Knotscraft	9+	2 hrs.	26	
Knives	11+	1 hrs.	28	
Making a Willow Whistle	11+	2 hrs.	29	
Making a Knife Sheath	14+	3 hrs.	31	
Playing Lacrosse	9+	2 hrs.	33	

ACTIVITY	Age	Time	Page	Chosen Activities Completed/
OUTDOOR COOKING				
Making a Hunter/Trapper Fire	9+	1 hr.	37	
Making a Log Cabin Fire	9+	1 hr.	38	
Making a Fire in a Hole	11+	1 hr.	39	
Making a Tripod	9+	1 hr.	40	
Making a Grill	9+	1 hr.	41	
Making Cooking Utensils	9+	.5 hr/ item	42	
Treating Drinking Water	9+	.5 hr/ method	43	
Making a Water Collector	11+	1 hr.	44	
Finding Food in the Wild	9+	3 hrs.	45	
Recipes for Outdoor Cooking	9+	varies	47	
Cleaning Up and Packing Up	9+	1 hr.	50	

ACTIVITY	Age	Time	Page	Chosen Activities Completed/
WINTER SURVIVAL				
Testing Yourself on Winter Survival	11+	2 hrs.	53	
Building a Fire in the Winter	9+	1 hr.	54	
Signaling for Help!	11+	2 hrs.	55	
Making a Quinzee	11+	3 hrs.	56	
Making a Fast Snow Cave	9+	3 hrs.	57	
Making a Pocket Pack	9+	1 hr.	58	
Making a Winter Day Pack	9+	1.5 hr.	59	
Making an Emergency Car Kit	14+	1-2 hr.	60	
Making Mitts and/or Headband	9+	2 hrs.	61	

ACTIVITY	Age	Time	Page	Chosen Activities Completed/
ORIENTEERING				
Using a Compass	9+	1 hr.	61	
Making a Compass	9+	.5 hr	62	
Reading a Map	9+	.5 hr	63	
Using a Compass to Find a Map Location	11+	1-2 hrs.	64	
Using the Sun and Stars	9+	2 hrs.	65	
Contour Lines	9+	1 hr.	67	
How Many Steps in a Mile?	9+	1 hr.	68	
Messages and Trails	0+	1-2 hrs.	69	

ACTIVITY	Age	Time	Page	Chosen Activities Completed/
HIKING THE BACK COUNTRY				
Planning a Backpacking Trip	11+	10-12 hrs.	71	
Yes - It all has to go in or on that Backpack!	11+	30 min.	73	
Hiking Themes	11+	2 hrs.	75	
Low Environmental Impact Camping Principles	11+	1 hrs.	77	

PROJECT EVALUATION

CAMPING AND SURVIVAL SKILLS

Please help us to make sure the 4-H program provides quality projects. Fill out this form as you work through the book. Your answers will be used to improve the project. After you are done your project, mail this form to:

*Provincial 4-H Office
Manitoba Agriculture and Food
1129 Queens Avenue
Brandon, MB. R7A 1L9*

Who are you? _____ member _____ leader _____ parent

1. Why did you choose to take this project? _____

2. What was the best part of this book? _____

3. In this book, what things were too hard or didn't work? _____

4. What are some neat ideas that would make this book more exciting? _____

5. Anything else you would like to tell us? _____

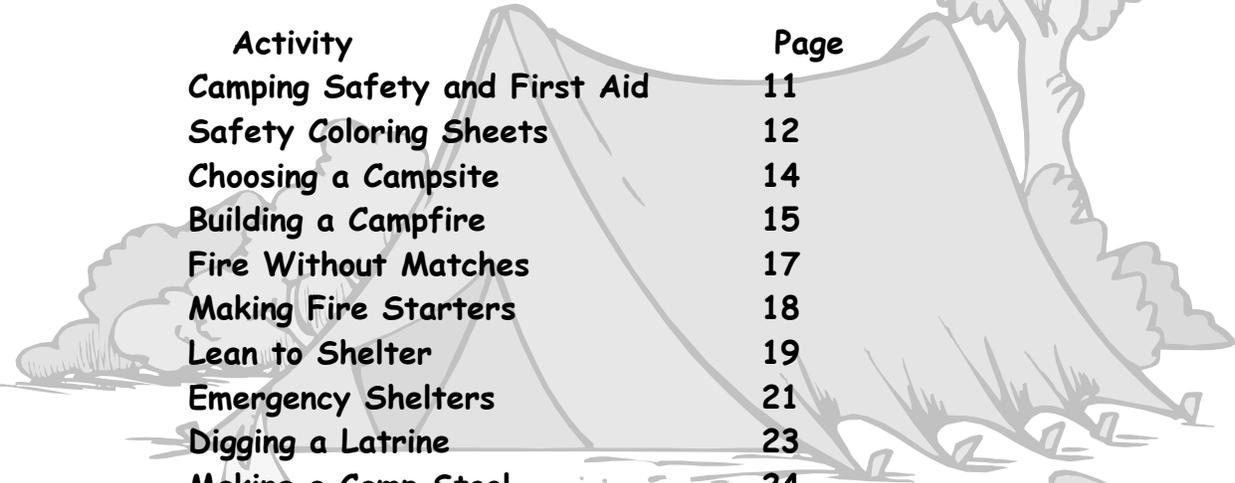
In case we need to find out more, you may want to add your name:

Name: _____ Phone #: _____ Email: _____

CAMPING SKILLS



Activity	Page
Camping Safety and First Aid	11
Safety Coloring Sheets	12
Choosing a Campsite	14
Building a Campfire	15
Fire Without Matches	17
Making Fire Starters	18
Lean to Shelter	19
Emergency Shelters	21
Digging a Latrine	23
Making a Camp Stool	24
Making Camp Utensils	25
Knotscraft	26
Knives	28
Making a Willow Whistle	29
Making a Knife Sheath	31
Playing Lacrosse	33



ACTIVITY: MAKING A FIRST AID KIT

Age: 9+

Time: 1 hour

Learning Outcome: To learn what items should be in a basic First Aid Kit. To learn what the items are used for.

ITEMS:

Vinyl gloves

1 bar of soap

Scissors

Paper and pencil

4 large non-stick dressings

4 large absorbent dressings

4 medium non-stick dressings

4 medium absorbent dressings

1 roll medical tape

Various Band-Aids

Tweezers

2 tensor bandages

2 tube slings

Eye flush cup

Antibiotic ointment

Antiseptic (liquid form)

A waterproof container to hold all the items



Activity Talk:

Do you know how to use each of the items in the kit?

Have you taken a first aid course?

"Making a First Aid Kit" has been completed.

Member's Initials _____ Leader's Initials _____

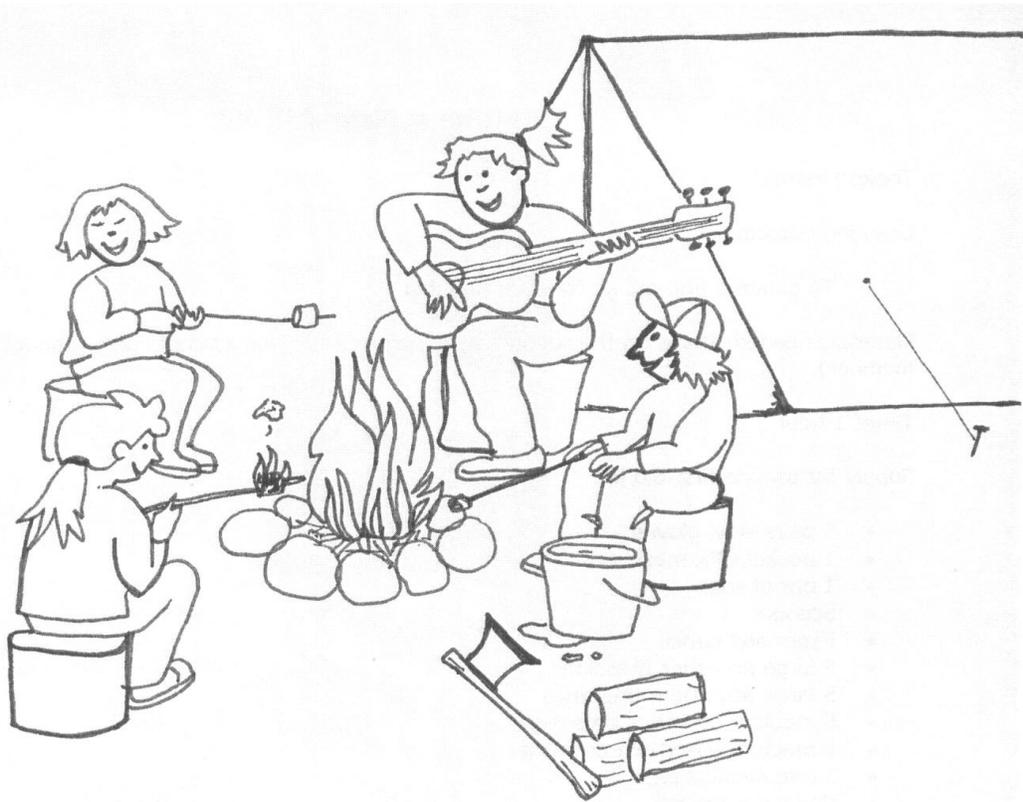
ACTIVITY: SAFETY COLORING SHEETS

Age: 9-10

Time: ½ hour

Learning Outcome: To be able to identify safety hazards. To find a safer way to enjoy the outdoors.

Color the pictures and circle the hazards.



Spot the Dangers!



Spot the Dangers!

Activity Talk:

Share the drawings with the group.

Did everyone circle the same things?

"Safety Coloring Sheets" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: CHOOSING A CAMPSITE

Ages: 9 +

Time: 4 hours

Learning Outcome: To learn what makes a good campsite, to ensure a safe and comfortable camping experience.

After reading the following information, choose a campsite and set up your camp. It is important to choose a safe and comfortable campsite. Look for a dry area that is slightly higher than the area around it, so that if it rains the camp area will not hold water.

DO

Ask permission if you want to camp on private property.
Camp close to a good water supply if possible.
Camp in or near low trees and bushes for shelter.
Choose level ground for your cooking and shelter area.
Keep food cool by placing it under the shade of a tree.
Put up a clothesline in an area that catches the breeze.
Let someone know where you are camping.

DON'T

Camp in a basin where flood water could flow.
Camp in fields with animals like cattle.
Put your tent or shelter under large trees with branches that could break off or attract lightning.
Make a camp toilet too close to camp.
Place your tent so the entrance is facing the wind.
Leave your food too close to your shelter.
Camp in an area by the ocean that might be covered by an incoming tide.

Activity Talk:

How did your chosen campsite work out for you?

What were the strong and weak points of the campsite?

"Choosing a Campsite" has been completed.

Member's initials _____ Leader's initials _____





ACTIVITY: BUILDING A CAMPFIRE

Ages: 9+

Time: 1 hour

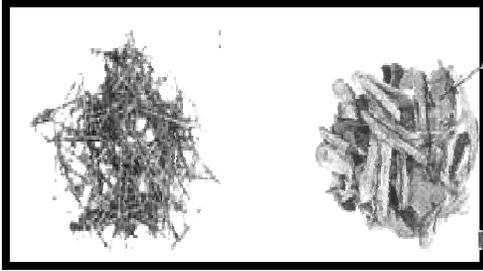
Learning Outcome: Learn basic fuels needed for building a fire. Learn to make a safe, useful fire.

Fires are very useful. A fire helps to keep you warm, gives off light, and makes it possible for you to cook. Fires can also be dangerous and can spread to become an out of control fire. Always collect all the materials you need to make the fire before lighting it so that you don't have to leave it unattended once it is burning.

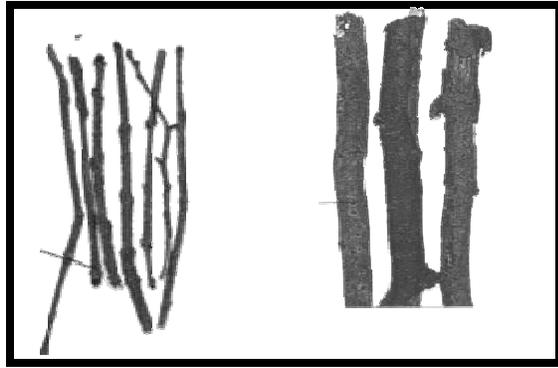
MAKING A TEEPEE FIRE:

- Check to be sure fires are allowed in the area where you plan to build the fire.
- Choose a spot well away from anything that might catch fire.
- Gather materials you will need.
- If you are building the fire on a grassy area, remove a square of sod and build your fire in the dirt.
- The kindling needs to be dry and the sticks should be dry - not green.
- Have some water, sand or dirt nearby in case the fire gets out of control.
- Lay thick sticks in the dirt side by side.
- Place some kindling on top of the thick sticks. Use small sticks about the thickness of pencils.
- Build a teepee shape around the kindling with thinner sticks, leaving a gap in the front to add the tinder. Use dry grass or dead leaves as your tinder.
- Put some tinder inside the kindling. Light the tinder with a match.
- Once your fire burns for a few minutes the teepee will collapse in a pile. When this happens add more sticks. Thin sticks are best for cooking, and thick sticks are best for a slow burning fire.
- Try to add only as much wood as you need so that the fire has died down when you are done using it. When you are finished using the fire - put it out.
- Use water, sand or dirt to put the fire out.
- When the fire is cold, scrape the ashes and embers with a stick to be sure there are no live coals.
- Replace the piece of sod you dug out for the fire pit.

Tip: When it is a wet day, you might find dry dead wood in the cracks of trees or underneath bushes and piles of leave.



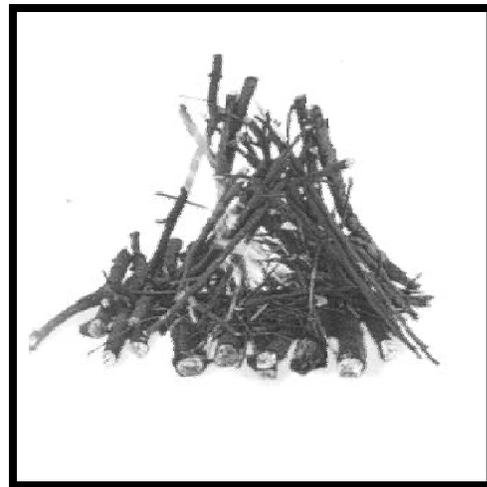
Tinder



Kindling



Dry Wood



Tepee Fire

Activity Talk:

Did you find it difficult to get the fire burning?

Were you able to find material for tinder, kindling, and fuel?

"Building a Campfire" activity has been completed.

Member's initials _____ Leader's initials _____

ACTIVITY: FIRE WITHOUT MATCHES

Age: 14+

Time: $\frac{1}{2}$ hour for each method

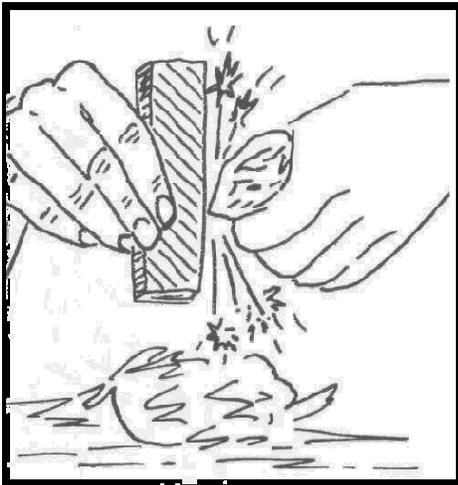
Requirement: Complete activity "Building a Campfire" before starting this activity.

Learning Outcomes: To learn alternative ways of starting a fire when you have no matches.

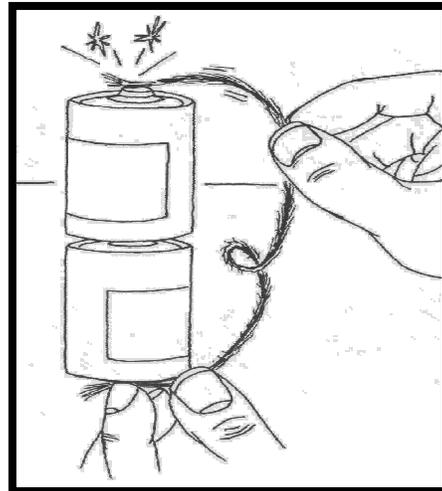
Before matches were invented, the common way of making fire was by striking steel against a piece of flint and catching the spark in tinder. To make a fire this way, look for a piece of flint around your campsite. Flint is usually dark-grey, blue, black, or deep brown in color, and often has a glassy appearance. The steel can be provided by an old file, or, if necessary, a knife blade.

