

Winter Camping Handbook  
for  
the Beginner

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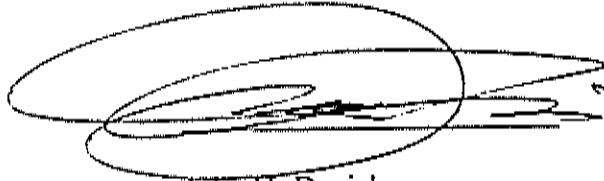
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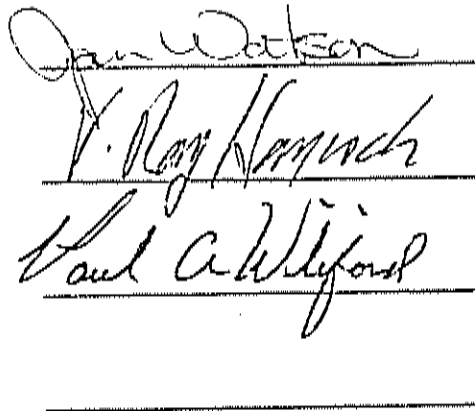
## ADVISOR APPROVAL

To the Graduate Council, I am submitting herewith, a thesis written by Rodger D. Vissage titled "Winter Camping for the Beginner". I have examined the final copy of this thesis for form and content. I recommend that this thesis be accepted in partial fulfillment of requirements for Doctorate of Commissioner Science.

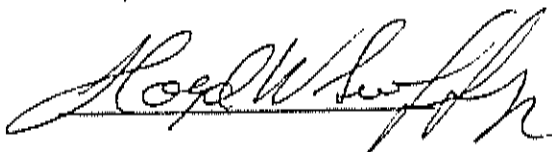


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We have read this thesis and recommend it's acceptance



Accepted for Council:



Dean of Doctoral Program

## Purpose Statement

The central idea for this paper is to provide unit leaders with a text of step by step instructions for planning a safe, successful, and fun winter campout or outing.

With the understanding that not every unit leader is familiar with or skilled at living outdoors, this paper will provide a guide for all skill levels. It will possibly relieve some of the fears and myths of inexperienced leaders and instill a confidence that they need to take inexperienced Scouts into the backwoods.

In order to be a successful unit, at least ten days of camping and outdoor activities should be provided each year. This is minimal for each Scout's advancement which is in addition to a long term summer camp. Too many Scoutmasters and leaders use the excuse, "we aren't ready for that kind of outing or we don't have enough experienced boys in our unit yet."

In reality, what the leader is saying is that he doesn't have the skills or experience himself and is very uncomfortable with the idea. This paper will give him the skills and he will have the experience if he follows the guidelines and instructions it provides. It is very important that Scouts come prepared. This knowledge and information will overcome the hesitancy of troops to undertake a winter campout.

This will be a great tool for Commissioners to use for help with units that have gone stale and need activities for advancement and motivation due to the cold of winter.

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## Introduction

As early as 1910, James E. West, the first Chief Scout Executive, realized the necessity of having a manual for hiking and camping and having fun in the outdoors. Since he himself didn't have all those necessary skills and knowledge, he incorporated two other men, Earnest Thompson Seaton and Daniel Carter Beard. Both had written books about camping and nature study and were skilled at living outdoors. Earnest Thompson Seaton became the first Chief Scout and Daniel Carter Beard became the first Chief Scout Commissioner.

This led to the first BSA *Handbook for Boys* published in 1911. Since its publication, it has been revised eleven times and is still one of the most popular books of all times.

Until this date, there is no record of a publication that singles out winter camping for the beginner. There are many bits and pieces for our reference such as, *The Boy Scout Handbook*, *Woods Wisdom*, *First Aid Manual*, *Field Guide Book*, *Wilderness Survival Handbook*, and etc.

Now, let me take us a step forward and provide unit leaders with a reference that will enable them to plan and have a successful outing for that time of year in which lots of outdoor activities are slowed or completely stopped because of the cold of winter.

One will experience the mysteries of the woods in winter as he holes up in his tent. He will understand why in severe weather, the grouse squirm their way under soft boughs of spruce, why deer bury themselves in the laurels and gullies, and learn something of the bear in hibernation.

