



Sleeping Comfortably in Winter Weather

- or -

How to camp in the cold

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Cold Weather Camping

Cold weather camping as defined by BSA:

“camping in weather where the average daily temperature is below 50 degrees Fahrenheit and conditions are cold, wet or windy.”

The most important thing to remember about cold weather camping is to **KEEP DRY**. Moisture will reduce the insulating properties of almost *everything*. To keep yourself warm, remember the word **COLD**.

- C**: Keep yourself and your clothes **C**lean
- O**: Avoid **O**verheating
- L**: Wear clothes **L**oose and in Layers
- D**: Keep **D**ry

The hints listed below are in a random manner. There is no order of importance to the list, just some suggestions that have proven true over the years.

Remember that you need to drink **MORE** water than you normally would drink. Your body uses the water to regulate your core body temperature.

Sleeping in the cold is no different that sleeping any other time of the year, if you plan properly.

Remember, Proper Prior Planning Prevents Poor Performance!

Say that 5 times fast!!

It is also important to carry snacks and occasionally, feed the furnace. Eating increases your metabolism and will create warmth in your core. High fat foods, meat sticks for example or protein bars, are a lot better at this point than candy or pop tarts. Fat and protein cause your body to work harder to process it, and it also requires water for the processing, so remember to drink water. Drink PLENTY of water.

This is a good thing.

Eating candy, sweets or energy drinks may give you a jolt, but it wears off so fast you really don't notice it and are worse off afterwards.

If you get chilled, I mean it feels like you are cold to the bone, and no matter what you do you are not able to get warm; TELL SOMEONE! Tell everyone. Send up flares! Tap out an S-O-S.

Symptoms like shivering, and you cannot stop shivering; or worse yet, you are shivering and all of a sudden stop shivering but do not feel all that much warmer is really bad. In these instances, immediate action needs to be taken. Go to any building with heat, like the dining hall or First Aid Station for assistance FAST. Find ANYONE with a radio at the camp to get help to you. Do not sit down or rest.

I have been in an ambient temp for several days that was below zero degrees Fahrenheit, but I was prepared for it with one exception.

My feet were fine. Cotton sox, wool sox, and winter boots; as for the legs, nice and toasty, my hands were not hot, but they were comfortable. I was wearing a long-sleeved wicking T-shirt, a sweatshirt, a pull over wool sweater, a fleece jacket, and my winter coat. Yes, it sounds bulky, but it really was not. I got

used to it in just a few minutes. As for my head, I had my Cleveland Browns stocking hat, and when needed the hood to my winter coat.

I did, unfortunately, neglect to consider my face and neck. No scarf (left it at home) and no “ski” mask (do not own one). That has since changed, and those two items have been added to my winter camping arsenal.

Why yes, it is an arsenal. You are going out to do battle with the elements of extreme cold conditions and you expect to win. Arm yourself accordingly, learn to use all of your weapons properly.

Winning, what does that mean? It means you had a good time and were not cold. Cool, chilled or not hot is another thing. You CAN be cold but comfortable. We were not able to have a campfire at this campout because of the dry conditions. 4 inches of wet snow...is that really considered dry conditions? But not a single one of us had a BAD experience.

That was during the day and walking around, expending energy and creating heat. But, what about when you are motionless for 6 or more hours. Like SLEEPING.

For me, sleeping leads to another mindset. How to maintain a nice toasty sleeping bag in +5° F ambient weather is actually not that difficult if you are properly armed and skilled.

I have a +30° F rectangular mummy sleeping bag and I use an REI basecamp XL (3½” x 74” x 26”) sleeping pad. Under the sleeping pad I put a couple of the wind-shield sun visors, the silver ones. Under the visor sun blockers, I found two rubber backed soft rugs (good for the knees also when you crawl into the tent) that cover the bottom of the tent corner to corner. My sleeping bag on top of all that, in the bag I have a flannel

and a fleece blanket that go from head to toe (HEAD to TOE is the important part).