Aboriginal people and newcomers to Canada had flint and steel sets that included a tinderbox and sulfur tipped spunk.

Try to make fires with these fire starting methods.



Strike the flint against the steel lighting the tinder with the sparks.



Run a piece of steel wool from the top battery post to the bottom post of the second battery as shown to light tinder.

Activity Talk:

Which method(s) did you try?

Did you manage to get a fire started without matches?

"Starting a Fire Without Matches" has been completed.

Member's initials _____ Leader's initials _____

ACTIVITY: MAKING FIRE STARTERS

Age: 9+

Time: 1 hour

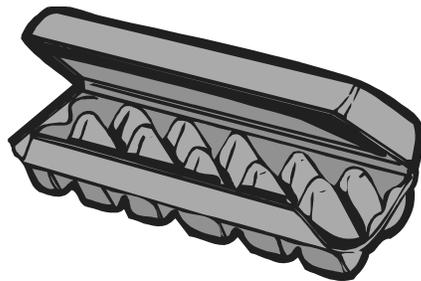
Requirement: Adult supervision with the hot wax.

Learning Outcome: To learn how to make simple fire starters that can be useful when trying to start a fire in the outdoors. To learn how to use fire starters safely.

Fire starters can easily be made at home and are very useful for lighting campfires, especially when the ground or wood is wet. They light easily and create a hot flame that will ignite the damp kindling and sticks.

Materials needed: Old crayons or candles, or blocks of paraffin wax, cardboard egg cartons (be sure to use cardboard ones as the styrofoam cartons give off toxic smoke), lint from the dryer, sawdust or woodchips, a double boiler or an empty can and cooking pot.

- Place crayons, candles or wax in the top of the double boiler. (or in the tin can - half full only)
- Put water in the bottom of the double boiler - or cooking pot if you are using a can.
- Bring the water to a boil and then turn the heat down to medium-low.
- While the wax is melting, cut bottom off the egg carton and fill the egg cups with lint, sawdust or woodchips.
- Have an adult pour the melted wax into each egg cup. Let cool.
- Cut the egg cups apart so that you have 12 fire starters.



Activity Talk:

What did you use for filler - lint, sawdust, or woodchips?

Did you try lighting a fire with one?

“Making Fire Starters” activity has been completed.

Member's initials _____ Leader's initials _____

CAMPING SHELTERS

A tent is often the easiest and best form of shelter when camping. There are many kinds of tents, each suitable for different conditions. The basic ridge tent can be used in a variety of camping conditions including backpacking trips or backyard camping. A tunnel tent can withstand strong winds. A domed tent is light, spacious and easy to carry.

However, there may come a time when you don't have a tent with you, or when you find yourself stranded and having to spend the night outdoors. Knowing how to build a shelter will make your stay more comfortable, and may even save your life.

ACTIVITY: LEAN-TO SHELTER

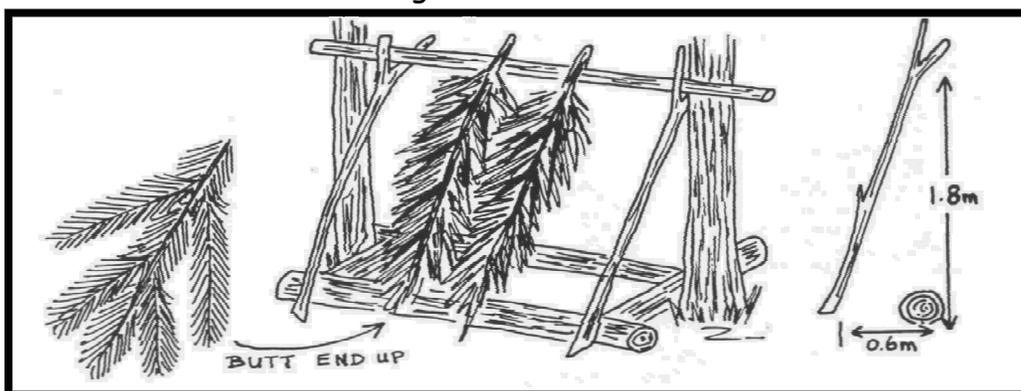
Age: 11+

Time: 3 hours

Learning Outcome: To learn to make a safe, reliable shelter with the materials you have available in the outdoors.

The lean-to shelter is a framework of poles lashed together and thatched with long grass, spruce boughs, or whatever material is available. Your frame should be as tall as the person sleeping in it, and a little wider than the person. The person will sleep lengthwise in the shelter.

- Find two trees approximately the right distance apart to support the frame.
- Arrange the ground poles as shown in the diagram.
- Find two trees or branches with forks for the upright poles, and a tree or branch to fit through the forks and rest against the trees.
- If possible use rope, belts or ripped clothing to tie the upright poles to the trees. This will strengthen the shelter.

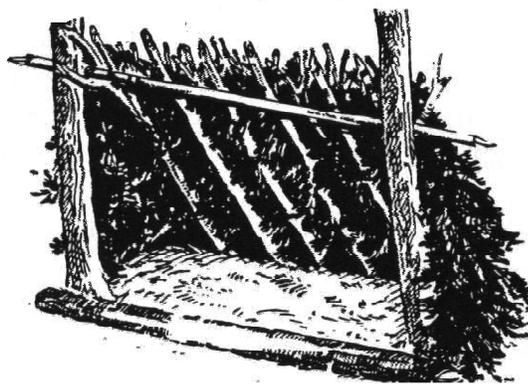


Thatching a lean-to is much like shingling a house.

- Place a thin layer of large boughs to form a base for the other evergreen boughs to be plugged into.
- Then, starting from the bottom, evergreen boughs are plugged in - butt end up.
- Work side to side putting on boughs, overlapping the row below.
- Keep adding layers until there are no holes or light showing through.
- Always put the butt end up so that if it rains the water is passed needle to needle to the ground outside the lean-to. Boughs with lots of needles run water the best.
- The sides of the lean-to can be filled in the same way.
- Soften the sleeping area with moss, leaves, or lichens.

Note: Bull rushes also make a good cover for the lean-to shelter. You will need a layer about four reeds thick. Then move up and add more layers of reeds each overlapping the one below.

Caution: Don't light a fire close to the shelter as both bull rushes and spruce boughs are very flammable.



Activity Talk:

What kind of materials did you use to build your lean-to-shelter?
Do you think it would protect you from snow or rain?

"Lean-To Shelter" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: MAKING AN EMERGENCY SHELTER

Age: 11+

Time: 20 minutes for each method.

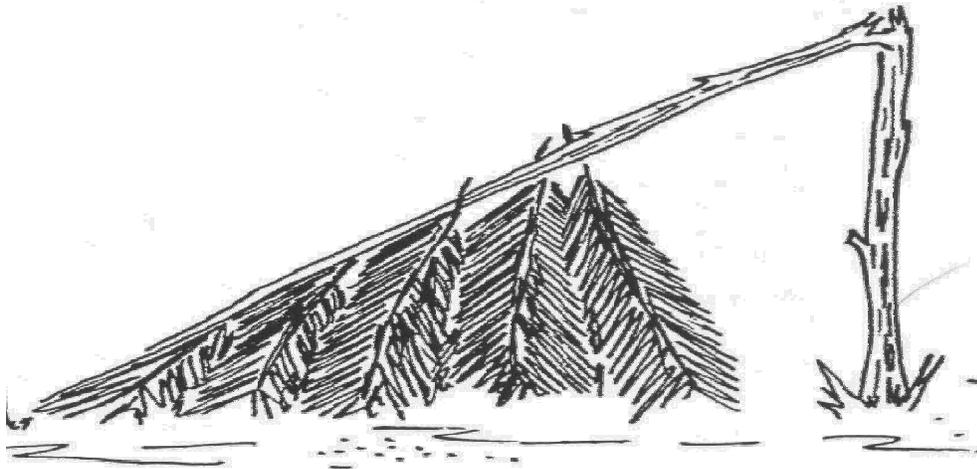
Learning Outcome: To learn how to make a shelter for emergency situations by practicing different methods.

Sometimes circumstances in the outdoors like sudden storms and darkness make it impossible for you to find the materials necessary for making a lean-to shelter. You need to make shelters with whatever you have available.

While you are out hiking, pretend a thunder storm came up very quickly. Using your imagination and materials you have with you or can find outdoors, make an emergency shelter. The following are some ideas.

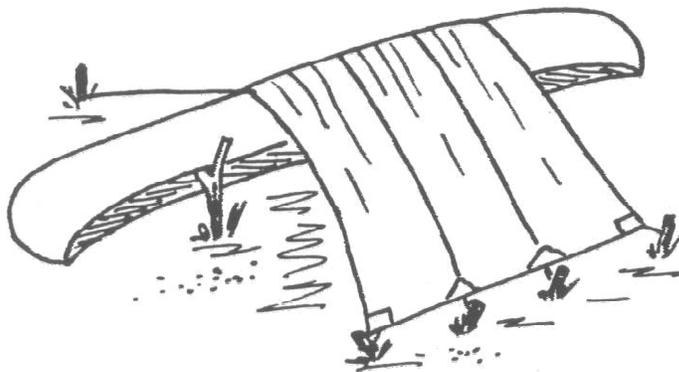
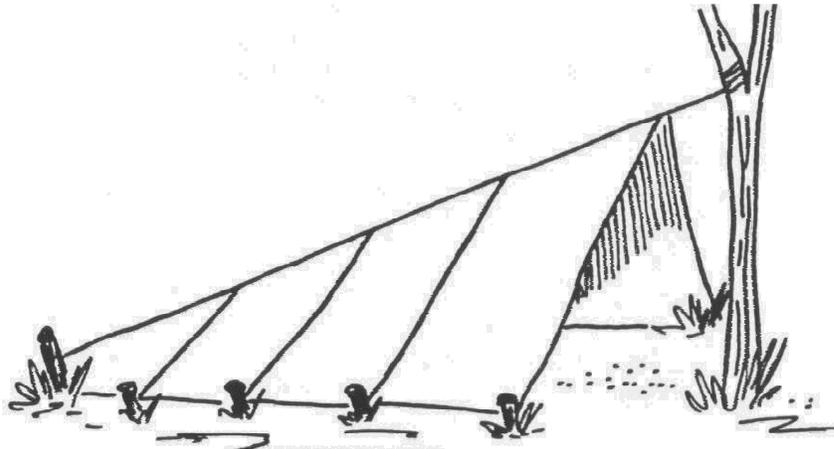
Quick Build Lean-to:

- Cut part way through a small spruce tree, and then bend it over to partially break it.
- Use the branches off the underside of the trunk and other nearby trees to thatch a quick shelter.



Tarp or Plastic shelter:

- Make a tarp or plastic shelter in the form of a lean-to, a wedge tent, or over a canoe or a fallen tree.
- Secure the edges with sticks, pegs, or stones.



Activity Talk:

What did you use to make your emergency shelter?
How quickly were you able to make it?

▶ **"Making an Emergency Shelter"** has been completed.

Member's Initials _____ Leader's Initials _____

LIVING IN YOUR CAMP

If you are well organized, you will be more comfortable, and your camping experience will be more likely to be a good one. There are several simple things you can make and do to help keep your camp clean and organized. You will enjoy camping more and leave a clean campsite for the next group of campers. It will also ensure that there is minimal disturbance of the environment.

ACTIVITY: DIGGING A LATRINE

Age: 11+

Time: 2 hours

Learning Outcome: To learn how to properly dispose of human waste when camping.

If you are going to be using the same campsite for more than a day or two, you will want to dig a latrine. (toilet)

- Choose a site where the water supply will not be affected.
- The site should be 65 meters downwind from the camp area.
- The latrine should be dug in a low area so all liquids will sink into the ground below the pit.
- The pit should be 90 cm. long, 60 cm. deep, and 25 cm. across.
- The dirt dug from the hole should be saved for filling in the latrine when you leave.
- For long periods of camping chlorinated lime should be sprinkled in the pit before covering with dirt to reduce odors.
- Poles tied between trees can serve as a seat.
- A roll of tissue on a branch can be protected with a large tin can.
- A bucket of water could be nearby for washing hands.

Activity Talk:

Was it difficult to find a suitable location for the toilet?

Was the ground hard to dig?

"Digging a Latrine" activity has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: MAKING A CAMP STOOL

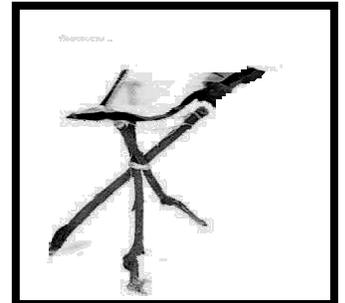
Age: 11+

Time: 2 hours

Requirement: You will need to complete the "Knots" Activity before beginning this activity.

Learning Outcome: To use knotting skills and things from nature to make a useful camping item.

- You will need three strong sticks about 3 feet (1 metre) long.
- Lash them together with heavy string, wrapping the rope around the legs several times and then securing the string with a reef knot.
- Spread the legs out.
- Wrap a piece of string around the top of one of the legs. Secure the string with a reef knot.
- Wrap the string around the top of the second leg and tie a half-hitch knot in the string.
- Repeat on the third leg. Wrap the string back around the first leg and secure it with another reef knot.
- Wrap string around the top of each stick so it will support the seat of the chair.
- Use heavy plastic or tarp to make the seat.
- Fold the material to make a triangle.
- Fold again to make a double layer.
- Seal open edges with strong waterproof tape.
- Using a penknife, carefully make holes through one layer of the material in each corner.
- Place seat over legs with top of legs inserted in holes.



Activity Talk:

What did you use to make the seat?

Did your reef knot hold tightly?

"Making a Camp Stool" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: MAKING CAMP UTENSILS

Age: 9+

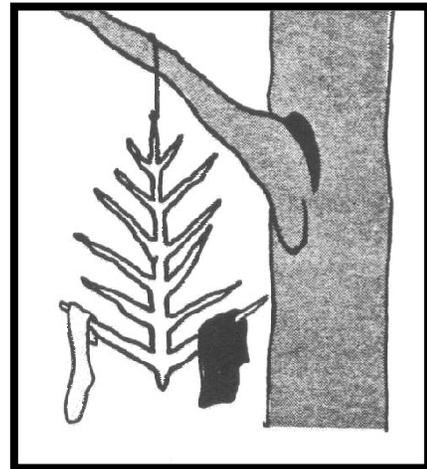
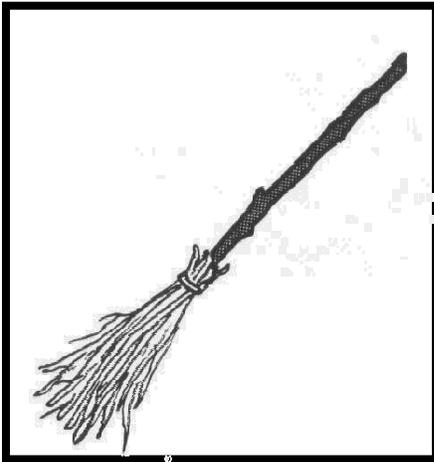
Time: $\frac{1}{2}$ hour per item

Learning Outcome: To find ways to use items from nature as useful tools when camping.

Try making the following items to use at your campsite.

CAMP BROOM:

- Find a strong stick for a handle for the broom.
- Find green branches with leaves or boughs off spruce trees long enough to act as broom straw.
- Attach them to the lower end of the stick by wrapping strong string around them and the stick.



CAMP HANGERS:

- Find a dead tree with branches that can be used for hanging towels, socks, cups etc.
- Attach the dead tree to a larger tree to allow air to circulate around it.

USE YOUR IMAGINATION TO CREATE OTHER USEFUL UTENSILS

Activity Talk:

What utensils did you make? How well did they work?

"Making Camp Utensils" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: KNOTSCRAFT

Age: 9+

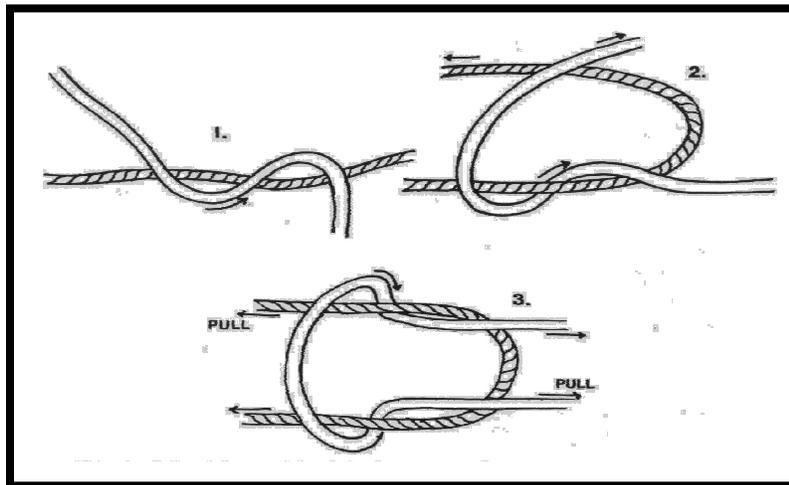
Time: 2 hours

Learning Outcome: To learn how to tie common knots. To learn how and when these knots can be useful.