Now, let us go plan for the outing and have fun!

## Planning a winter campout

Most of this information can be found in *The Boy Scout Handbook*. If you are going to be doing outdoor activities, this book is an invaluable source of know-how advice.

Planning a winter campout requires much more additional planning because of the added equipment and clothing needed to deal with the dangers of the cold. There is no set time for planning or preparing for this type of outing, but it is recommended that all the time be used that is necessary, depending on the knowledge and skills of the leaders and scouts involved.

In some cases, it may take several months before everyone is satisfied that the plans are complete and that all the possible threats have been covered and prepared for.

In the initial stages of the planning, it is recommended that everyone be involved, including the parents. Parents' involvement is essential because the failure or success of the winter campout depends on their support and consent. It will also relieve one of the myths that a great deal of money has to be spent on various kinds of special equipment. As you discuss the equipment and the need for it, you will show them that there are substitutions which can be made.

When the plans are complete, if a scout feels at this time that winter camping is not for him, then he should not participate. It is easier on the scout and the leader if the parent is present to back their child with his decision. When the time comes for the actual outing to take place and if a scout is not prepared, you will have to ask him to stay behind. The parent should also support this decision. The leader should always extend an invitation to the scout for the next outing.

The next important factor in the success of cold weather camping is a positive mental attitude. As you plan, everyone's confidence will build and new skills will develop. One of the best ways to build confidence is to do some of the things at home. Use your imagination and have the boys try things either at home or at the troop meetings. An example is to have the boys gather outside. Have one boy without a hat and gloves and one boy dressed properly. Let the boys be a judge as to which boy shivers first. This is not a contest and everyone should know that it is just a demonstration.

Another example is to pitch a tent and take a hair dryer and warm two identical sleeping bags. Place a thermometer in each bag. Lay the bags out in the tent, one without a sleeping mat and one with a mat. After about one hour, everyone go out and check each bag's temperature. The one with the sleeping mat will be much warmer.

Everyone's skills will develop with these demonstrations and preparing for the actual outing can be made into fun for everyone. Also, almost every outdoor requirement for advancement, from Tenderfoot to First Class can be planned in these cold weather outings. Some examples are fire building, lashing, tent pitching, cooking, first aid, hiking, back packing, totin chip, and wilderness survival skills.

**Caution:** As your confidence builds, it is advised not to be over confident. Plan your first outing according to experience. If this is your first time, plan a day hike and practice keeping dry on the trail (perspiration is as harmful as rain in the cold), or plan a one nighter, somewhere that there is shelter available, such as a cabin or lodge that you can fall back to if things go wrong. If this happens, at your next meeting, reflect on the things that went wrong and how to correct them. Practice makes perfect.

### General Instructions

#### Things you must do:

- a. Be a constant weather watcher before you leave and especially while you are on the trail.
- b. Always be ready to cancel if necessary and have an alternate date for your trip. (never start out in a blizzard!)
- c. The buddy system applies at all times.
- d. A checklist of all equipment must be made and checked and rechecked again.
- e. Written permission for each boy is a must.
- f. Land use permission may be required if you are going into the backwoods, forestry, parks, or private.
- g. Always file a tour guide with your council.
- h. Stay on your proposed schedule if at all possible.
- i. Make sure that all first aid and safety equipment is packed and checked.
- j. Be on constant alert for any dangers that may exist, such as frozen ponds or streams and keep your scouts clear of them.
- k. Because it is necessary to keep all scouts in constant observation, you should keep them within your hearing and sight at all times.

#### Things you should do:

- a. Have all assignments made for adults in advance. For example: fire watch, bed checks, and checks for perspiration and dryness. Everyone should have a watchful eye for shivering or signs of cold.
- b. Patrols should have their duty rosters and menus completed.
- c. Always have a planned program that gives scouts an opportunity for advancement.
- d. Make sure that all rules for wood tools are obeyed at all times. This is the time that they will be used the most.
- e. Before the trip, have each scout bring his pack to the meeting and check it. This should be done several times before the trip. If adjustments have to be made or more equipment is needed, it will give ample time to make these adjustments.
- f. At the time of departure, everything should be checked again.