Another small blanket gets stuffed in around my shoulders, blocking all the heat that is created in the sleeping bag... well, IN the bag; and the cold out! Then I put a second sleeping bag, which is a rectangular bag, heavy and thick; but it is also a +30°F bag. I open it up all the way and use it like a quilt or comforter and lay it over me from above my head to as far down my body as it will go, somewhere past my knees.

Remember, the mummy bag is sealed around my neck so the close quarters of the exhaust of my breath under the quilt never gets into my bag itself.

Lastly, I take my winter coat, zip it up and fit it over the feet part of my bag as an extra added protection layer.

I sleep well. Last time I did this I had four remote digital thermometers, mainly because I was curious. One in my bag near my waist, one near my head, one hanging in the tent, and one outside. I reset them all before I dozed off to sleep to get clearer reading

Inside my bag the max and min temp during the night hovered between 85°F and 92°F; my head hovered between 70°F and 80°F; and my tent was +4°F to 39°F. While the outside temp dropped to -5°F.

One last thing. Wear a stocking hat to bed; you lose more heat through your head and the hat will help you retain a lot of it. Yes, it sounds weird and all, but the blanket blocked area inside of the sleeping bag is completely separated from my head by the blanket stuffed around the shoulders so the exhalation (humidity condensation) does not cause a condensation issue where my body is located. Also, covering up your head, while

retaining heat also blocks out the light if you are in an area that has lights, or a really bright full moon.

The one thing you **NEVER** want to do is stick your head inside the sleeping bag. The exhalation from your face will cause water vapor to build up inside the bag, and this is definitely **NOT** a good thing. Talk about getting colder! This is what creates a very uncomfortable night at the very least. At the worst, hypothermia lite, as I call it. Uncontrolled shivering, not able to sleep, and a host of other things.

OK, you have your bed ready to crawl into and zip up, but what can you do **BEFORE** you get into your sleeping bag.

One thing is to take a Nalgene bottle and fill it with really warm, **NOT BOILING**, water. Cap it up and keep it up near the core of your body. Like a camper version of a hot water bottle.

“But Sir, I have a hot water bottle; you know the soft rubber thing. Why can’t I just use that?”

Well, son, essentially it could work. But what would happen if you rolled over on top of it and popped the cap out of the bottle? This is **ALSO** a bad thing. Really bad thing especially if you did this on night number one of a multi-night campout.

Wet sleeping bag = no sleeping.

Another thing you can do is eat a meat stick or protein bar before you get into your tent.

NEVER BRING FOOD OR EAT IN YOUR TENT

Drink some water along with it. It increases your metabolism and makes your body work a bit harder, increasing your core temperature a hair.

The last suggestion is to do some jumping jacks before you get into your tent. This raises your body temperature and once you get into your bag you will warm the inside of the bag faster. You want to do a few, maybe 10 or 20 at the most. Breaking a sweat is **WAY** too many.

The most important thing to do with winter camping is over planning. I mean, if the temp is supposed to be 30, plan for zero. You can always shed layers as needed or put them on. Besides, a fellow camper may be trying to pack too light and as a result, is freezing. Your extra clothing and gear may save their camping experience.

One last note. Sleeping in your cloths. That is not only a bad idea, but the worst thing you can do if you are cold. Strip, sleep in your skivvies (you don't know what skivvies are, ask you SPL!) or a pair of shorts. You can wear a sweatshirt but not the shirts you wore during the day. Perspiration is water, right?

On your feet, a pair of wool sox. Not the sox you wore during the day. Can you guess why?

Sleeping prep may take you a few minutes, but it will be worth it. So, you go to a BSA campground. They have the Summercamp platforms there and they are flat, and level, and you tent will fit perfectly. Is it really a good idea?

For me, no. I look at it as way too much dead space under your tent; COLD, dead air space actually. I like to set up on the ground. I personally think I am a little warmer on the ground.

Sleeping Pads

Let's talk a little about specific gear, for example, the sleeping pad. Yes, you need a sleeping pad, WHY? Well, lay on the ground, go ahead, lay on the ground!