Learning to tie basic knots can be very useful when camping. It is an important survival skill. It is important to be able to tie quickly and accurately, even in darkness or bad weather. A knot should be easy to tie, easy to untie, and hold securely until you untie it. Practice making the following basic knots. You will need a piece of rope 5 - 6 feet long (1.5 - 2 m)

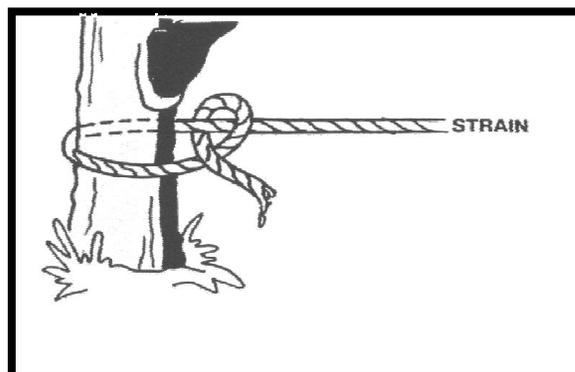
THE REEF KNOT

The Reef Knot ties and unties easily, but will not slip. You can use it to tie ropes together or to tie first-aid bandages.



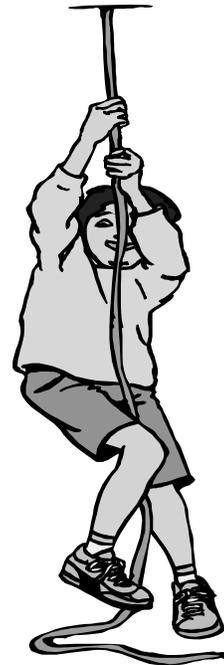
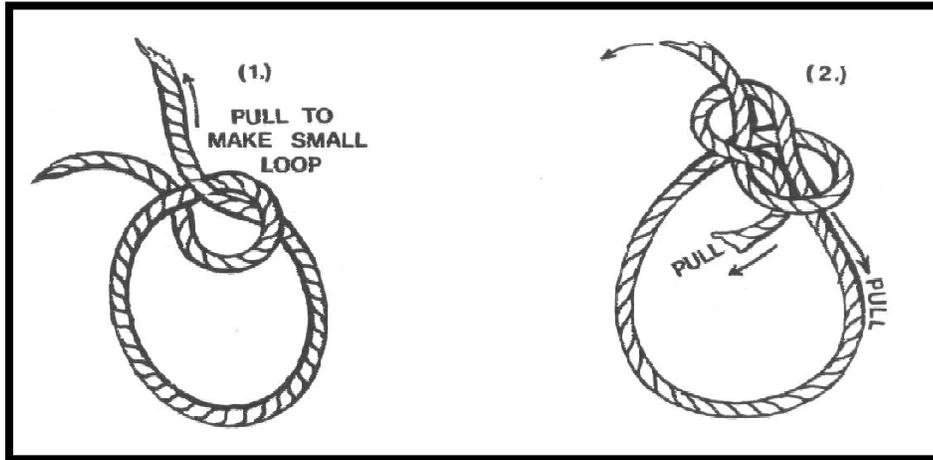
THE HALF HITCH

This is a quick method of securing a boat line or tent line to a mooring, ring or tree. They are often used in pairs.



THE BOW LINE

The bowline forms a fixed loop which will not slip. You can use it to lower a pack from a tree, tie a canoe to the dock, or make a cloths line.



Activity Talk:

Were you able to make all of the knots?

Which knot were you fastest at making?

Which knot do you think you will use the most?

"Knotscraft" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: KNIVES

Age: 11+

Time: 1 hour

Learning Outcome: To learn about different types of knives and how to correctly and safely use a knife.

Used correctly and carefully, a knife can be a very useful tool

There are three basic types of knives:

Pocket Knife

- Usually has more than one blade, and includes gadgets like bottle openers.
- Is small and easily carried - the blades fold into the handle.
- Is not as rugged as other types.
- Is easier to lose than bigger knives.

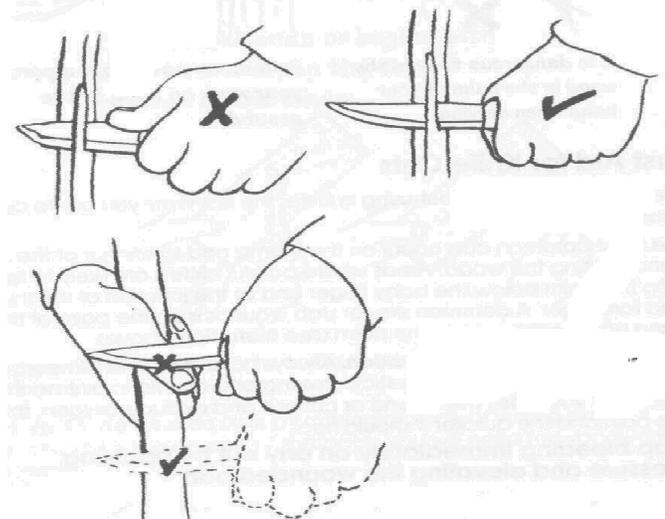
Fixed Blade

- Has a handle with the blade fixed solidly into it.
- Is rugged and durable.
- Is kept in a sheath for safety.

Folding Lock

- Has a single blade that folds into the handle, and opens into a locked position.
- Is rugged but not as durable as the fixed blade type.
- Can be carried anywhere.

Stick peeling is a basic technique that leads to skillful wood carving. Peeled sticks dry out quickly and become lighter and tougher than unpeeled sticks. Study the picture and practice peeling green sticks. Check for the correct hand position.



Activity Talk:

Did your skill improve with practice?

What did you use the sticks for?

"Knives" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: MAKING A WILLOW WHISTLE

Age: 11+

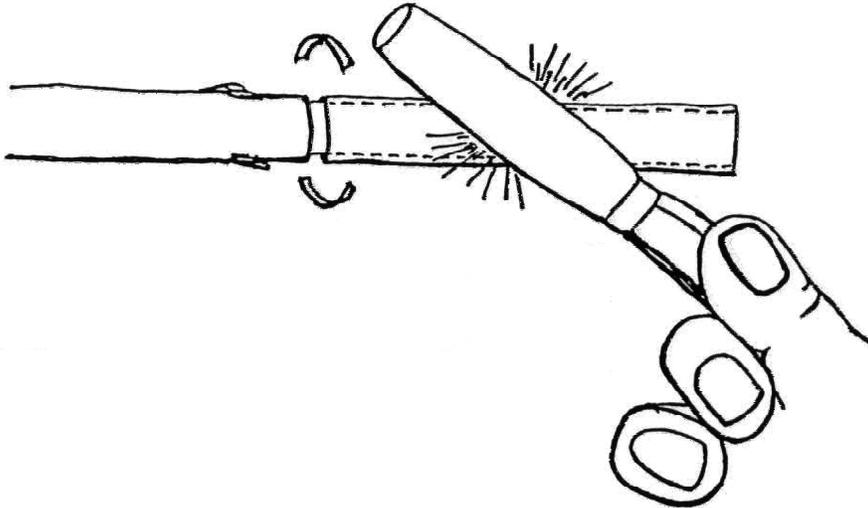
Time: 2 hours

Requirement: The activity "Knives" should be completed before beginning this activity.

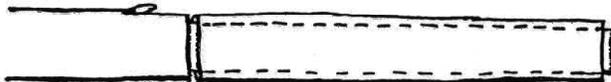
Learning Outcome: To further skills with knives and to make an item with those skills.

When the sap rises in the willow from about mid-May to early July, the bark can be loosened from the wood. A willow whistle is one of the interesting things that you can make from willow trees.

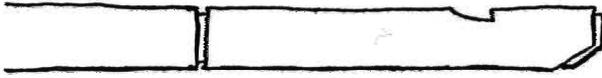
- Find a straight knot-free section of willow about 8-10 inches long and thicker than your little finger. The thicker end can be used as a hand hold when you are trying to remove the bark from the upper portion.
- Remove about a $\frac{1}{2}$ cm of bark. If this does not come off easily, it will be impossible to remove the bark and you will have to try making a whistle another time of year.
- Gently tap the bark from end to end and all the way around.
- Try to twist the bark loose.
- You may have to repeat the tapping, but just a little harder each time. Tapping too hard may crack the bark and ruin the whistle.



- Remove the bark to see if it is undamaged. Replace the bark and close the testing gap slightly.



- Cut the lip of the whistle by cutting away the bark and a little of the wood.



- Remove the bark.



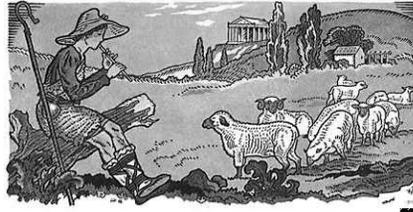
- Cut the air channel (AC) and the chamber (CH).



- Cut off the handle and replace the bark.



- The whistle is ready for use.



Activity Talk:

Were you able to get the bark off the stick?

What do you think Native Canadians used the whistle for?

"Making a Willow Whistle" is completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: MAKING A KNIFE SHEATH

Age: 14+

Time: 3 hours

Learning Outcome: To learn the basics of working with leather.
To make a safe holder for a knife.

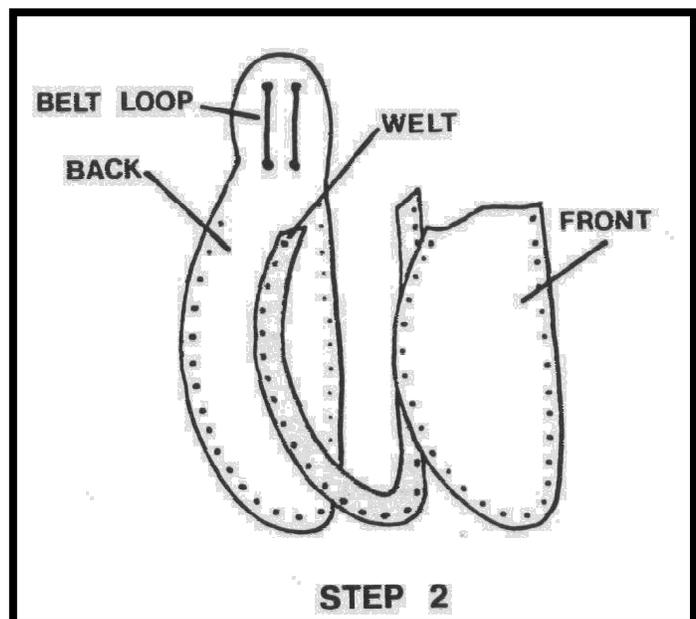
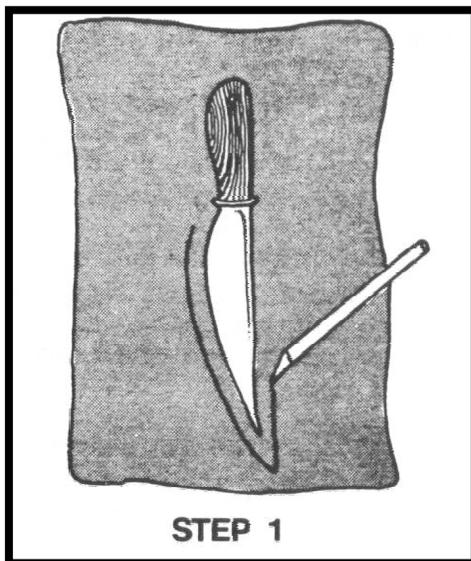
You will need medium weight saddle leather, a sharp knife, an awl (for making holes), two harness needles and heavy shoemaker's linen thread.

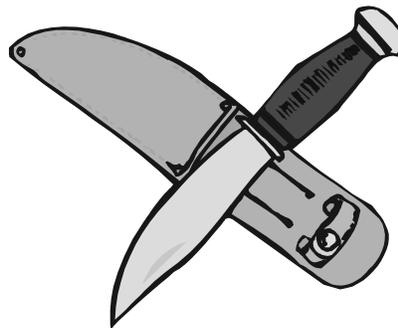
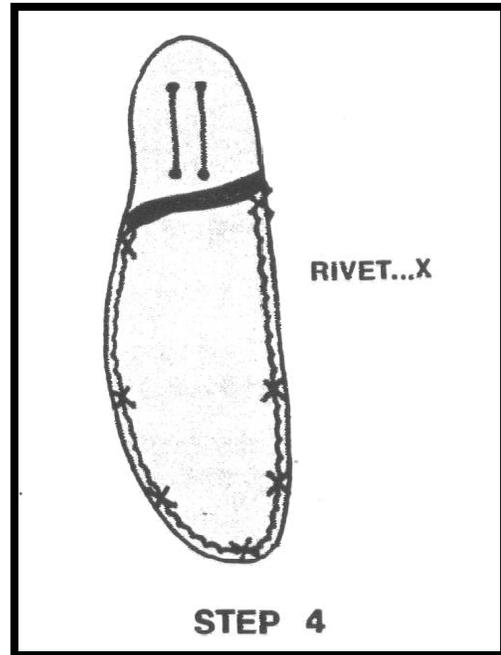
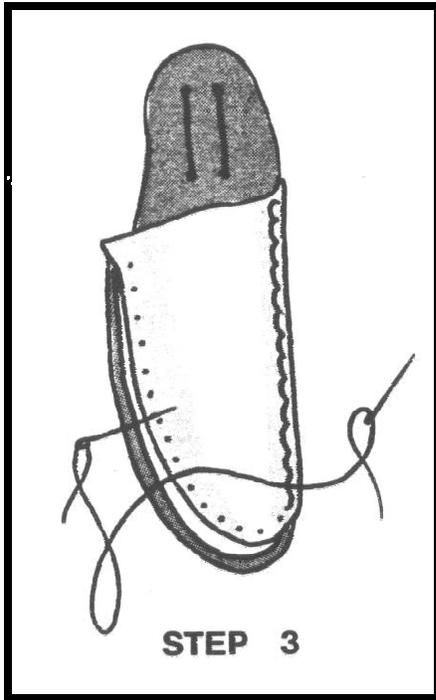
Step 1: Make a paper pattern for the sheath allowing lots of room for the blade, plus 0.8 cm around the outer edge for rivets and stitching.

Step 2: Cut the back, front, and welt from the leather. The welt should be 0.8 cm on the sides and 1.4 cm where the knife point rides. Mark the stitch and punch holes 0.3 cm apart with the awl.

Step 3: Twist two strands of the thread and place a needle at each end. Pass thread through the top holes, then pass needles through the next hole from opposite directions and pull it tight.

Step 4: Buff the edges and have the sheath riveted at a shoemaker's shop.





Activity Talk:

Did your knife fit into the sheath?

Did the sheath fit comfortably on your belt?

"Making a Knife Sheath" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: PLAYING LACROSSE

Age: 9+

Time: 2 hours

Requirement: Use safety equipment.

Learning Outcome: To learn the basic skills for playing lacrosse. To have fun participating in a team sport.

History of Lacrosse

Lacrosse is the oldest sport in North America. It was originally played by Native Canadians and was called "Lacrosse" by Jesuit missionaries who first watched the Huron playing the game. At that time there were at least 48 tribes throughout what is now North America playing the game. Lacrosse was often played to resolve conflicts, heal the sick, and develop strong men.

Legend tells of as many as 1,000 players per side, from the same or different tribes. At times it became a violent contest. The field could be from one to 15 miles in length, and the games lasted for days. Some tribes used a single pole, tree or rock for a goal, while others had two goalposts through which the ball had to pass. Balls were made out of wood, deerskin, baked clay or stone.

Lacrosse is once again becoming a popular sport, and is played in many countries around the world, by males and females of all ages.