## Equipment Needed for Winter Camping

It is essential to make a proper checklist of all equipment needed for your winter outing. There will be more equipment needed for your cold weather campout, in addition to what you would normally take on a warm weather outing. Without a detailed list, it is likely that you may omit some very important items.

### Equipment List for a 2 Day Trip (minimum)

- Sleeping pad-water resistant (no air mattresses)
- Sleeping bag(not blanket type)
- Warm night clothes
- Toilet articles
- Thermal underwear-2 suits
- Pack boots or boots without hard heels(absolutely no all leather & no sneakers)
- Gloves-synthetic or wool
- Heavy parka or wind proof jacket
- Bed socks
- Stocking cap or ski mask
- Handkerchiefs
- Heavy socks-3 pairs(synthetic or wool)
- Wicker socks-2 pairs(polypropoleyne is best)
- Pants-2 pairs-loose fitting(wool or synthetic)
- Poncho or rain suit
- Strong twine or string
- Needle & thread
- Trench shovel (1 per group of 8)
- Hand ax with head cover (1 per group of 8)
- Folding or bow saw (1 per group of 8)
- Pocket knife
- Water proof matches
- Fire starting kit
- Mess kit (with knife, fork, spoon, and cup)
- Cooking equip.(pots w/ lids-large enough for 1 pot meal for 8)
- Iodine tablets(water purification type)
- First aid kit
- Tent w/ fly (large enough for 2 w/ gear)
- Tarp w/ grommets-1 (12'x12' minimum per 8)
- Compass
- Extra rope
- Trash bags(30 gallon)-2



## Proper Use and Care of Equipment

Proper use and care of your equipment will give it a longer life and could possibly result in giving you a longer life.

Every possible means available to you should be used in keeping your equipment dry and clean. Keeping everything dry is the key to staying warm and keeping everything as clean as possible will extend the use of the equipment for many more trips. It is recommended that when the outing is over and equipment is checked, repairs be made at this time. Taking the time to do this now will result in being prepared for the next outing.

### How to Keep Warm

Keeping warm is the key factor that determines the success or failure of any type of outdoor activity. This entire text is based upon relieving and preparing for the dangers of the cold.

#### How to conserve body heat

If your feet are cold, put your hat on. This may sound facetious, but to those who understand how the human body works in a cold environment, it is a simple statement of fact. Because the head has a rich blood supply and no vaso-constriction mechanism, it is the primary radiator for excess body heat. Therefore if you want to force that excess heat to your fingers and toes, you must make sure it isn't lost through your head. A pull over type cap or parka hood is best because it keeps the breezes from blowing around your neck. "Now you know why you put your hat on if your feet are cold!"

There are only two parts of the equation to conserving body heat that you have to deal with. One is heat loss and the other is heat production. You control heat loss by adding insulation or by being well clothed. Therefore, the loss of heat is greatly reduced.

Heat production can be of only two kinds. The body's metabolism (burning food) and the absorption of radiant heat are the two types of heat production. The easiest of these two would be the absorption of radiant heat. Obviously, if you are cold and in the shade and there is sunshine within reach, you need to move into the sun. If there is a bonfire handy, you can absorb heat from it.

There is a price you have to pay for increasing your metabolism rate. To increase your metabolism, you must consume more food for the fuel you burn. Therefore, you have to buy and carry in more food. The simple answer to the whole equation, now that we know what it is, is that hour after hour you maintain a steady balance of heat loss to heat production. "In other words, cover up and fuel the fire."

In order to keep warm there are five main channels of heat loss that must be addressed. These are radiation, convection, conduction, evaporation, and metabolism. We have already discussed radiation when we discussed radiant heat loss. We have also discussed convection, which is wearing proper clothing to insulate the body to maintain body heat, such as covering the head. Metabolism is increased or maintained by eating high energy and high caloric foods. It is suggested that proper snacks be available at all times.

