

THE SCIENCE OF SURVIVAL

90 Min.

Lesson Four: Preparation is the Best Defense & Dealing with the Unforeseen

Trainer's Notes:

In order to do this lesson, a break in the middle is highly recommended. Participants will examine a recommended "base survival kit" and camping gear checklist. The instructor will distinguish different kit supplies according to the outdoor activity. Participants will learn how to select optimum sites for shelters; how to construct a variety of shelters. Participants will use components of their survival kit such as a space blanket, plastic sheet & duct tape when constructing a shelter. This lesson will overview how to build a fire with and without matches. Participants will learn how to find and prepare safe-water and how to construct a smoke signal. A review of the principles of avoiding panic and staying put will conclude this session.

Note: a slide show will be used to detail the above topics. Depending on how much time you have and the location of the course the group could go outside to practice shelter-construction and fire-building. It is important to stress the variability of survival kits according to specific outdoor activities, trip length, remoteness, and responsibility of the individual (i.e. trip leader = extra emergency gear and communications equipment). In addition, the participants workbook has included an "Appendix--Emergency Telephone Numbers" section to be fully informed prior to wilderness outings regarding weather/road/snow/forest-fire conditions.

Recommendation to Trainer:

It is strongly recommended that the trainer has additional courses covering detailed wilderness navigation. We also recommend that participants should find and read a "non-fictional, survival story". Some examples are: Antarctica Explorers (Shackleton, Mawson, Amundson), accounts of plane crashes (i.e. *Alive* by Paul Reid--the Andes rugby team crash, *The Sacrament* by Gzowski) accounts of prisoner of war and concentration camps (i.e. *The Survivor* by Des Pres), and other survival-disaster books (i.e. *Into Thin Air* and *Into the Wild* by Krakauer) for more details concerning the psychology and will to live aspects of the survival situation. We finally recommend that participants contact the Canadian Secretariat for Search and Rescue (N.S.S. in Ottawa: www.nss.gov.ca) and NASAR (National Association for Search and Rescue in the United States) for information about lost victims, search and rescue procedures and listings of courses workshops and available literature.

Objectives:	Tips:
<p>Participants will:</p> <ul style="list-style-type: none">a) learn about the importance of proper essential survival gear, effective camping gear, all-season clothing, proper footwear and a checklist-approach.b) understand that the best defense in the wilderness is preparedness.c) increase comfort level in dealing with unforeseen situations by learning how to: build shelters, fire, signaling, safe water use, food sources, and staying put/adapting whatever gear is available, remaining calm and busy.d) Be familiar with a "clothing strategy", based on the "four L's and four W's", and recommended footwear.e) Parts 'A' and 'B' of this section, combined will provide participants the ability to formulate their overall "Survival Game Plan".	<p><i>Remind the students that this lesson will only give them the theory of how to deal with these issues. More advanced training and practice is the only way to ensure their success at doing these tasks.</i></p>

<p><i>prize to that person with the most items for example a WTI badge, a chocolate bar or a bag of chips).</i></p>	
<p>f) Using that list of equipment as a starting point, go through how to choose a good tent, a good sleeping bag, camp stove. Use the included overheads for assistance.</p>	<p>15 Min.</p>
<p>g) Ask the students: <i>If you knew you were going to be stranded in the wilderness, what would you want to be wearing? Why?</i> Using these questions as a starting point build on the students' knowledge of the W's, L's and B's of clothing. Use the student workbook pages 68 –70 to assist in your discussion. Stress the fact that layering your clothing will allow for optimum heat retention by creating air pockets between layers. This traps heat effectively. Also stress that the clothes should be loose fitting. Finally, remind them the importance of a hat to keep themselves warm or cool.</p>	<p>10 –15 Min.</p>
<p>Building Shelters</p> <p>h) Begin this section by putting it into a context that makes sense. <i>You have taken every precaution and preventative measure outlined in this program and unfortunately, something goes wrong, and you are in a survival and/or lost person situation! We are now going to review the game plan necessary to survive the unexpected emergency. Remember, before you will have the ability to construct a shelter and fire, you must have first admitted to yourself the following:</i></p>	<p>3 Min.</p>
<p><i>I'm Lost, or Stranded, or in some sort of Survival Emergency Situation. I need to get out of the Imminent Danger, Stay Put, Think Things Through, Stay Calm and Positive, Get Busy and Sustain your Life by: Constructing a shelter.</i></p>	<p>10 Min.</p>
<p>i) Using the slides provided, entitled <i>Shelter Construction Slides</i>, discuss the construction of sound survival shelters. (Also see pages 43-67.)</p>	
<p>Building Fires</p> <p>j) Demonstrate how to build a fire, using flint sticks, batteries and steel wool, waterproofed matches (and how to make them), and cotton balls/petroleum jelly. <i>Some basic fundamentals should be considered before attempting fire building. You can become very successful at fire building in the wilderness if you understand the following principles: use finer materials at the start; dead, dry wood burns better and warmer; for flames burn soft woods; for coals burn hard woods and a good bed of coals can even be ignited in the rain.</i> Also discuss the different types of fire building such as Tee-Pee Pee style, or criss-crossing design, followed by the log-cabin design. Remind participants that they should, wherever possible, gather two to Three days of wood supplies, tinders, and kindlings, just in case a sudden storm prevents them from gathering more supplies. A general rule of thumb in terms of how much to gather involves gathering twice as much as they think might be necessary. See pages 33, 37-42 in the workbook.</p>	<p>10 Min.</p>
<p>Signaling</p>	<p>5 Min.</p>
<p>k) Using the student workbook page 33 have the students go over fire – related items.</p>	<p>3 – 5 Min.</p>
<p>l) Show the <i>Signaling for Help Slides</i> (smoke signals, and hand-held flares). <i>The universal codes for being trouble and requiring help are as follows: three of anything i.e. three burning piles of brush; SOS (or Save Our Soul); HELP; IN TROUBLE; NEED HELP or INJURED. Signals need to be as large as is possible and as out of the ordinary (compared to what is found naturally in wilderness). Remember, fire is a strong signal method since many search teams deploy infrared sensors. If you have left an emergency trip plan, searchers will have a better chance of knowing in what general vicinity to look which will increase</i></p>	<p>10 Min.</p>

the effectiveness of your signaling attempts. Finally, staying put also increases your odds of being spotted.