Equipment for today's Lacrosse Game

- **The Crosse:** The lacrosse stick is made of wood, laminated wood or synthetic material, with a shaped net pocket at the end.
- **The Ball:** The ball is made of rubber and can be white, yellow or orange.
- **The Helmet:** A protective helmet, equipped with face mask, chin pad and cupped four point chin strap fastened to all four hookups is mandatory in the organized sport.
- **The Mouthpiece:** A mouthpiece helps protect your teeth.
- **Protective Equipment:** Shoulder pads, arm pads, rib pads and gloves are strongly recommended, as well as athletic supporters and protective cups. The goalie wears a throat protector and chest protector as well.



Playing the Game

Lacrosse rules differ between men and women and there are some special considerations for younger children.

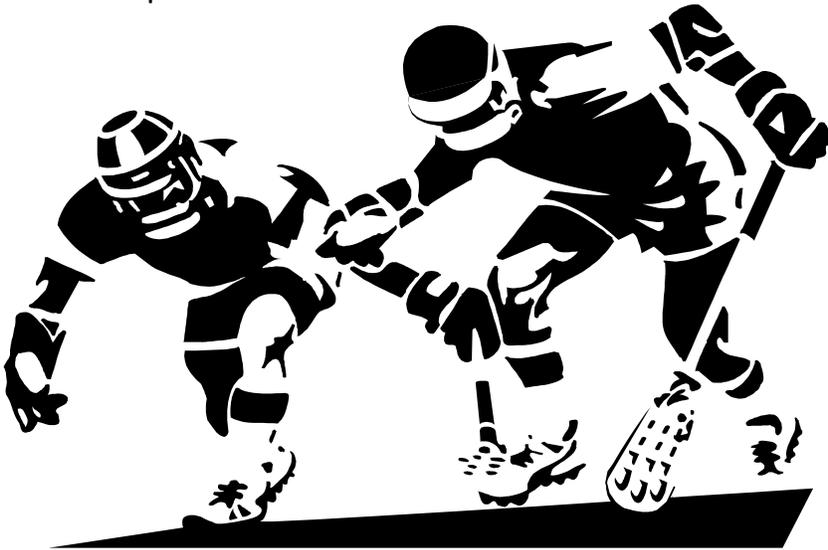
- Men's lacrosse is a contact game played by ten players: a goalie, three defensemen, three midfielders and three attack men.
- The object of the game is to shoot the ball into the opponent's goal. The team scoring the most goals wins.
- Each team must keep at least four players, including the goalie, in its defensive half of the field and three in its offensive half. Three players (midfielders) may roam the entire field.
- Games can run from 32 minutes for youth, 48 minutes for high school and 60 minutes for adults.
- There are four quarters in the game. There is a two-minute break between the first and second quarters, and the third and fourth quarters. Halftime is ten minutes long.
- Teams change sides between periods.
- Each team is permitted two timeouts each half.
- The team winning the coin toss chooses the end of the field it wants to defend first.
- In a face-off, the ball is placed between the sticks of two squatting players at the center of the field. The official blows the whistle to begin play. Each face-off player tries to control the ball. The players in the wing areas can run after the ball when the whistle sounds. The other players must wait until one player has gained possession of the ball, or the ball has crossed a goal line, before they can release.
- Center face-offs are used at the start of each quarter and after a goal is scored.
- Field players must use their crosses to pass, catch and run with the ball. Only the goalkeeper may touch the ball with his hands. A player may gain possession of the ball by dislodging it from an opponent's cross with a stick check.
- Body checking is permitted in men's play if the opponent has the ball or is within five yards of a loose ball. Contact must occur from the front or side, above the waist and below the shoulders, and with both hands on the stick.
- If the ball or a player is in possession of the ball and it goes out of bounds, the other team is awarded possession. If the ball goes out of bounds after an unsuccessful shot, the player nearest to the ball when and where it goes out of bounds is awarded possession.

- An attacking player cannot enter the crease around the goal, but may reach in with his stick to scoop a loose ball.

Fouls and Penalties

- Personal Fouls: This includes slashing, tripping, cross checking, unsportsmanlike conduct, unnecessary roughness, illegal cross, illegal gloves and illegal body checking.
- Technical Fouls: This includes holding, off sides, pushing, screening, stalling and warding off.

If you are looking for a fast moving, physically challenging game, try Canada's first sport - Lacrosse.



Activity Talk:

What did you like best about playing Lacrosse?

"Playing Lacrosse" has been completed.

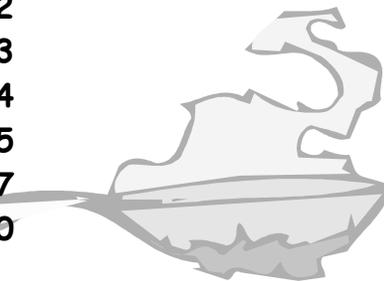
Member's Initials _____ Leader's Initials _____



OUTDOOR COOKING



Activity	Page
Making a Hunter/Trapper Fire	37
Making a Log Cabin Fire	38
Making a Fire in a Hole	39
Making a Tripod	40
Making a Grill	41
Making Cooking Utensils	42
Treating Drinking Water	43
Making a Water Collector	44
Finding Food in the Wild	45
Recipes for Outdoor Cooking	47
Cleaning up and Packing up	50



FIRES FOR OUTDOOR COOKING

A common mistake when making a fire for outdoor cooking is to build the fire too big. You will need high flames for boiling, low flames for stewing or simmering, and a bed of glowing coals for frying and broiling. Never leave a fire unattended and be sure to have a pail of water and a shovel handy to put out a fire in case of emergency.

ACTIVITY: MAKING A HUNTER/TRAPPER FIRE

Age: 9+

Time: 1 hour

Requirement: Complete the activity "Building a Campfire" before beginning this activity.

Learning Outcome: To expand fire building skills. To build a fire to cook on.

- Find or cut two green logs or water soaked logs. Lay them on a slant so they are just far enough apart to support a pan at one end. The logs should widen to about 40 - 45 cm at the other end. The wide end should face the wind.
- Build a small tepee fire between the logs. Push the coals under the cooking pan.
- Keep the logs in place by putting them in a shallow trench or by pegging them down.
- You can lay green wood sticks across the logs to support the cooking pan if you wish.
- The green logs reflect and throw the heat up under the pans. Raising the two green logs a little with small green twigs will allow air in to help the fire get started.
- You can make a **Stone Hunter/Trapper Fire** by using stones in place of the two green logs. Do not use sand stone or shale as they will explode when heated.

Activity Talk:

Did you use logs or stones?

Did you try cooking something?

▶ "Making a Hunter/Trapper Fire" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: MAKING A LOG CABIN FIRE

Age: 9+

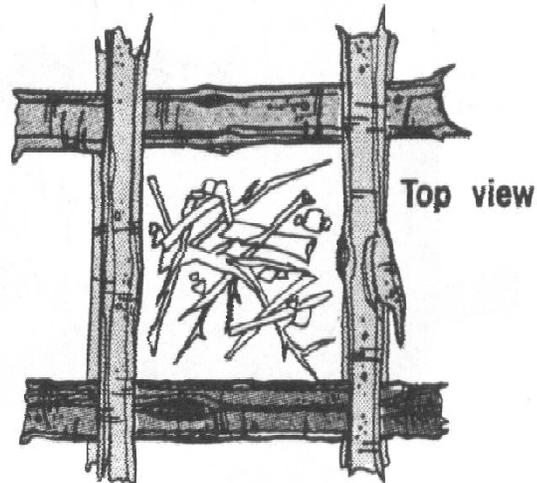
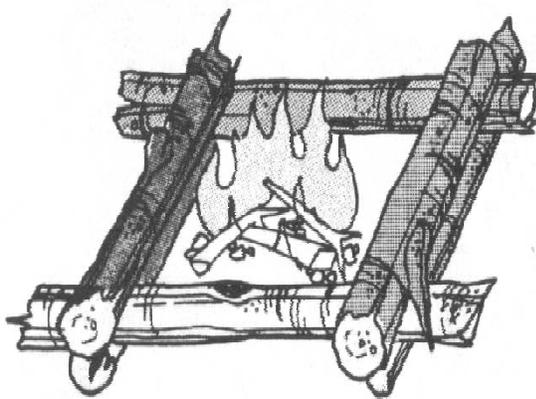
Time: 1 hour

Requirement: Complete the activity "Building a Campfire" before attempting this activity.

Learning Outcome: To expand fire building skills. To learn to build a fire that produces a bed or coals for cooking on.

When you need a good bed or coals, this is a good fire to use.

- Gather sticks that are not more than 2.5 cm in diameter.
- Make a tepee with tinder.
- Around the tinder tepee, keep placing the logs like you are building a log home, but keep moving the logs toward the centre like a pyramid.
- Light the tinder and when the cabin burns and falls into the centre, it will create a deep bed of coals.



Activity Talk:

Did the log house fall into the centre?

Did the fire make a good bed of coals for cooking?

"Making a Log Cabin Fire" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: MAKING A FIRE IN A HOLE

Age: 11+

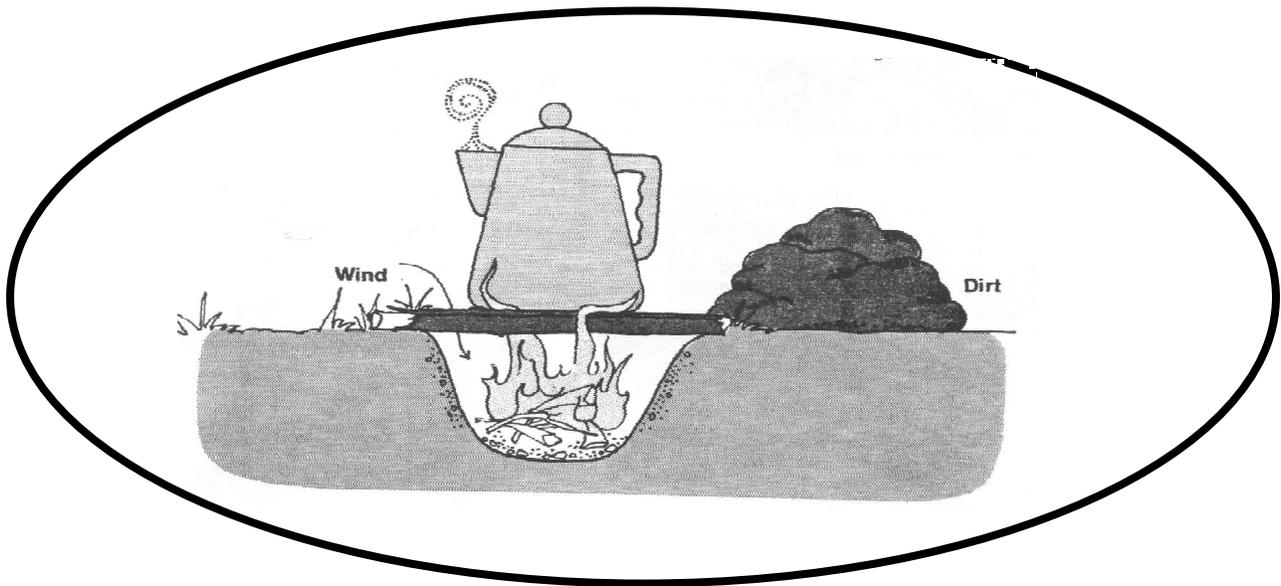
Time: 1 hour

Requirement: Complete the activity "Building a Campfire" before beginning this activity.

Learning Outcome: To learn more about making cooking fires for different weather conditions.

This is a good fire for a one-pot meal.

- Make a small hole about 30 cm. wide and 15-25 cm. deep. The walls of the hole reflect all the heat up to the pot.
- Support the pot with green sticks lain across the hole.
- Keep the dirt on the leeward side of the fire so the fire still gets air. Put the dirt back in the hole when you are finished.
- This a good fire for windy weather as the fire is directed upward, not outward. The hole also reduces the chance of flying sparks.



Activity Talk:

Did the fire burn well?

Was it difficult to find sticks that a pot would sit firmly on?

"Making a Fire in a Hole" has been completed.

Member's Initials _____ Leader's Initials _____

MAKING OUTDOOR COOKING EQUIPMENT

ACTIVITY: MAKING A TRIPOD

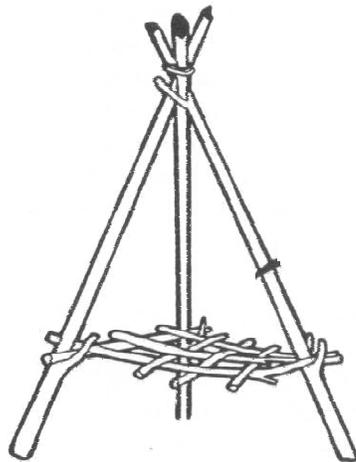
Age: 9+

Time: 1 hour

Requirement: Complete the activity "Knotscraft" before beginning this activity.

Learning Outcome: To use natural materials to create outdoor cooking equipment. To increase options when cooking outdoors.

- Wrap string around three green sturdy sticks about 1 m (3 ft. long). Secure it with a reef knot.
- Spread out the sticks so that the base of each stick will be on the outside of the fire. They should be balanced and sit firmly on the ground.
- Find a green limb with strong branches. Tie one end of the string to the top of the tripod. Cut a groove in the top of the stick and then tie the other end of the string in the groove, using a reef knot. Adjust the string so the stick is above the fire or coals.
- Use the broken off branch to hang the pot on.



Activity Talk:

What was the most difficult part of this activity?

Were you able to hang the pot?

"Making a Tripod" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: MAKING A GRILL

Age: 9+

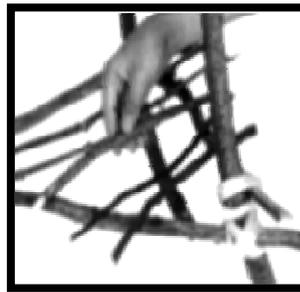
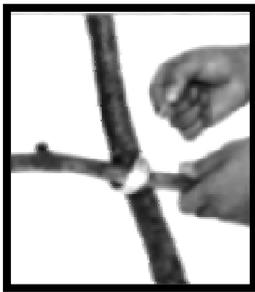
Time: 1 hour

Requirement: Complete the "Making a Tripod" activity before beginning this activity.

Learning Outcome: To use new skills that allows more options when cooking over an open fire.

Use the tripod you made.

- Find 3 green sturdy sticks that are 1-2 ft (30-60 cm).
- Take one of the sticks and tie it to the outside of one of the long tripod legs, about 1 $\frac{1}{2}$ ft (46 cm) from the bottom. Tie the other end to another tripod leg. Do the same with the other two sticks, using the other tripod legs.
- Find straight green sticks that will fit across the frame work you've tied to the tripod.
- Criss-cross sticks across the frame work to form a grill.



Activity Talk:

Were you able to make the grill level enough to cook on?

Was it difficult to criss-cross the sticks?

"Making a Grill" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: MAKING COOKING UTENSILS

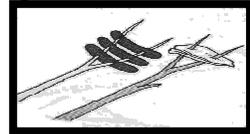
Age: 9+

Time: $\frac{1}{2}$ hour for each utensil.

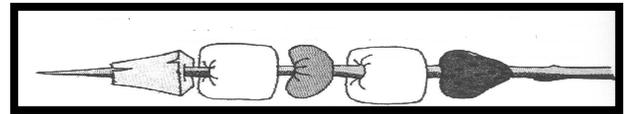
Requirements: Complete the "Knives" activity before beginning the first three utensils.

Learning Outcome: To learn how to make simple outdoor cooking utensils with items from nature.

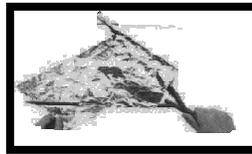
- Make a **toasting fork** by stripping the bark off a V-shaped green branch and shaving the ends into a point.



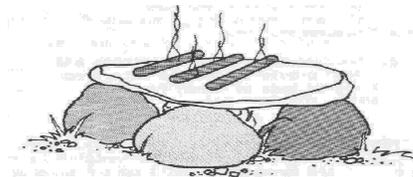
- Strip a long thin green branch, making a sharp point at the end. It can be used as a **skewer** for cooking a variety of things including Kabobs.



- Use tin foil to make a **frying pan** by wrapping foil around a V-shaped branch.



- You can cook small portions of meat or fish by wrapping them in **large green leaves**. This will help to keep the moisture and flavor in but keep the ashes out.



- Find a **large flat stone** that will rest on other stones over the fire. Use it like a cooking grill. Do not use a shale rock, as it may explode when heated.

Activity Talk:

What cooking utensil(s) did you make?

How well did they work?

"Making Cooking Utensils" activity has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: TREATING DRINKING WATER

Age: 9+

Time: $\frac{1}{2}$ hour for each method

Learning Outcome: To learn how to treat water in the outdoors so that it is safe to drink. Comparing different methods of treating water.