Conduction is one of the remaining channels of heat loss that we have not covered. Conductive heat loss occurs when parts of your body come in contact with cold objects. Contact with cold pots, ax, fire wood, tent poles, water, and the cold ground are the most common sources of conductive heat loss around camp or on the trail. Prevention of this is to separate your body with a low-conductive layer of material. Any material which may be water proof or wind proof that will trap air and stay warm on one side next to your skin is necessary. Gloves, water proof over shoes, and face masks are good examples.

Evaporation is the last channel of heat loss that we need to understand. There are two kinds of evaporative heat loss. Sweating or perspiration is one that you can control. You control this by removing layers of clothing, slowing down, and reducing your amount of exertion. The second kind of evaporative heat loss is insensible perspiration (the continuous drying out of the skin) plus the vapor loss through the respiratory system through breathing and other body functions, such as urination. Prevention for this is a continuous intake of warm liquids on the trail and while in camp.

#### How to wear clothing in cold weather

In regards to proper dressing, there are lots of clothes required, but is more pleasant to keep warm than to freeze. Layering of clothes is the proven method for adjusting your clothing to meet the outside temperature.

While chopping wood or hiking on the trail, you will not need to bundle up, so take some layers off. On the other hand, when you stop and get cold, put some layers on. Layers of clothing should be fluffy and loose fitting. Insulation is only effective when heat is trapped in dead air spaces. If clothing is too tight, it will constrict the blood flow and also cause perspiration to mat down air spaces. This will reduce the warmth of a garment and increase the loss of body heat.

#### Proper use of the clothing

**Footwear-** never should all leather boots or tennis shoes be allowed. Boots should be high topped (above the ankle) and should have a waterproof bottom and should be large enough to accommodate inner soles and two pairs of heavy socks. A light wicker sock is recommended in extreme cold weather. The inside of the boots will be moist from perspiration during wearing. At night, the inner soles as well as the socks should be removed and dried thoroughly.

**Underwear-** thermal underwear of the two piece type is recommended so that one or the other may be removed without the necessity of complete disrobing. Two suits of thermal underwear are warmer than one, because of the additional insulation provided by the air space between them.

**Mittens and gloves-** Knitted mittens or gloves worn inside of a water repellent over-mitten will serve well for hand covering. Knitted gloves, if worn inside an over-mitten, are warm. They have the advantage in that if the over-mitten is removed, the fingers may be used without exposing them.

**Head gear-** a stocking hat is the warmest thing you can cover your head with in cold weather. Get one that is large enough to pull down over your ears. Caps are great if they have ear flaps or in combination with a ski mask. The stocking cap and ski mask also

double as head gear for sleeping.

**Sleep wear-** sleep wear should always be warm and dry. Recommended sleep wear for cold weather is thermal under garments that cover the entire body from neck to feet, dry socks and some type of head gear, such as a ski mask or stocking cap.

**Trousers and pants-** trousers and pants should be loose fitting, wool or synthetic, and water repellent that will shed snow but allow air and moisture from inside to escape. Jeans could be used if that is all you have, but you would need to change often. Jeans absorb moisture like a sponge and are very hard to get dry.

**Shirts-** shirts should be wool or synthetic. Flannel can be used if it is not in direct contact with the skin.

**Windbreaker-** a windbreaker or light jacket is optional. It is nice to have in your pack if the weather moderates to the point that a heavier jacket or overcoat is not needed.

**Parka or overcoat-** your coat or parka is the most important piece of your outer garments in winter. It needs to be water resistant and wind proof. It needs to be large enough to fit over extra clothing without cutting off blood flow and allowing ventilation to keep moisture away from the under layers. A large attached hood will prevent heat loss around your neck and head. If very cold, the parka may be secured around the waist with a cord, sash, or drawstring.

#### Selecting the proper sleeping bag for conditions

In selecting the proper sleeping bag, there are standards that apply. These standards are necessary for warmth and protection. The sleeping bag should be rated down to at least 15 degrees. Filling or stuffing should be at least 4 pounds. Holofill, polyester, and fiberfill are some of the best. Bags with zip out liners or cotton or flannel liners should not be allowed because cotton and flannel absorb moisture, will compact, and are almost impossible to dry. There are many designs for sleeping bags, but the recommended bag for cold weather is the mummy bag, because it is shaped to form next to the body at all points. Therefore, it constricts the air closer to the body at all points. It is also recommended never to purchase a bag that is large enough or long enough for a scout or person to zip all the way over their head. If the bag is zipped over the head, the moisture from breathing will collect inside the bag, reducing the warmth of the bag. Suffocation could also occur.