Wilderness and Edibles

- m) Using the slides/ photos entitled *Wilderness Edibles* discuss finding food when you are lost. (Student workbook pp. 34, 35.)

Some important rules exist when it comes to foraging for food:

RULE #1: Don't waste more calories to gather wild foods than you are obtaining! For example, it makes little sense to expend valuable calories in pursuit of low caloric plants that might be tasty.

RULE #2: IF YOU ARE LESS THAN 100% CERTAIN OF WHAT YOU ARE ABOUT TO EAT (NOT POISONOUS), THAN IT'S WISE TO AVOID! Just because birds and animals are eating a berry, it does not mean that they are safe for humans to eat.

RULE #3: On an empty stomach, even mildly toxic plants and wildlife can be very dangerous, for example, a slightly toxic berry can go right through your system, causing severe food poisoning or even death. There always exists a chance that you may be allergic to a plant or substance in the wilderness.

RULE #4: Most lost persons are found within a few hours or days. Very few incidents of victims who have been found have starved to death!

After a few days without food, your entire day will be preoccupied with the thought of various foods you would love to have. Certain wild edibles will start to look like chicken! The worst part of starvation is psychological, and within the first day or two, you will feel hunger pains as your stomach shrinks. As the hunger pains begin to subside, you will become weaker by the day. Depending upon your bodyfat content and metabolism, you may run into trouble when your body begins to consume it's own bodyfat. The danger is that the body will cannibalize it's muscle tissue. At this point, wild food sources become more of a need, especially when combined with severe cold and damp conditions.

Some foraging suggestions are only to be utilized if truly desperate, include the following:

- Cattail roots and shoots found in most wetlands they are filled with starch and carbohydrates
- Rock tripe (corn flake-looking lichens found on rock outcrops). Its very nutritious.
- Reindeer moss (also known as "Old Man's Beard") It is found draped over most evergreen tree branches. It can be added to soups.
- Evergreen boughs are high in vitamin 'c' and make interesting teas.
- Water lily roots and tubers are high in starch (but taste awful).
- Raspberries and leaves are edible and tasty. The leaves make nice teas.
- Poplar cambium (inner bark) can be scraped off, and added to soup.
- Acorns, hickory nuts, beechnuts, evergreen cone seeds/nuts. Many have to be boiled first to remove tannins and acids, than roasted.
- Rosehips are the fruit of the rose bush. The flowers are also edible

In most cases, boiling gives you more nutrients than baking or frying. By boiling a critter, you can stretch out the potential meals you obtain i.e. boil the bones for soup, utilize the fat and meat.

Some more "edibles" are for desperate situations only. You need to keep in mind that you normally require a trapper's licence and/or permit, or hunting license/permit to kill wild game:

- tadpoles.....swallowed whole, or baked

20 Min.

<p>-frog's legs.....roasted or steamed -worms.....dried out, and eaten -ants....dried out, put in soups -leeches....dried out -turtles...must be gutted (remove the organs and intestines) -fish, mammal, and bird species.....must be skinned and gutted properly -some snakes....avoid poisonous rattler species i.e. Massassauga rattler -snails....escargots!..boil or steam</p> <p>Avoid butterflies, moths, flies, centipedes and most amphibians unless you are sure of what they are. Snares are useful for catching small game such as rabbits and racoons which frequent runways (set up above a well used runway, approximately three or four centimeters off the ground, and 10 - 15 centimeters wide). Porcupines are protected in many regions as a "survival food", are very slow moving and easy to catch (hit with a stick or a rock).</p>	
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Optional:	Tip:
<p>Time and site permitting, take the group outside to construct a group shelter, and build a campfire without matches (use flint and batteries). Let them try the space blankets, plastic sheets, garbage bags.</p>	<p><i>You may choose to only do one of the sections as it would be too time consuming to do all.</i></p>

THE WILDERNESS TRAINING INSTITUTE OFFERS WORKSHOPS DEALING SPECIFICALLY WITH IDENTIFICATION AND USES OF WILD PLANTS. ATTEND A WORKSHOP WITH AN EXPERIENCED FORAGER BEFORE TAKING CHANCES!

Through THE WILDERNESS TRAINING INSTITUTE & N.S.S., an "Advanced Instructor/Participant (leader) Survival Course that includes an overnight "Survival Simulation Experience Component" is under development, and will be recommended for leaders or outdoor enthusiasts who desire an "Experiential Learning" program. This program will contain three (3) components:

- 1) Three days of intensive, "Advanced Survival & Safety/Crisis seminars**
- 2) Two days of "Train the Trainer workshops" (for instructor certification)**
- 3) Two days/overnight wilderness field training "Survival Simulation"**

Additionally, an "Advanced Map & Compass course" will be offered through THE WILDERNESS TRAINING INSTITUTE & N.S.S. in the near future.