SAFE WATER

Collecting water is an important task when you are in the outdoors. You will need water to cook with, to clean with, and to drink. Water in the wilderness often contains harmful microorganisms, bacteria and parasites that can cause illnesses such as diarrhea and stomach problems. There are different methods for treating the water to make it safe.

Try at least one or two of the following methods. If you try more than one, do a taste test to see which method gives the better tasting water.

BOILING WATER

- If you can see sediment (tiny bits of grass, dirt etc) in the water you will want to filter it before you boil it.
- A clean sock makes a good filter. Pour the water into the sock over top of the pot.
- Use a safe method such as the tripod for heating the water.
- Bring the water to a full rolling boil for at least five minutes. Don't overflow your pot - allow some extra room for the boiling action.

CHEMICAL PURIFIERS

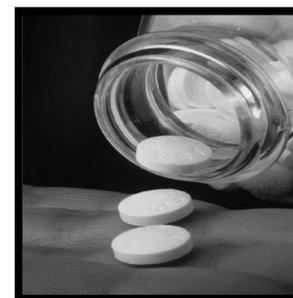
Iodine and Pristine are two of several purifiers you can buy for treating water.

- The Iodine can be bought in either the liquid or tablet form. Water treated with iodine will have a darker color and an unpleasant taste.
- Treating water with Pristine requires a two step process.
- Always follow package directions very carefully.

FILTERS

Most filters have a charcoal or ceramic filter.

- Follow directions carefully.



Activity Talks:

Which method(s) of purifying water did you try?

How did the water taste?

"Treating Drinking Water" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: MAKING A WATER COLLECTOR

Age: 11+

Time: 1 hour

Learning Outcome: To practice collecting rain water by using a tarp, water proof clothing, or plastic sheet.

You can collect rain water by using a plastic ground sheet or tarp.

- Lay a ground sheet out flat. Make a small hole in the middle of one side. Tie a string to the hole using a half hitch, and tie the other end of the string around a heavy stone.
- Attach stones to each corner with string.
- Use sticks to lift the corners off the ground. Use shorter sticks in the front than at the back.
- Move the stones outward to keep the sticks standing straight.
- Put a pot under the hole you made in the middle. The weight of the stone will make the ground sheet dip in the middle. The water will run into the hole area and down into the pot below.



Photo courtesy of Hugh McManners

Activity Talk:

What was the most difficult part of this activity?

"Making a Water Collector" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: FINDING FOOD IN THE WILD

Age: 9+

Time: 3 hours

Learning Outcome: To learn more about wild plants, and how to identify edible plants.

Learning as much as possible about what plants in the wild look like will help you to decide what plants are safe to eat. The following are some rules about gathering and eating wild plants.

- Gather plants only where it is legal to do so.
- Don't gather plants in areas where removing the plants might cause erosion or other problems.
- Check with a knowledgeable adult before eating any wild plant.
- Collect only what you can use.
- Disturb the surrounding plants as little possible.
- Plants near a well-traveled road may have high levels of lead or may have been treated with herbicides.
- Be sure you can **positively identify plants** that you believe are edible.
- If you see birds or animals eating plants, it is likely to be safe, but double check to be sure.
- Do not eat plants with milky sap or juices.
- Do not eat any plants that are dirty or have blackened leaves.

See how many of the following edible plants you can identify. Pick only if there are lots, and only pick the parts of the plant you need. Better yet, take a picture of the plant.



Dandelion



Horsetail



Lichens



Nettles



Puffballs



Cattail



Thistle



Hazelnut



Fireweed



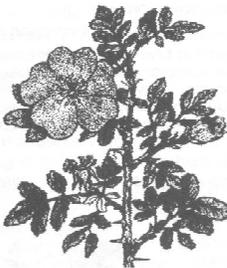
Prairie Crocus (medicinal)



Clover



Saskatoon



Wild Rose



Wild Strawberry



Bearberry (Kinnikinnick)

Activity Talk:

Show and identify the plants you found with your leader, members or your family.

"Finding Food in the Wild" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: RECIPES FOR OUTDOOR COOKING

Age: 9+ (choose suitable recipes for members' age)

Time: Varies with recipe. (Do a minimum of two recipes)

Learning Outcome: To make recipes from ingredients found in the wild. To prepare recipes and cook recipes outdoors.

Bannock

250 ml flour

5 ml baking powder

1.5 ml salt

5 ml sugar (optional) It will have a sweeter taste and crispier crust

20 ml shortening, lard, margarine or bacon drippings. (optional) It will make the bannock more tender.

Mix dry ingredients together. Add shortening, if you have decided to use it. Add cold water a little at a time until you have firm dough. Roll the dough between your hands to form a long round strip. You may have to flour your hands if the dough sticks to them.

To cook: Wrap the strip around a skew or fork. Hold over coals and cook until light brown.

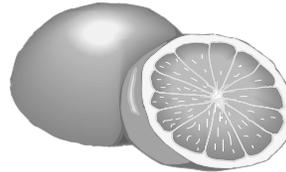
Breakfast Bake

1 orange

1 egg

Cut the orange in half and eat it without tearing the orange peel. When the orange peel is empty, crack an egg into it.

Safely lower the orange into the coals of a low fire and cook for about five minutes or until the egg is cooked.



Rose-Hip Honey

1 cup wild rose hips

1 cup honey (liquid words best)

Wash and remove the stem part of the rose hips. Squash the rose hips. Add honey and mix together. Let sit over night. Excellent on toast or muffins.

Note: You can also make rose hip tea by covering rose hips with water and boiling for about ten minutes. Strain tea.



Egg In Moss:

Carefully prick the egg shell with a pin to make a small hole through it. Wrap the egg in green moss and place it in the embers of a fire for a few minutes.



Berry Ice

2 cups wild edible berries washed

4 tbsp. lemon juice

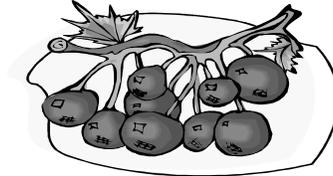
$\frac{1}{2}$ cup sugar

$\frac{1}{2}$ cup water

Mix ingredients together in a blender

Pour into popsicle moulds

Allow time to freeze



Wild Greens Soup

Pick and wash edible greens such as dandelions or watercress.

Make a bouillon base by adding bouillon cubes or powder to boiling water.

Add greens and slow boil until greens are tender

Jerky

Wild Meat or Beef (lean cut)

Soy Sauce

Garlic salt

Pepper

Trim off all visible fat. Cut lengthwise with the grain, into long thin strips.

Combine soy sauce, garlic salt and pepper. Pour over meat and let marinate overnight. If you do not have a dehydrator, arrange the strips on baking racks. Be sure you put baking sheets underneath to catch the drips. Bake at 90°F for 8 - 10 hours or until meat is dry and leathery.



Hole Potato

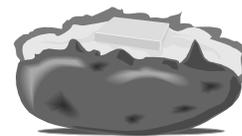
This works best in a trench or hole fire.

Poke holes in potatoes with a knife or fork.

Cover potatoes with ashes from a previous fire.

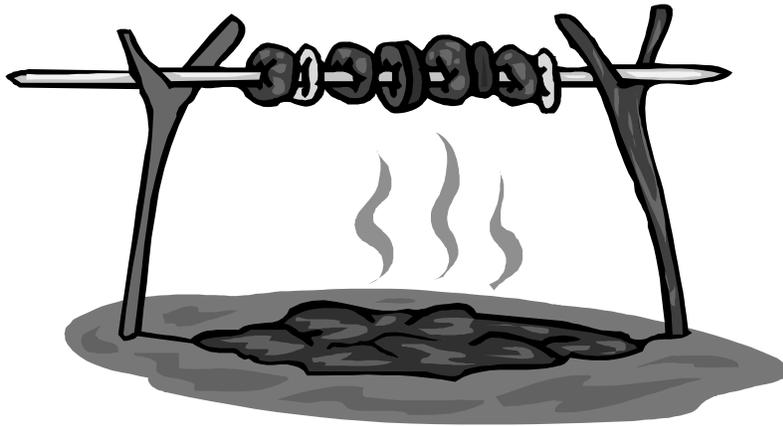
Build a fire on top of the potatoes. Cooking time is about an hour for a large potato.

Let the fire die down and carefully remove the potatoes with a fork or skewer utensil.



Grilled Fish

Gut and wash the fish. The head and tail can be left on.
Place the fish on a tripod grill or broiling rack.



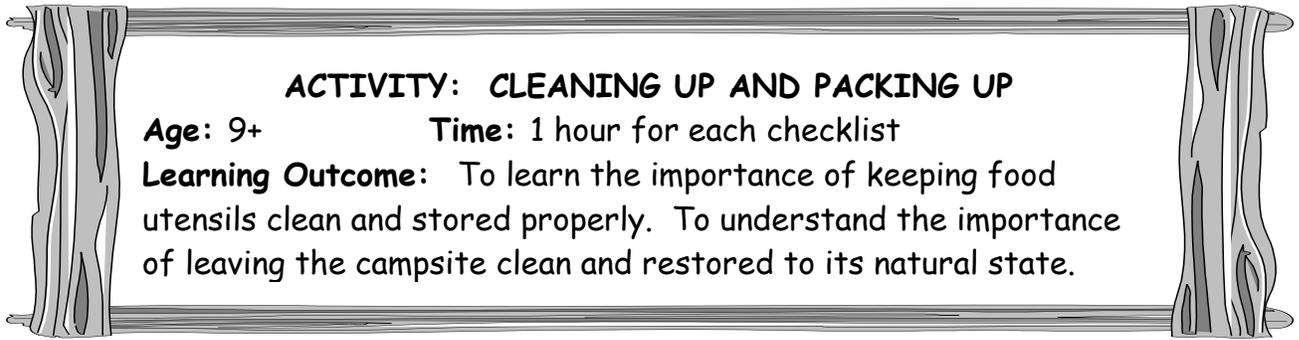
Activity Talk:

What recipes did you try?

Were you happy with how they cooked and how they tasted?

"Recipes for Outdoor Cooking" has been completed.

Member's Initials _____ Leader's Initials _____



ACTIVITY: CLEANING UP AND PACKING UP

Age: 9+

Time: 1 hour for each checklist

Learning Outcome: To learn the importance of keeping food utensils clean and stored properly. To understand the importance of leaving the campsite clean and restored to its natural state.

After cooking, it is important to clean cooking utensils quickly to avoid attracting insects.

CLEAN UP AFTER COOKING.

Check off the following items as you clean up after cooking.

- △ Unused food was stored a safe distance from the camp, out of reach of animals.
- △ Water was heated for washing dishes.
- △ Dishes were first wiped with grass, and the grass was burned in the fire.
- △ Dishes were washed in hot water with a biodegradable soap.
- △ Dishes were rinsed with hot water.
- △ A small hole was dug to pour the dish water into, and the hole was immediately covered with dirt.
- △ Dishes were air dried then stored in a fly proof container.

CLEAN UP THE CAMPSITE.

Check off the following items as you clean up your campsite.

- △ Fireplace is torn apart and covered up
- △ Man made holes are filled in
- △ Return rocks and boulders to where they were found.
- △ Camp is restored to its natural state.
- △ Garbage is taken with you.

Activity Talk:

Why do you think it is important to store food properly?

Could you tell by looking at the campsite that someone had camped there?

How much garbage was there to carry out?

“Cleaning up and Packing Up” has been completed.

Member's Initials _____ Leader's Initials _____

WINTER SURVIVAL

Activity	Page
Testing Yourself on Winter Survival	53
Building a Fire in Winter	54
Signaling for Help!	55
Making a Quinzee	56
Making a Fast Snow Cave	57
Making a Pocket Pack	58
Making a Winter Day Pack	59
Making an Emergency Car Kit	60
Fleece Mitts and/or Headband	61

ACTIVITY: TESTING YOURSELF ON WINTER SURVIVAL

Age: 11+

Time: 2 hours

Learning Outcome: To give members insight into how they would react in a real winter survival situation.

Winter brings many new challenges to being outdoors. Being prepared for the worst will ensure that you are ready to face any situation.

There are some enemies of survival that you need to be aware of and prepared to fight. These enemies are FEARS (such as fear of darkness, fear of animals, and fear of pain), COLD, THIRST, HUNGER, TIREDNESS, BOREDOM, and LONELINESS. How you deal with these fears will probably determine whether you survive being stranded or lost in the outdoors in winter.

To practice what it feels like to be alone, lost or stranded in the winter, try the following test.

- Pick a day that has normal weather conditions for the time of year.
- Dress how you would usually dress for going outside in this kind of weather.
- Pick a spot that is out of sight of buildings, roads, and far enough away that your yells for help could not be heard by anyone. **LET YOUR LEADER OR SOME OTHER ADULT KNOW** when you are leaving and where you are going.
- With adult permission you may even try this exercise after dark.
- Stay in your **SPACE** for an hour or so (unless you are beginning to feel too cold)

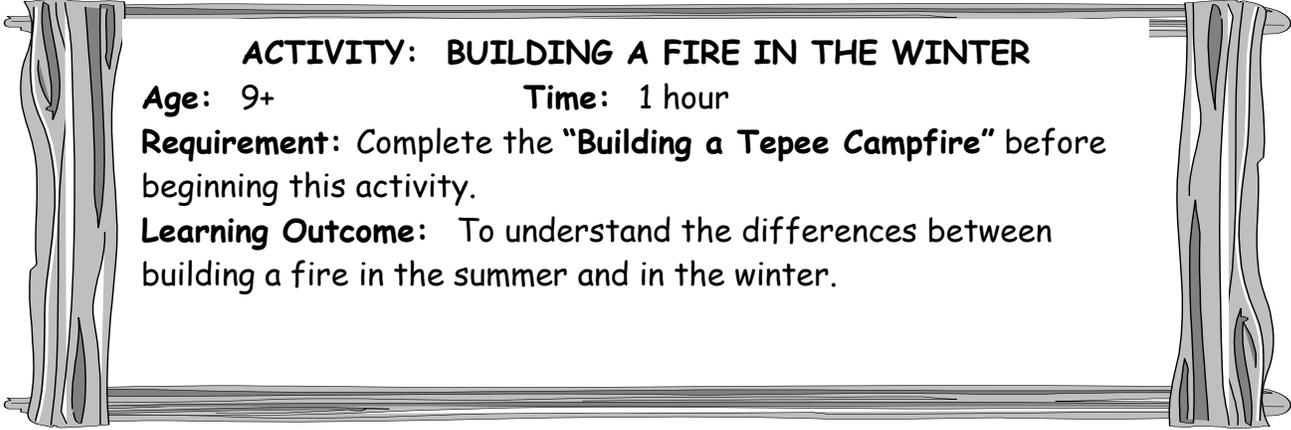


Activity Talk:

Did you experience any of the following Enemies of Survival? Fear - what were you afraid of? Cold - what parts of your body got cold first? Thirst - were you tempted to eat snow? Hunger - did you wish you had a snack? Tiredness - Did you feel like curling up and going to sleep? Boredom - did the time seem to pass very slowly? Loneliness - did you wish you had a friend with you?

"Testing Yourself on Winter Survival" has been completed. ...

Member's Initials _____ Leader's Initials _____



ACTIVITY: BUILDING A FIRE IN THE WINTER

Age: 9+

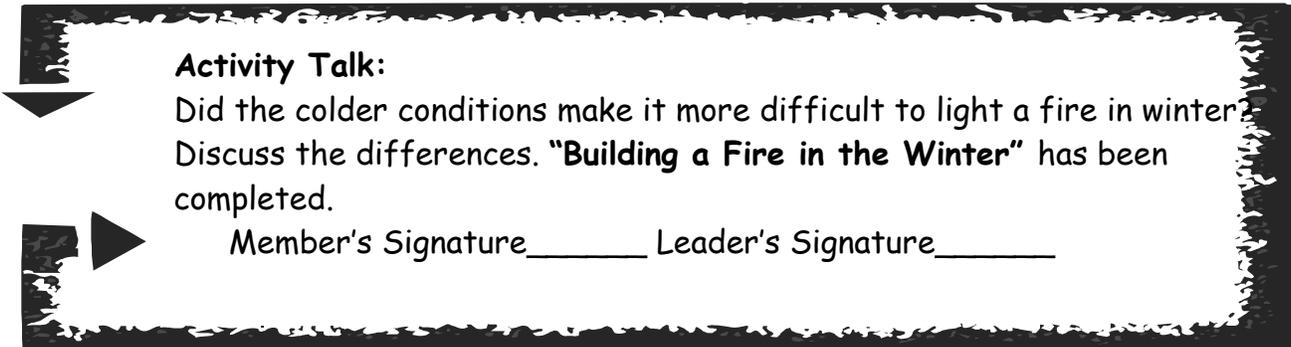
Time: 1 hour

Requirement: Complete the "Building a Tepee Campfire" before beginning this activity.