#### Proper use and care of your sleeping bag

As in the same case as clothing, the bag should be kept as dry and clean as possible. Also, the bag should be fluffed and shaken out each morning. Fluffing of the bag loosens the fibers that have become compacted and this maintains the necessary insulation and reduces matting. Next, the bag should be turned inside-out to dry. It is recommended when carrying the bag that it should be in a water resistant stuff sack. This keeps the bag clean and dry while not in use.

## Keeping Dry

Keeping dry is one of the biggest factors in keeping warm during your winter outing. It is essential that you are prepared to deal with staying dry from either the weather or perspiration from overheating or over exertion.

### Equipment needed to keep dry on the trail or in camp

On the trail, equipment to be kept dry should be kept light, if possible. An emergency poncho or rain suit should be placed in your pack to make it easily accessible. You may need it on a moment's notice. A sudden shower or downpour of rain or snow could happen at any time. If you don't have these, a 30 gallon trashbag will work nicely. The trashbag can be fashioned into a pack cover or poncho very quickly.

To keep dry in camp at least one 12'x12' tarp with grommets is recommended per 8 scouts. Two or three tarps per 8 scouts would be better. Additional tarps may be needed to cover equipment. Also, the tarps can be hung vertically to create a windbreak or a reflector for heat from a fire or horizontally to create a dry place protected from the rain or snow. Ziplock bags are great to store almost anything in. They are waterproof and will seal easily, keeping moisture out of food, clothing, fire starting materials, first aid equipment, and also can be used in cooking bag meals.

Make sure to take plenty of extra rope for hanging or securing the tarps. The rope can also be used to hang clothes for drying.

### Keeping the tent dry

These are some tips for the novice. Veteran campers will have already learned these and probably have a few ideas of their own.

- Examine your camp site carefully before setting up the tent. The nice flat spot, is it a low point? If you camp in a hollow, you may end up in a puddle if it rains.
- Are you camping under trees? The trees will help break the rain or snow, but they will continue to drip after the precipitation has stopped. You win some, you lose some.  
**Caution:** it is advised to look the timber over carefully for dead limbs or leaning trees before setting up camp. Always remember that pine timber of any kind will break easily under the weight of ice or snow.
- A waterproof ground cloth or canvas under the tent is a good idea, but watch out. If your ground cloth extends out further than your rain fly, rain will run off the rain fly and onto the ground cloth. Depending on the slope, the rainwater may then run under your tent.
- You can improve your tent's rain resistance by applying seam sealer to your tent. Spending a couple of dollars and a few minutes ahead of time will help. But don't expect miracles.
- Condensation will form on the tent's interior walls, unless you keep the tent well ventilated.
- Is this a new or borrowed tent? If so, put the rain fly on **NOW** even if the sky is blue. You can take it off, now that you know how to put it on. The tent will breathe better with it off. Make sure you remember where it is, if it starts to rain or snow you will need to put it back on.

### Keeping your feet dry.

Keeping your feet dry is most difficult because the soles of your boots are in almost constant contact with the cold ground. The ground may also be covered with water or snow. Also, the inside of your boots will become moist from perspiration even though the ground is dry. Measures for keeping your feet dry are as follows.

- Proper selection of boots with waterproof or rubber bottoms (all leather absorbs water like a sponge and is difficult to dry)
- Boots should have removable inner soles or liners that can be removed and dried (extra inner soles or liners would be great).
- An extra pair of boots is recommended if possible. There is always a danger of stepping into water deep enough to completely fill the boots or enough snow melt getting down inside the boots).
- In extreme cold, it is recommended that a thin wicker type sock made of polyester or silk be worn next to the skin. This sock will actually wick perspiration away from the feet and place it in the outer sock, thus keeping your feet dry.
- Heavy socks, 1 or 2 pair, should be worn over the wicker socks. The number of heavy socks depends upon the amount of exertion and the weather conditions.
- You should have enough socks to change several times as needed due to perspiration or rain or snow.
- The socks and inner soles should be removed and dried before they are used again.

### How to keep warm and dry in the sack

The sleeping bag doesn't heat you, you heat it. So use this rule, "Thickness is warmth", to keep this heat. If you're cold, add some more insulations (blankets or clothes). On the other hand, if you are too warm and start to perspire, remove some insulation. Remember dry is warmth.

- Do not sleep in the bottom of the bag. Your breath contains water. If you close your bag with your head inside, then this water sticks to the bag. Wear a hat to keep your head warm.
- Change clothes. Never sleep in wet clothes.
- Eat a candy bar before going to bed. This increases your metabolism (moves your blood faster) and it helps keep you warm.
- Go to the bathroom before bed. This saves you a middle of the night trip in the cold.
- Do not dry wet clothes in your bag. Moisture will travel from wet clothes to the sleeping bag.
- Put tomorrow's clothes under your bag. This heats up clothes for tomorrow's cold morning and also provides more insulation.
- Fluff up your bag. Always fluff up bag before using to create the thickness important in keeping warm.
- Some type of sleeping mat should be placed under your bag. The mat will keep ground moisture away from the bag and will also add insulation.
- Most important, keep it dry. Keep all your sleeping gear dry and follow these rules and you should sleep warm and comfortable.

## Food for Winter Camping

When considering food for your winter outing, keep the fundamentals in mind. Food for winter camping needs to be high in caloric value to produce sufficient energy to keep you warm. Carbohydrate and fatty foods are best for long lasting energy. Sugar produces quick energy and is hard on teeth and also has a tendency to make kids hyperactive. Foods with sugar, such as hard candy, would be okay while on the trail because it can be kept in a pocket that is easily gotten into and can be eaten while you are still moving. Just guard against the kids eating too much.

### Food list

When making a food list for winter, you should use items that require little or no cooking (foods that can be cooked by simply adding water or boiling in water). Many of these items are available in local supermarkets at a much lower cost than the fancy freeze-dried foods found in sporting goods or outdoors specialty stores. Refrain from foods that will freeze solid, becoming impossible to eat.

Avoid liquids that will freeze and split or break their containers. Be sure to include plenty of hot drink mixes. Instant soups, hot chocolate, hot Tang, cider mix, and hot jello are popular beverages for winter outings.

Breads should also be pre-cooked and require only heating for use. Pita breads, English muffins, and bagels are the most recommended.

All meats and vegetables used should be pre-cooked or freeze-dried and only require boiling in water. Never attempt to cook raw vegetables in winter. They take too much time.

**Dinner meals** should consist of stew, chili, and casseroles which could contain pasta or rice. **Breakfast meals** should consist of hot cereals, stewed dry fruit, hot drink, and a bagel or English muffin (heated and spread with peanut butter or jelly). **Lunch** should be an all day meal consisting of items such as granola, nuts, chocolate, dried fruit (trail mix), wheat germ, fruit leather, and candy. Take enough food for lunch to enable everyone to snack all day.

Much greater quantities of food and beverages are required for winter camping than are needed in the summer time. Your group may require as much as fifty percent more food to keep warm in winter and perhaps even more than that for severe weather conditions. A generous supply of emergency food should be included in your provisions. Remember, food produces the fuel to keep you warm.

### How to prepare food and keep it hot

Stick to "one pot" meals. Remember, you will be cooking for a groups of 8 or more. It is easier to prepare this much food and to keep it warm in one large pot. Pots should have lids. This holds the heat much longer after the pot has been removed from the fire. If lids get lost or misplaced, it is recommended that some type of cover be provided. Heavy aluminum foil is the best because it can be fashioned easily and be layered to make it as strong as needed. Always have large pots. Extra pots will be needed because lots of water will have to be boiled for cooking, drinking, and washing.

### Liquids and their role in keeping you warm

The role of liquids takes on other forms in keeping warm besides the amount that

you have to consume. Examples are as follows; Cooking bag meals or retort pouches in boiling water help keep you warm. While holding the bag or pouch in your hand and spooning out the food, the warmth of the bag will keep your hands warm. Another way of keeping your hands and food warm, especially if you are using metal mess kits, is to have a pot of hot water to immerse the mess kits in just before you are ready to fill them with hot food. Always use gloves while handling hot foods. This increases insulation and protects your hands.