Learning Outcome: To understand the differences between building a fire in the summer and in the winter.

Surviving an unexpected winter experience outdoors might depend on your ability to build a fire. A fire will keep you warm, and give you a sense of security and comfort. Snow, colder temperatures, and damp fire material can make starting a fire difficult.

- If you were prepared for the outing, you would have a supply of tinder such as dry twigs, grass, fire starters or paper in your pack, along with water proof matches.
- If you had not planned on being stranded outdoors, you would have to look for dry material for starting your fire, such as small twigs off a dead tree, cat tail heads, needles under a spruce tree, and dry leaves tucked under a fallen tree. While you gather tinder, also be looking for larger pieces of dead wood, branches, and bark for kindling. You will need larger pieces of wood to make a hot long lasting fire.
- Form a base for the fire by laying four or five whole logs side by side on the snow.
- Place the tinder in the middle of the logs.
- Make a kindling tepee over top of the tinder.
- Light the tinder, and when the kindling is burning, slowly add larger pieces of wood.



Activity Talk:

Did the colder conditions make it more difficult to light a fire in winter? Discuss the differences. "Building a Fire in the Winter" has been completed.

Member's Signature _____ Leader's Signature _____

ACTIVITY: SIGNALING FOR HELP!

Age: 11+

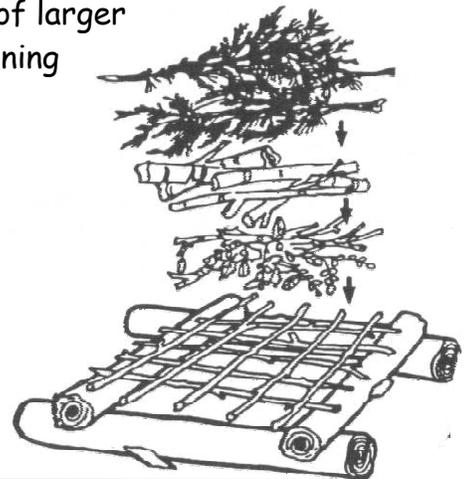
Time: 2 hours

Requirement: Complete "Building a Fire in Winter" activity before beginning this activity.

Learning Outcome: To learn how to make a signal fire to be used in an emergency situation.

Signaling for help allows you to stay at your camp and let others know where you are. A large fire at night or a smoky fire by day can be seen for miles. Be careful not to let your fire get away on you.

- Find an open area and prepare three fires arranged in a triangle shape.
- Each side of the triangle should be about 3m to a side if possible. If there is not room for a triangle shape, then try making three fires in a row.
- A meadow, frozen marsh, opening in a bush area or a frozen lake will provide a good site.
- If using a lake or marsh, be sure the ice is thick enough to support you and the firewood. Stay back a safe distance from the fires, once they are burning.
- The fires should be close enough to your campsite that you can get to them quickly to start them if needed.
- Build the fire up off the ground on a criss-cross base of larger logs. This will provide a good draft to get the fire burning quickly.
- Keep your fire material dry by covering them with evergreen boughs.
- In a real situation you would light the fires only if you thought someone was in the area to see them.
- Remove the evergreen boughs and light your fires.
- When the fires are burning hot, add the evergreen boughs, grass or leaves to the flame to create smoke. Be careful not to smother it.



Activity Talk:

Did your fires burn the way you wanted them to?

Was there a lot of smoke? Did anyone see it from a distance?

"Signaling for Help!" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: MAKING A QUINZEE

Age: 11+

Time: 3 hours

Learning Outcome: To build a snow shelter that could be used for protection from the winter weather in an emergency situation.

- Using shovels, pots, pails or anything else that can scoop up snow, clear a circle 2-3 meters in diameter down to the ground, or to a hard snow layer.
- Shovel the snow back into the circle along with all the other available loose snow, forming a huge pile. Make sure that the snow gets mixed thoroughly as you make the pile. Your pile should be about 1.8 meters high.
- Break up all slabs or blocks to a fine powder and avoid any icy crust layers.
- Stamp on the pile occasionally to mix and compact the snow.
- The pile should be dome-shaped with no flat spot.
- Stick about two dozen branches (30-45 cm in length) into the pile, with the tops sticking out. These will be your guide to wall thickness when you start digging it out.
- Now allow 1 - 3 hours for the snow to consolidate or settle.
- Cut a low entrance tunnel on the side away from the wind and dig the inside to form a dome-shaped room. Use the sticks as a guide to tell you when you are getting close to the limit of the wall.
- When the quinzee is almost hollowed out, use the remaining snow from the ceiling to build up the height of the floor for a sleeping platform.
- You will have to make and keep clear a ventilation hole in the ceiling.
- Smooth the walls to prevent drip points.
- You could cover the doorway with evergreen boughs, or branches.
- Light a candle inside and allow its heat to help firm up the walls and floor.

Picture courtesy of Alberta Junior Forest Warden Association

Activity Talk:

What was the most difficult part of making the quinzee?
Did it turn out the way you hoped it would?

"Making a Quinzee" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: MAKING A FAST SNOW CAVE

Age: 9+

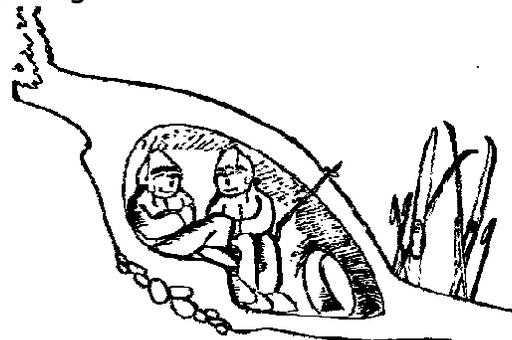
Time: 3 hours

Learning Outcome: To learn to make a quick snow shelter when there are large snow banks to work with.

To make a snow cave you will have to find a hard drift on the side of a ridge, rocks, clumps of trees or shrubs. The drift should be hard enough to hold up your weight.

- Start by making a large entrance. It will be easier to work with a large opening, and you can close it in to make a smaller entrance later.
- Dig a tall, wide tunnel (up to 2 m x 1 m) at the base of the drift.
- If possible, using a stick or knife, cut some large blocks (1 m x .5 m x .2 m) out of this tunnel. You will use these later.
- Once the tunnel is complete, start making the room bigger by digging up, sideways and deeper into the drift.
- Leave a sleeping platform if possible of about 1 metre higher than the entrance.
- The inside of the cave should be dome shaped and the roof and walls should be at least .3 m thick.
- Smooth the walls and roof.
- Make an air vent in the roof of the cave.
- Make the entrance smaller by using the snow blocks that you cut.
- Evergreen boughs can rest against the door opening to cut down on drafts.

Picture courtesy of Alberta Junior Forest Warden Association



Activity Talk:

Where did you build your cave shelter? Was the drift hard enough to hold you up? Were you happy with the end result?

"Making a Fast Snow Cave" has been completed.

Member's Initials _____ Leader's Initials _____

SURVIVAL KITS

Carrying a winter survival kit in your vehicle or on winter outings could save your life. Put together one or more of the following survival kits.

ACTIVITY: MAKING A POCKET PACK

Age: 9+

Time: 1 hour

Learning Outcome: To have members prepare a pocket survival kit and to learn the use for each item in an emergency situation.

This kit should be small enough to fit in a pocket. If you have an inside pocket or a sleeve pocket, the pack would not interfere with the main pockets and could remain there all winter. It should include:

- A small flat **metal box** makes the best container. It prevents the items from getting crushed and could also be used for heating water.
- A police-type **whistle** for signaling.
- A small signaling **mirror**.
- Three or four self-adhesive **bandages**.
- Two **safety pins** to replace lost buttons or pin up a scarf.
- A piece of **snare wire** 6m long.
- Wooden **matches** dipped in wax. (The strike-anywhere type if possible)
- Very fine **steel wool** for tinder.
- A one-foot length of **heavy cotton cord soaked in wax**, then wrapped in foil. (This will take up less room than the fire starters)
- A single-edge **razor blade**. This can double as a knife but is smaller.
- A small package of condensed **dry soup powder**. If you can't cook it, you can still eat the noodles and the dry soup base.

Picture courtesy of Alberta Junior Forest Warden Association



Activity Talk:

Were you able to find all the items? What did you put the items in?
Will it fit in your pocket?

"Making a Pocket Pack" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: MAKING A WINTER DAY PACK

Age: 9+

Time: 1 ½ hours

Learning Outcome: Learn how to prepare and use a winter survival kit for emergency situations.

The winter day pack should be used any time that you are planning any sort of outdoor activity where there is a chance that you might become lost or stranded. You will want to include everything you would need if you had to stay out overnight or longer.

- A small **back pack** or **waist fanny pack** to hold the items. It needs to hold approximately 1 ½ kg. (3 lbs.) of material.
- A **small tin** for cooking. (You can pack the matches, fire starter, lighter and pencil and paper in it to keep them dry)
- A detailed **map** of the area you are visiting.
- A **whistle** and **signal mirror**.
- **Orange flagging tape** to mark your route or write a message.
- A strong, sharp **knife**. This could be carried on your belt.
- About 6 m (20ft) of rope for constructing shelters, splints, etc.
- A small roll of **snare wire**.
- A roll of **electrical** or **duct tape**.
- A small **flashlight**. Be sure to check the batteries.
- A good supply of waterproof **matches**, and a **lighter**. (bright colored)
- **Fire starters**.
- One or two **candles** for light and comfort.
- A **paper** and **pencil** for leaving messages.
- A **space blanket**.
- A spare pair of **socks**, **mitts**, and a **toque**.
- **Toilet paper** or **tissues** in a baggie.
- High energy, dry **survival food**, such as nuts, chocolate, sunflower seeds, raisins, soup and tea bags.
- **Personal medication** if needed.
- A basic **first-aid kit**.



Note: If you are carrying a pocket pack, you do not need to double up on these items.

Activity Talks:

What was the cost of putting this kit together? How much does the pack weigh?

"Making a Winter Day Pack" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: MAKING AN EMERGENCY CAR KIT

Age: 14+

Time: 1-2 hours

Learning Outcome: To learn about useful items to keep in your vehicle. Learning the importance and use of the items in the kit.

Everyone who drives even short distances in the winter should have an emergency car kit. Of course, one of the best ways to prevent being stranded in a vehicle is to be sure the vehicle is in good running condition.

ALWAYS DRESS APPROPRIATELY

- **Shovel**
- **Ice scraper** and brush
- Small **bag of sand**. (kitty litter works as well)
- **Tow chain or rope**.
- **Booster cables**.
- **Methyl Hydrate** (for fuel line and windshield de-icing)
- **Warning lights** (flashers or road flares)
- A **can**. (small sized coffee cans work well)
- A couple of **candles** (the wide ones work best and last longer)
- A bright colored **flag**. (to put on your antennae so you will be noticed)
- **Road map**.
- **Flashlight**.
- **Warm blanket**.
- Extra clothing especially **hats, mitts, and socks**.
- Sharp **knife** or small hatchet.
- A **lighter** and wooden **matches** dipped in wax. (Strike anywhere kind if possible. Pack them in your coffee can.)
- **Survival food** such as dried fruits, nuts, soups, chocolate, tea. (Pack them in your coffee can)
- A small roll of **snares wire** (can be used for many things including securing the flag to the antennae and making a handle for the can)
- **Tissues or toilet paper**.
- **First aid kit**.



NOTE: A cell phone can be an important part of a winter survival kit, but do not totally rely on it for being rescued. You may be out of a service area or your battery might die.

Activity Talk:

What do you think you will use the most in this kit?

"Making an Emergency Car Kit" has been completed

Member's Initials _____ Leader's Initials _____

ACTIVITY: FLEECE MITTS AND/OR HEADBAND

Age: 9+

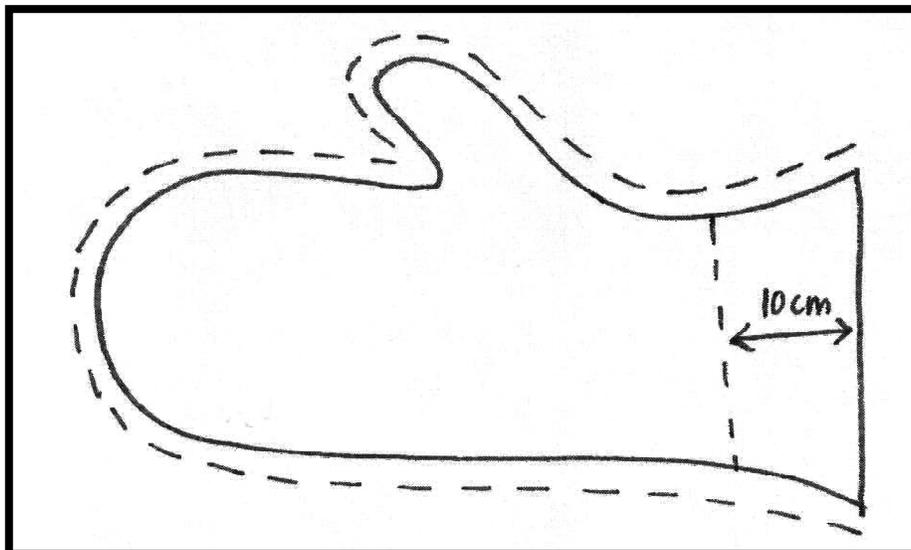
Time: 2 hours for each item.

Learning Outcome: To learn the skills to create a pair of winter mitts or headband.

You will need paper, pencils, rulers, scissors, fleece, straight pins, needle and thread, and self adhesive Velcro (headband only).

Instructions for mitts:

- To make a pattern, trace your hand on a piece of paper. Stop at the wrist.
- To make a cuff, add 10 cm below the wrist. Make this part wider so that your hand will fit into the mitt.
- Draw another line 2 cm from the original tracing. Cut out the shape along this line.
- Fold a piece of fleece in half, with right sides together. Pin the pattern to the double layer of fleece and cut around the pattern.
- Remove the pattern and pin the two pieces together.
- Thread a needle and knot the thread. Use small stitches to sew around the outside of the mitts. **Be careful not to poke yourself with the needle.**
- Turn the cuffs over about 4 cm and decorate if you'd like.



Instructions for headband:

- Cut a piece of fleece 64 cm x 6 cm.
- Cut two pieces of self-adhesive Velcro six cm. long.
- Stick the rough piece of Velcro to one end of the fleece.
- Stick the soft piece of Velcro on the other side of the opposite end of the fleece.
- Thread the needle and knot the thread. Sew around the outside edges of the Velcro to secure them in place. **Be careful not to poke yourself with the needle.**
- Decorate if you'd like with buttons, fabric paint or different colors of fleece.



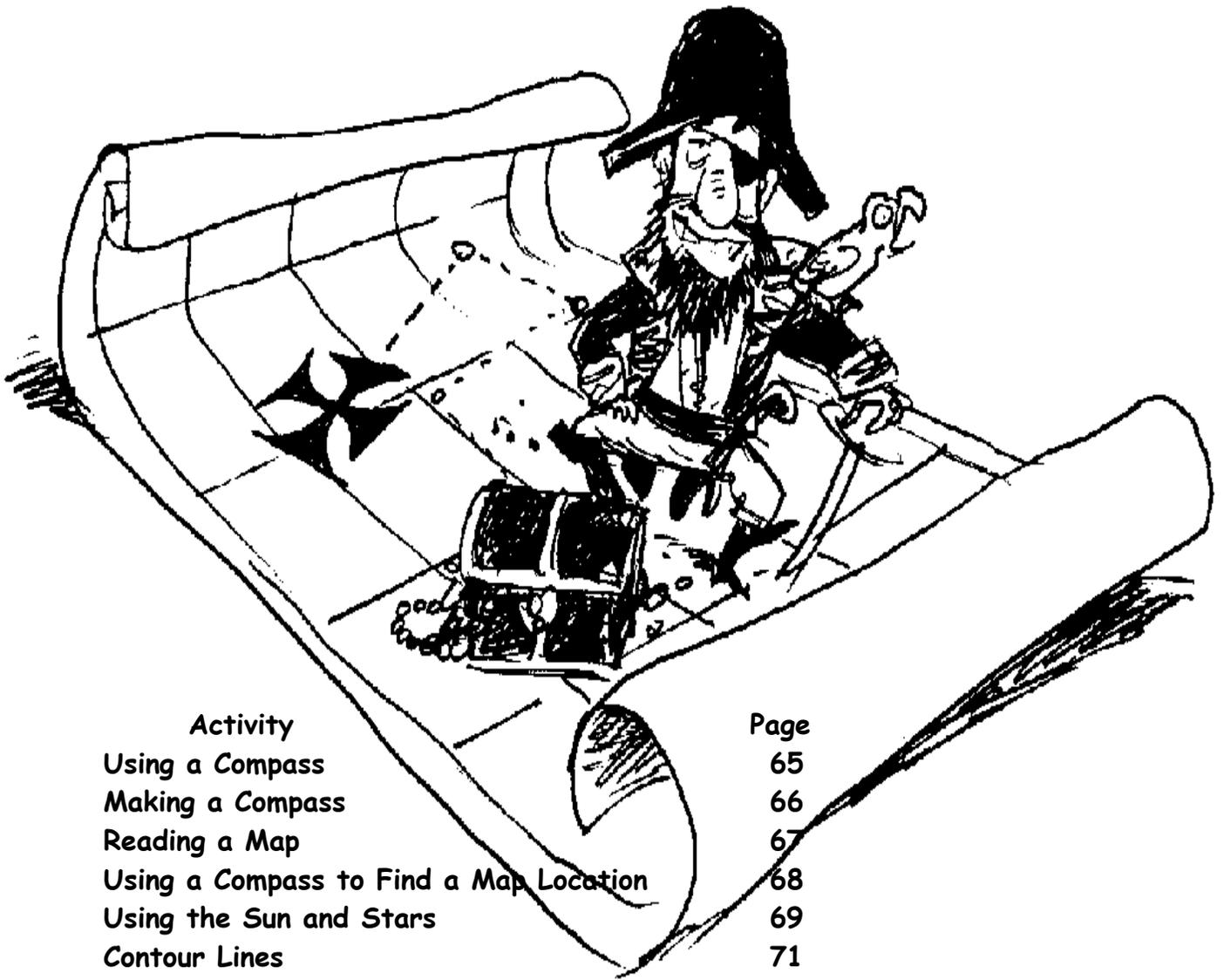
Activity Talk:

What was the most difficult part of making you're the mitts or headband? How did they fit?

"Making Fleece Mitts and/or Headband" has been completed.

Member's Initials _____ Leader's Initials _____

ORIENTEERING



Activity	Page
Using a Compass	65
Making a Compass	66
Reading a Map	67
Using a Compass to Find a Map Location	68
Using the Sun and Stars	69
Contour Lines	71
How Many Steps in a Mile?	72
Messages and Trails	73

ACTIVITY: USING A COMPASS

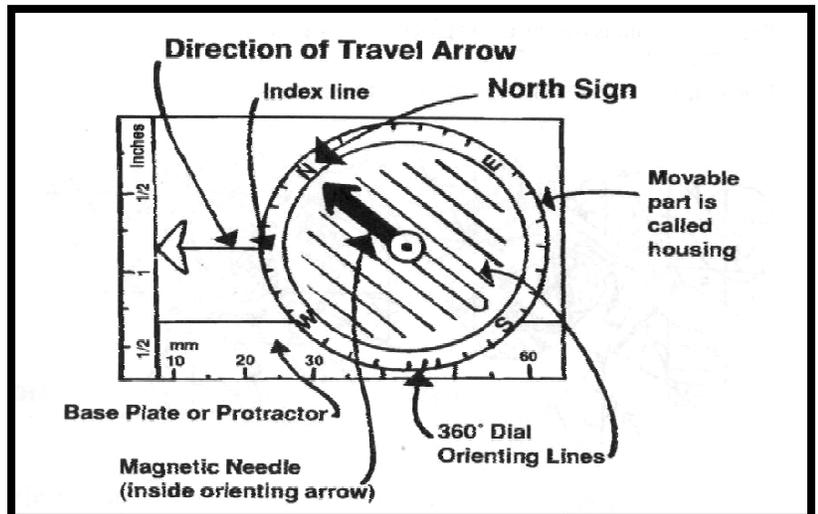
Age: 9+

Time: 1 hour

Learning Outcome: Learn how to read and use a compass. Learn how to following a bearing with a compass.

A compass is a tool that can help you find direction. The four major directions are North, East, South and West. The needle on the compass always points to magnetic north. A compass can be used to get from Point A to Point B, when Point B is out of sight all or part of the time.

- Select a building, tree or other landmark. Face this object, and then point the direction of travel arrow toward the object.
- Keeping the base plate steady and level, turn the housing until the red, north end of the orienteering arrow and the magnetic needle are lined up.
- Read the bearing number.



Following a Bearing:

Once a bearing of your landmark is set on the compass, you can use it to read your destination by:

- Holding the compass level, turning it with your body until the magnetic needle and orienteering arrow overlap. The direction of travel arrow now points in the direction you wish to go.
- Choose some nearby landmark that is in line with this direction. Walk to it. Reorient your compass.
- Sight a new object and continue until your destination is reached.

Activity Talk:

Next time you use the compass; will you be able to do it without the instructions? Did you have to make any detours because of the terrain of the land?

"Using a Compass" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: MAKING A COMPASS

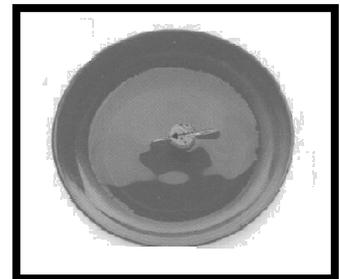
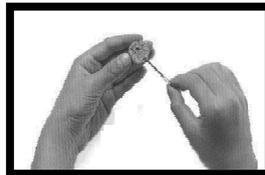
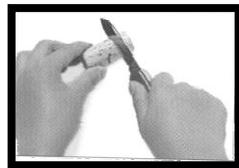
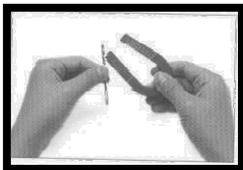
Age: 9+

Time: $\frac{1}{2}$ hour

Learning Outcome: To better understand how a real compass works by making one.

You will need a sewing needle of medium size, a cork, a magnet, and a bowl half full of water.

- Hold the needle with the eye or hole of the needle pointing down.
- Magnetize the needle by stroking a magnet down towards the hole. Make several strokes. (always down)
- Slice a piece of the cork off - enough thickness to insert the needle without splitting the cork.
- CAREFULLY push the point of the needle through the slice of cork. If the cork is too hard, ask for adult help.
- Fill bowl half full of water, and place it on a flat surface.
- Float the cork on the water. When the water settles, the point of the needle will swing around to north.



Photos courtesy of Hugh McManners

Activity Talk:

Was it difficult to get the needle inserted in the cork? Did it slowly turn to face north?

"Making a Compass" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: READING A MAP

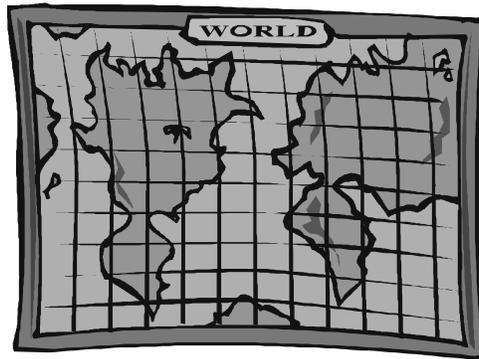
Age: 9+

Time: $\frac{1}{2}$ hour

Learning Outcome: To learn how to use grid lines, directions, and symbols to read a map.

A map shows the position of an object and what the terrain of the land is like. Find a map of your province or region you are living in.

- Look around you for landmarks such as roads, rivers, or forest.
- Turn the map around until the landmarks on the map line up with the landmark you see.
- Look for the grid lines on the map. These are lines that run up and down and across your map.
- The upright or vertical lines point north.
- Maps use different kinds of symbols to represent landmarks. Look for the legend that explains what all the symbols mean.
- Find the scale bar that will help you measure distance. The length of the bar will tell you how many miles or kilometers is represented by the bar length.



Activity Talk:

What are some of the things you learned about maps that you didn't know before? Do you think you could make a map?

"Reading a Map" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: USING A COMPASS TO FIND A MAP LOCATION

Age: 11+

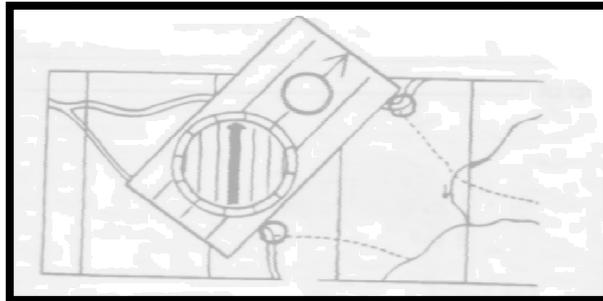
Time: 1-2 hours

Requirement: Complete "Using a Compass" and "Reading a Map" before beginning this activity.

Learning Outcome: Learning to use a compass and a map to find a location.

If you use a map and compass together, you should be able to figure out exactly how to get to your destination from where you are.

- Draw a straight line on the map from "where you are" to "where you are going".
- Place the edge of the compass 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.
- Turn the housing dial until the lines in it are parallel with the map north-south lines. Make sure 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 point 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 to your landmark repeat the steps until you reach your goal.



Activity Talk:

Do you think that you will feel more confident when you are out hiking, now that you know how to read a map and use a compass? What was the most difficult thing about doing this activity?

"Using a Compass to Find a Map Location" has been completed.

Member" Initials _____ Leader's Initials _____

ACTIVITY: USING THE SUN AND STARS

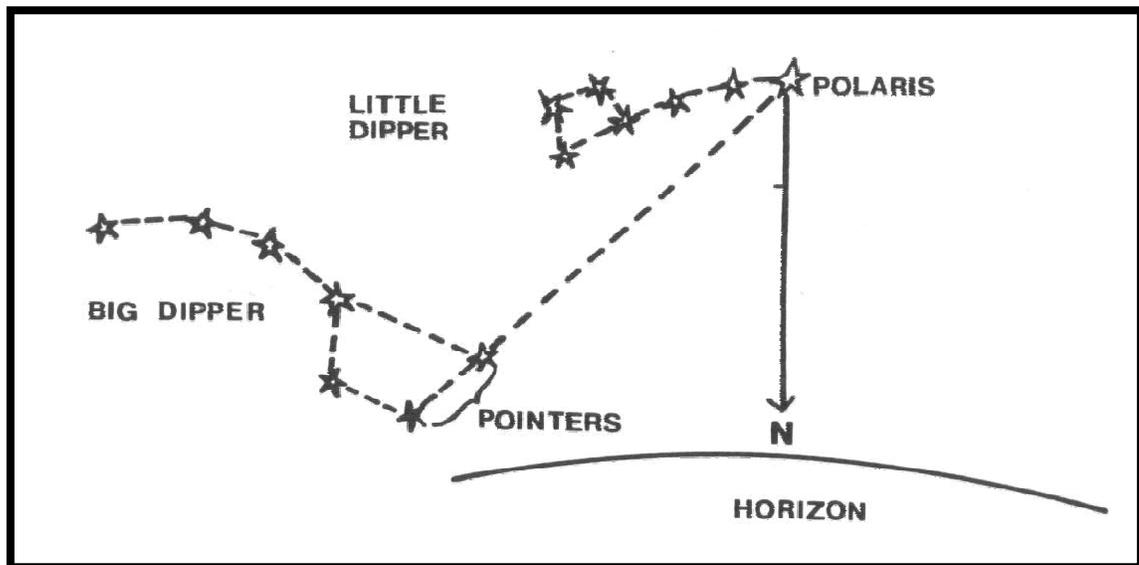
Age: 9+

Time: 2 hours

Learning Outcome: To learn about star constellations and how they can be helpful in finding directions.

If you don't have a map or compass, you can find your directions by using the sun and the stars. Canadians live in the Northern hemisphere, and on a clear night they can see several different groups of stars.

- Study the diagram showing the different groups of stars and their names.
- On a clear night, see if you can find the "big dipper".
- The two stars at the end of the Big Dipper point to a bright, fixed star called the North Star or Polaris. It is not the brightest star in the sky, but it is the brightest star compared to others around it.
- If you are facing this star, you are facing north.



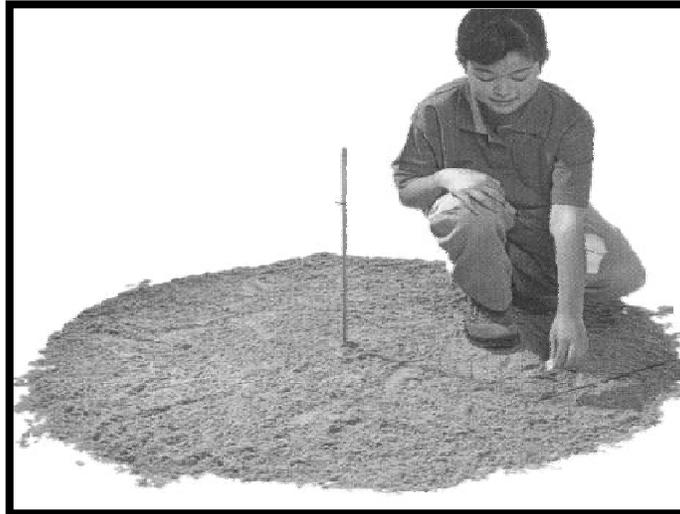


Photo courtesy of Hugh McManners

The sun always rises in the east and sets in the west, so you can use it to figure out where you are. You can make a sundial to help you find your directions.

- In the early morning, push a straight stick into the ground. A shadow will form on the side opposite the sun. Mark the end of the shadow with a stone.
- The shadow will be pointing west since the sun rises in the east.
- Use stones to mark the position of the shadow at different times throughout the day.
- In the afternoon, the sun will move toward the west, and its shadow will point toward the east.
- Late in the afternoon draw a straight line between the stones that you have been putting down. This line will point exactly east-west.
- Draw a line at right angles to this line and straight through the base of the stick. This line will be running north-south.

Activity Talk:

Which of the two activities did you enjoy most? What star constellations could you find? Was the sun bright enough to make shadows?

"Using the Sun and Stars" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: CONTOUR LINES

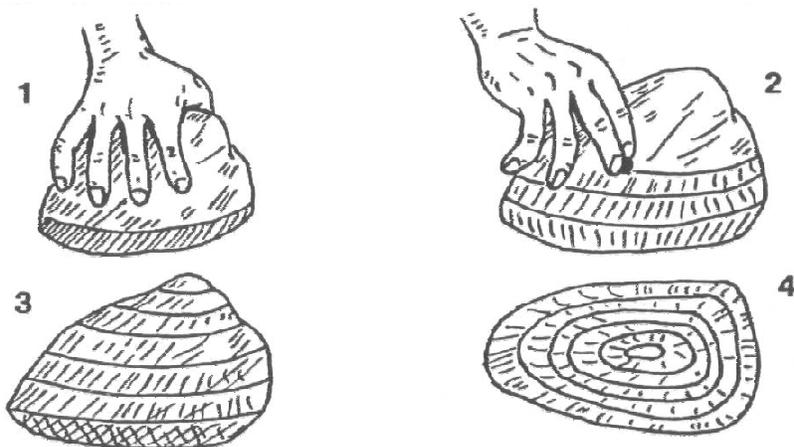
Age: 9+

Time: 1 hour

Learning Outcome: To learn how to read contour lines showing elevation on a map by using a rock in different water levels.

Find a map with contour lines and see if you can find the following types of lines.

- Look at the map and point out where there is:
 - ❖ A steep rise in elevation (contour lines close together)
 - ❖ A gentle rise (contour lines further apart)
 - ❖ A cliff (contour lines come together)
 - ❖ A valley (U shape in the contours)
 - ❖ A ridge (V shape in the contours)
- Take the rock and dip the first cm in the pot of water. Trace the water line with the marker.
- Do the same at the second cm, and so on, until the rock has lines on it at every cm.
- Put the rock on a flat surface and look at it from the top. This is how the rock would show changes in shape and elevation on a topographical map.
- Try doing the same activity with several shapes of rocks.



Activity Talk:

How does elevation affect navigation? How does elevation affect wilderness travel? When you look at a map now, do you see the land you are looking at in a different way?

"Contour Lines" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: HOW MANY STEPS IN A MILE?

Age: 9+

Time: 1 hour

Learning Outcome: To estimate travel time by knowing how many steps are in a mile or kilometer.