Metabolism's role in keeping you warm

The role of metabolism in keeping you warm is increased and aided by the intake of hot foods and liquids. Cold foods may be eaten for energy, but hot foods warm you much faster.

Helpful hints in winter camp meals

You should develop a written menu for each meal well in advance of your outing. Using your menu will be a guide for your shopping list. **Do not skimp!** Be sure you buy plenty of everything. Use foods that are tasty--ones that most of your group likes. Eating is essential for staying warm, so make eating as pleasant as possible.

Simplicity of food preparation is the key to successful meals. Use mostly foods that are dried, precooked, or powdered because they are light weight. Canned foods are very heavy and your packs will be heavy enough with the extra clothes and equipment that are needed. These are just a few ideas for easy, inexpensive, and nutritious meals for a typical troop outing in winter.

<b>Breakfast</b>	in camp	Tang Instant oatmeal or cream of wheat(flavored) Dried fruit(boiled with sugar added) Hot chocolate with marshmallows Bagel or English muffin(heated w/spreads)
<b>Lunch</b>	on trail or camp	Bagel with peanut butter& cheddar cheese Trail mix (gorp) Raisins Candy bar Water or drink of choice
<b>Dinner</b>	in camp	Cup-a-soup Ramen noodles w/ precooked chicken Pila Bread Debbie cake or Hostess cake (dessert) Hot jello or hot Tang

## First aid for winter camping

Changes in standard first aid start the moment you go outside. Preventative measures have already begun as soon as you put on that extra pair of socks or over-shirt in order to stay warm.

In order to be safe and ensure the safety of others while in the cold, everyone should learn first aid for winter. This should be part of the planning before you make your first trip.

### First aid:

When an accident happens in the cold, shock usually takes place. This is due to the aid of the cold in constricting the blood vessels. The constrictions of blood vessels is an involuntary process that reduces blood flow when pain or bleeding exist. Shock will happen at least 90% of the time, because the cold accelerates the process. **Treatment:** the injured person should be covered immediately with a blanket, tarpaulin, or placed in a sleeping bag. Additional heat must be applied at this time to the chest, stomach, and thighs. At this time, it may require two persons lying on either side of the victim with both their arms across the victim's stomach unless warm objects can be placed at these points. Do not warm the objects above the normal body temperature. (Hot water bottles and extra blankets are recommended items to have in addition to your first aid kit for winter.) You should keep the victim's head and upper part of the body lower than the legs and feet. Also, to a conscious victim, you should administer warm non-alcoholic drinks.

### Hypothermia-preventions, symptoms, and treatment

Hypo means "a lack of." Thermia means "heat." Hypothermia occurs anytime there is a lowering of the body's core temperature below what is considered to be normal (97-98 degrees F.) If the core temperature is lowered enough, decreased muscle and brain function and failure of other vital organs will occur. The eventual result is death. Conditions need not be extreme for hypothermia to develop. In fact, most cases occur when air temperature is well above freezing.

Earlier in this text, we talked about the five channels of heat loss-heat production. All or any combinations of these are influencing factors for hypothermia.

### Signs and symptoms

#### The Stages and Physical Effects of Hypothermia

First Stage:	37-35 degrees C (98-95 degrees F) Violent, uncontrollable shivering; fatigue; chills; clumsiness; impaired use of fingers and hands.
Second Stage:	35-32 degrees D (95-90 degrees F) Numb fingers and toes; rigid muscles; obvious gross muscular incoordination. Impaired speech; disorientation; amnesia; apathy; Note: shivering may stop. (85-90 degrees F)



Third Stage:	32-28 degrees C (90-82 degrees F) Semi-consciousness; slow respiration; blue skin; weak pulse; cardiac arrhythmia; severe muscular incoordination; irrationality; dilation of pupils; inability to walk.
Death:	28-25 degrees C (82-78 degrees F) Unconsciousness; cardiac arrest.

Treatment for stage one hypothermia: stop immediately, go to the nearest shelter (tent if you are in camp). If the victim is wet, strip off the wet clothes and replace them with dry ones, especially the hat or cap. At this time, give warm liquids and place the victim in a sleeping bag.

Treatment for stage two hypothermia: repeat all the steps taken in stage one. In addition, you should put another person in the sleeping bag with the victim. In extreme weather conditions, you should cover the bag with additional insulation, such as blankets or a tarpaulin. **Evacuate as soon as possible.**

Treatment for stage three hypothermia: Place the victim in a sleeping bag, handling gently. Closely observe for no breathing or heartbeat. **Do not rewarm-evacuate immediately!**

- Cardinal rule: If the victim is conscious, actively rewarm. If the victim is unconscious, go for help immediately and do not rewarm.
- Remember: you should be in constant observation for these signs and symptoms at all times. Never let your guard down in cold weather.

#### Frost bite

Frost bite is the local freezing of the skin and occasionally deeper structures. This is caused by ice crystal formation in frozen tissue.

First degree frost bite is usually superficial freezing of the skin without serious damage to the blood vessels.

Second degree frost bite is deeper and more advanced freezing of skin and tissues. This can result in permanent damage to blood vessels and tissue due to the cutting off of circulation.

Third degree frost bite is the complete freezing of skin, tissues, and bone. This almost always results in loss of toes, fingers, limbs, or even death.

Before we proceed to treatment, we should be familiar with the signs and symptoms of frost bite. Just before frost bite develops, skin will become red and start to sting. With first degree frost bite, the skin will suddenly become pale, numb, and cold. With second degree, the skin is almost white and signs of blackening will start to show around the nails and tips of toes and fingers. The skin will feel firm and "waxy". With third degree frost bite, the skin is white and rock hard with signs of hematoma around the nails and joints. There will be a yellowing of the nails and the fingers and toes will blacken. In other words, all the superficial structures are frozen and circulation is cut off.

Treatment for frost bite: only first degree frost bite can be treated in the field. Skin to skin contact is the best method. Do not rub. Handle gently and protect from further injury. A good example of thawing would be to place the hands under your arm

pits. Thawing will cause a great deal of pain. The treatment for second and third degree frost bite is to cover and protect the frozen areas from further trauma or further freezing and evacuate the victim as soon as possible to the nearest medical facility.

- Any degree of frost bite should be regarded as a serious injury.
- Never attempt to thaw frozen tissue in the field.
- Never rub frozen skin. Never rub it with snow.

#### Dehydration-prevention and treatment

The loss of water through sweating, respiration, and elimination upsets your body's metabolism, making you less hungry and increases your susceptibility to hypothermia. You can become dehydrated without being thirsty in cold weather. In normal living situations, we depend on our thirst system to maintain an adequate intake of water, but this cannot be relied upon in cold weather. Unfortunately, cold temperatures tend to suppress thirst.

There are really no definite signs or symptoms that you can rely on to let you know how much to drink. The constant awareness of the problem is all that you can rely upon.

The treatment for dehydration is prevention. Drink plenty of water and warm liquids. In order to ensure that everyone drinks adequate quantities of liquids, you may need to force yourself and others to drink. Periodically, take breaks and make sure that everyone takes a drink.

- Procuring water in winter need not be a difficult task if you always plan your trips where there is a water source, such as open water, running streams, or water pockets in the rocks.
- Be sure to use a prescribed method of purification for water. Use iodine tablets or two drops of Chlorox per quart of water. Shake and let stand for 30 minutes. You may also boil your water at a full rolling boil for 10 minutes.

## Summary

This text has been prepared for the novice (the beginner) with the ever present reminder that not everyone is a veteran camper with a knowledge of living outdoors. It will show the extra provisions you will need, in addition to what you would normally take on a warm weather outing.

Every year, thousands of boys from across the country will go winter camping. Use this information and join them at this time of year. Don't hole up and have your scouts wait until warm weather. "Little Johnny joined your troop in November. Please don't hold him back."

Remember: although the threat of danger is always present in a winter outing, planning and knowledge will overcome this. It is very important that the scouts come prepared. So get going, make sure you are ready, and most of all, be safe.

**Have fun!**

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