- Many, many years ago, in the time of Caesar, distance was measured by the double paces of a roman soldier. A thousand of the soldiers' double paces were equal to a "mille passus" which later became the English word "mile". Under the metric system we use in Canada, a mile is equal to 1.6 kilometers. One kilometer is equal to 1000 meters.
- Measure your double step (pace) by marking a starting place and measuring 200 ft (61 m) from it.
- Walk from the starting place to the 200 ft (61 m) mark and back, while counting your double steps/paces (every time your left foot moves).
- Divide the distance covered (400 feet or 122 m) by the number of paces. This will give you an average pace distance.



Activity Talk:

What was your pace distance? Try to estimate travel time to a particular area, then count the paces as you walk to this area. Did you estimate your travel time correctly?

"How Many Steps in a Mile?" has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: MESSAGES AND TRAILS

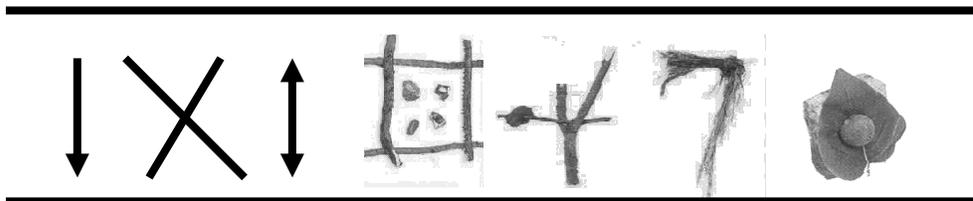
Age: 9+

Time: 1-2 hours

Learning Outcome: To learn how to leave a trail by using items that are available along the trail.

Knowing how to send messages and lay trails can be very important if you go hiking without a map, or must leave a trail so that other people know where you have gone. It also makes it easy for you to find your way back to where you started. Use some of the following ideas for messages and trails to help a friend find you. You might want to discuss the different messages before you begin.

- Try to use a system of messages that will be easily understood. Use natural materials such as sticks, leaves and stones.
- Make arrows with sticks pointing in the direction you are going.
- Two sticks crossed could mean "stop" or "don't enter".
- A stick with an arrow at both ends could mean "turn around".
- Stones inside a square made with sticks could indicate how many steps to take.
- A forked stick stuck into the ground with a smaller stick poking through a leaf could indicate direction taken.
- A knot in a clump of grass, with the top pointing could also indicate direction.
- A leaf between two stones could mean watch for bears.
- Make up some signs and messages of your own and have fun!



Activity Talk:

What was your favorite message or sign? Did you understand all the messages? Did you get lost?

"Messages and Trails" has been completed.

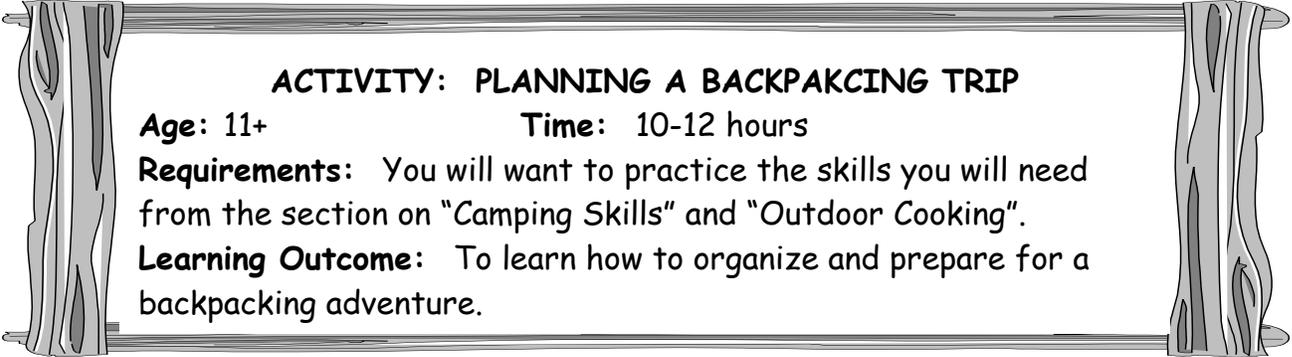
Member's Initials _____ Leader's Initials _____



HIKING

THE BACK COUNTRY

Activity	Page
Planning a Backpacking Trip	75
Yes - It all has to go in or on the Backpack	77
Hiking Themes	79
Low Environmental Camping Principles	81



ACTIVITY: PLANNING A BACKPAKING TRIP

Age: 11+

Time: 10-12 hours

Requirements: You will want to practice the skills you will need from the section on "Camping Skills" and "Outdoor Cooking".

Learning Outcome: To learn how to organize and prepare for a backpacking adventure.

Once you have practiced some basic camping skills, you will be ready for a back packing experience. When you backpack, you carry everything you will need for the trip. Backpacking requires planning ahead, physical fitness, and being ready for whatever the weather or the trail may have to offer.

Prepare Yourself:

- Be sure you are physically fit. Prepare by doing some longer hikes in the shoes you will be wearing for the trip. Try carrying your backpack with some of your gear or add stones or weights to give you an idea of how heavy it will be.
- To help toughen your feet, rub them with rubbing alcohol before and after every practice hike. Wash your feet before going to bed, and be sure your toenails are trimmed.

Prepare Food:

- Dry food is light, easy to prepare, and safe to use.
- Pack your food in zip lock bags in meal-size amounts. Put all packages of foods for one meal inside a larger zip lock bag, and label it with the meal and day you wish to use it.
- Test at home anything you plan to take with you.
- Don't depend on catching fish, killing game, or picking wild plants. Take your food with you.
- Check maps to see if there will be suitable water sources where you are headed. Remember that you may have to treat the water. You may even have to carry drinking water if nothing is available along the trail.
- If you intend to cook over an open fire, check to be sure that fires are allowed in the area you are hiking. If you have to carry a small propane stove remember that it will be added weight.

Prepare for Shelter:

- You will be looking for a type of shelter that is light, water repellent, bug tight, and warm. It is difficult to find a tent that offers all of these things. You will have to compare needs, cost, weight, and usefulness.

Selecting a Backpack:

There are several different types and sizes of backpacks. Each has different uses and options, and they vary in price. You will have to decide which type of pack is best suited to you, and the type of hiking you will be doing.

- The **EXTERNAL FRAME** backpacks have a metal frame built around the outside of the pack. The frame has straps and pads to keep the metal parts from contacting the body. It allows for air to circulate between the pack and your back. Bulky items like sleeping bags and tents are strapped to the outside. The external pack is good for smooth trails.



- The **INTERNAL FRAME** packs have a metal frame built inside the material of the pack. The metal molds to your back to provide a good fit. The straps work with the frame to distribute the weight and hold it in place. The internal pack works well on rough trails, hills and bush because it hugs your back. The tight fit means it doesn't get caught up easily on trees or throw you off balance on a rough or hilly trail.



Packing a Backpack:

The method of packing depends on what type of pack you use. For external packs, you want the weight to sit low. For internal packs you will want the heavier items close to the middle of your back.

Keep in mind that there are some things like water that you will want to have close at hand. You may want to pack your backpack ahead of time to try hiking a short distance with it. If you don't like the way you packed or how the weight was distributed, repack and try it again.

Activity Talk:

Are you physically ready for the trip? What kind of food have you prepared? What will you use for shelter? What type of backpack did you decide upon?

"Planning a Backpacking Trip" has been completed.

Member's Initials _____ Leader's Initials _____

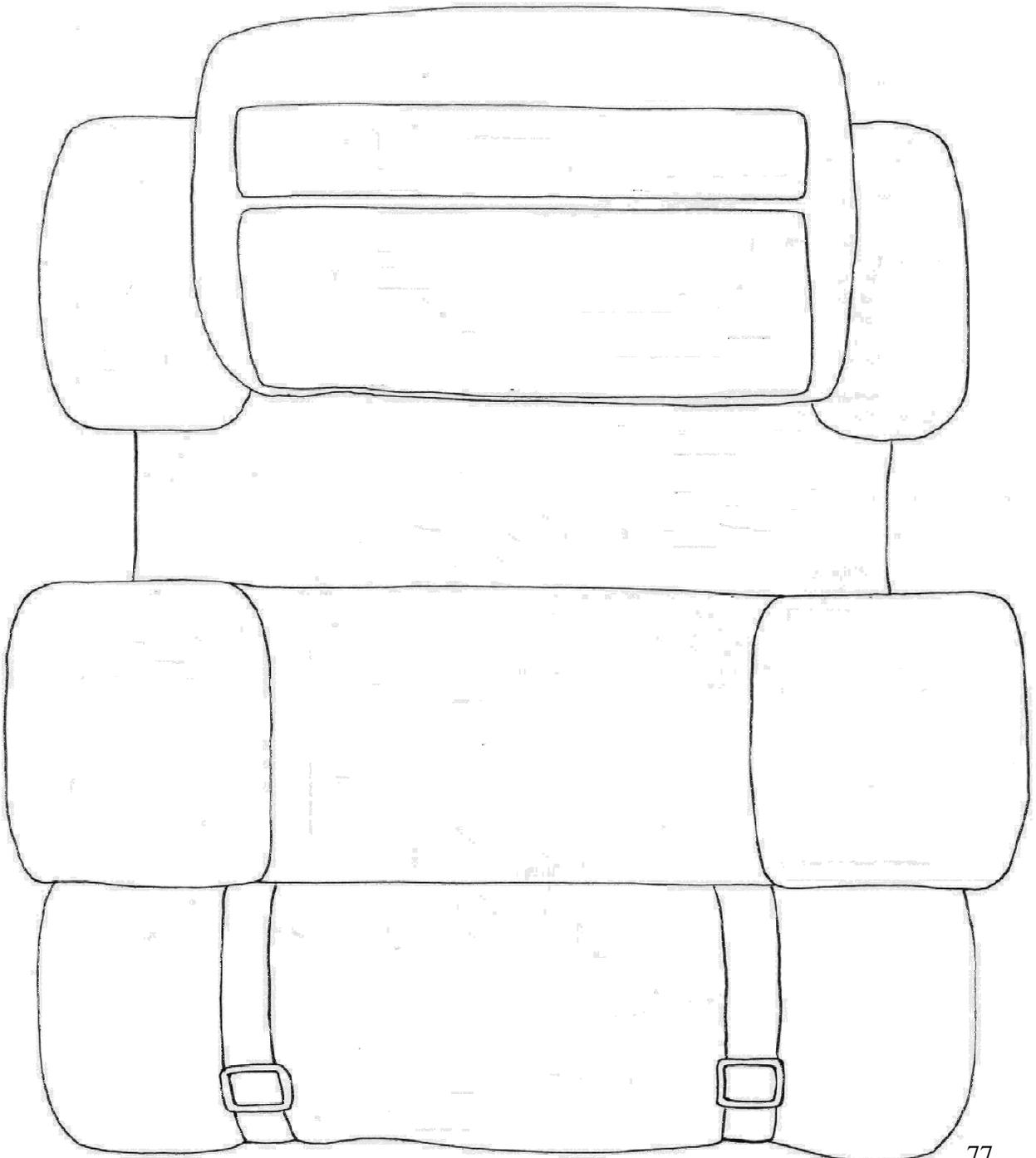
ACTIVITY: YES - It all has to go in or on that BACKPACK!

Age: 11+

Time: 30 minutes

Learning Outcome: To learn how to properly pack a backpack for balance, and easy access to important items.

Using this diagram of a backpack write the names of the items found on the following page on the place you would pack them in your backpack.



List of Items for the Backpack

2 -1 litre water canteens
Notebook and Pencil
Eating Utensils
Trail Snacks
Toothbrush/Toothpaste
Bags of Food
Soap
Bug repellent
Cooking Pots
Foam sleeping pad
Candle
Safety Pins
Scouring pad
Knife
Lighter
Snare Wire
Toilet Paper
Clothes
Rainwear
Small tarp

Map
Personal Medicine
Waterproof Matches
Sunglasses
First Aid Kit
Tent
Sleeping Bag
Whistle
Tin foil
Chap Stick
Signal Mirror
Water Purification Tablets
Flashlight and Batteries
Orange flagging tape
Fire starters
Needle/Thread
Good length of rope
2 or 3 large garbage bags
Compass or GPS
Duct Tape



Activity Talk:

Did you find a place for everything? Are the most important items easy to get to?

▶ **"Yes-Everything has to fit in or on the BACKPACK"** has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: HIKING THEMES

Age: 11+

Time: 2 hours per theme

Learning Outcome: To appreciate and learn more about the area you are hiking in - plants, soils, animals, water and land formations.

If you are going backpacking for several days, you might want to set a different theme for each day.



Geology of the Area

- If possible, find a rock book or some information about the geological features of the area.
- While hiking, look for different rocks, minerals, or fossils.
- Take pictures or write down descriptions in your journal.

Trees, Shrubs and Plants

- Try to identify as many of the trees, shrubs, and plants as you can.
- Discuss how the trees, shrubs and plants have been used by humans.
- Discuss the importance of trees, shrubs, and plants to Aboriginal Canadians.
- Discuss how the vegetation is affected by the seasons.

Soils

- Check the soil along the trail and see how many different types you can find. There may be clay, silt, sand, gravel, loam.
- What plants grow on the different types of soil?
- Check for signs of erosion.

Night Prowl

- You will need a red bandanna or piece of red fabric, and a flashlight.
- Tie the bandanna or fabric over the flashlight so that when they're turned on, they glow red.
- Be sure you are familiar with the area you are prowling, and that you stay within sight of your leader's flashlight.
- Turn on your flashlight. Stand still. Walk ahead slowly.
- When you hear sounds, try to track them with the light from the flashlight.

You may see some of the following:

- Bats - black, zigzagging shadows in the air.
- Fireflies - flashes of light.
- Beetle grubs - tiny glowing dots of light.
- Wolf spider eyes - tiny, crawling specks of white.
- Raccoon - bright yellow eyes.
- Bullfrog - shining green eyes.
- Coyote or wolf - bright white eyes.
- Cotton-tail rabbit - flash of white tails.
- White tailed deer - bounding away.
- Skunk - white streaks waddling.
- Owl - silent shadow gliding from tree to tree.

Stream Hike

- You will need to have shoes that can be worn in the stream, and a change of clothes.
- Walk in the stream if possible.
- Discuss where the water comes from, what lives in it, and how long it travels. Check your map for some help with this.
- As you hike through the stream or along the stream keep track of how many living creatures you see, what the rocks and soil look like, and what kind of plants grow in, or along the stream.
- Do people use this stream for anything?



Activity Talks:

What theme(s) did you use for your hike? What did you see or learn that was new to you?

“Hiking Themes” has been completed.

Member's Initials _____ Leader's Initials _____

ACTIVITY: LOW ENVIRONMENTAL IMPACT CAMPING PRINCIPLES

Age: 11+

Time: 1 hour

Learning Outcome: To learn the basic principles of why and how to be a low impact camper.

- **Plan ahead and prepare.** Before leaving, it is important to learn about the environment including the weather and wildlife patterns. Keeping the party size small, bringing appropriate low impact equipment and avoiding human-animal contact are important issues to keep in mind.
- **Travel and camp on durable surfaces.** Avoid trails and soils where the ground is wet. Walking on wet trails causes trail deterioration, creation of undesired additional trails, and deterioration of grazing areas. Stay on the trails that are provided by hiking in a single file.
- **Dispose of waste properly.** Human waste should be disposed of in the most appropriate manner. Ideally, human waste should be disposed of in a cat hole at least 15 cm in depth, and a least 100 m away from water. All toilet paper should be packed out or burned.
- **Leave what you find.** Always leave the natural environment as you found it. Unless it's garbage, leave it behind.
- **Minimize campfire impact.** When making a fire in the wilderness attempt to leave the site of the fire as natural and pleasant looking as you found it. Secondly, minimize the effects of wood gathering. Burn only dead wood.
- **Respect Wildlife.** Avoid approaching animals. It is okay to observe from a distance, but do not disturb them. Humans should never feed animals in the wild. When animals become accustomed to eating human food their behavior often changes causing problems for wilderness campers.
- **Be considerate of other visitors.** Attempt to keep the noise level of your group to a minimum.

Activity Talk:

Before starting out on your backpacking trip, discuss the importance of knowing and understanding the low impact camping principles. When you return from your trip, assess how well you carried out your low impact principles.

▶ **"Low Environmental Impact Principles:** has been completed.

Member's Initials _____ Leader Initials _____

Credits

Thank-you to the following for sharing their information and resources:

Manitoba Agriculture, Food and Rural Initiatives (MAFRI)

Alberta Junior Forest Warden Association

Canadian 4-H Council

Hugh McManners