Welcome back. Let me guess, you discovered the ground is hard? Do you want to make it softer? Then use a sleeping pad.

There are plenty of options when it comes to camping and sleeping in comfort. Self-inflating, pump style, open cell, closed cell, air mattress, and nothing.

Nothing is not the right answer. Body parts get sore after a night on the dirt.

Air mattresses, like the inflatable beds, sound like a great plan but in reality, are not all that great. You need to find a way to inflate them that requires no electric, and yes there are battery operated inflators, but they are heavy as are the mattresses. Coleman makes a camping air mattress, but I would never consider it for anything but a flop-N-drop campout in the late spring or early fall. Biggest downside is when it's cold. Imagine sleeping on an ice cube in the middle of an ice cave. Yup, you guessed it, chilly nights!

Closed vs open cell foam, well, if I had a choice it would be closed cell. It is denser, does not absorb moisture and therefore will not mold. A little heavier but worth the extra ounces.

I own 2 sleeping pads. An REI Brand Basecamp XL. It is the longest, widest pad I have ever seen, and it has a three-and-a-half-inch thickness to the pad. It may not sound like much reading this, but that is huge!

My other sleeping pad is the Eureka GREEN RIVER AIR PAD, it's also three-and-a-half-inch thick and is narrower than the REI pad. Still quite comfortable and easy to carry INSIDE my back pack, where-as the REI pad needs to be strapped to the outside of my backpack.

The differences in the two pads is massive. The Eureka pad is tiny. It collapses and stores in its carry bag at 5.5 x 15 inches where the REI Basecamp pad slips into its carry bag at 9 x 30 inches.

Weight is another concern. The REI pad weighs in at 6 pounds and the Eureka pad weighs in a little over 2 pounds. Now, the REI pad is self-inflating. Which means

you set up your tent, open the valves and toss in the pad and by the time you are ready to hit the sack, it's inflated. You close the valves and crash.

Whereas the Eureka pad has a built-in pump, you press on the valve with your hand like you are performing CPR and it inflates in a couple of minutes. I like them both. I use them both, but not at the same time. You know, never thought of trying that.....

The Eureka I use in close quarters, and the REI I use for longer term. The REI fits great on a summer camp cot and make sleeping very nice. Like you're in a bed.

Last thing about these two. The REI pad insulates you better from the Earth. Meaning in the winter, you will be warmer. If you understand the R-Value, the REI is a 6 and the Eureka is a 1. This can be increased by reading the Cold Weather Camping at the end of this book. I give you some great ideas.

Last COLD weather tip, you know those car windshield sun blocker things? The silver ones, yea. Well, if you put a couple of them, stretched out, under your camping pad it increases the R-value, which means you will be warmer because the reflecting heat will not be sucked into the ground, it will come back up into your sleeping pad and your sleeping bag.

As I mentioned before, there are other options also; a closed cell foam, a partial inflatable, and other things. Closed cell foam is cheap and comfortable for the newer smaller Scout. But for the old people, get a real pad. Go to the outdoor store of your choice and look around. If you live in the South, any of them is fine all year long. If you live in the North, or the South for that matter, find out what the other people in the unit have bought. First of all, you will find out the mistakes they made, which puts you ahead of the power curve. Then you will get great ideas.

Did you know if you call Eureka and prove you are a Scout leader they will provide you with a code you can use to give you a one-time annual 50% discount off the full price of any four items they sell? That is correct. I take advantage of it every year for two reasons. (1) I like Eureka products and (2) I like saving money.

Sleeping Bags

When it comes to the sleeping bag that you need, the first thing you need to look at is what you need it for; is it 5 degrees below zero? Is it 83 degrees at 2am?

Different temperatures require different sleeping bags, or if warm enough, just a sheet and maybe a lithe blanket.

If you know it is forecast to be 55 during the nightly low temp on your campout, a 40 or 50-degree bag will work. A zero degree bag is not good for this because you will start sweating in your bag and then get really cold.

If it is forecast to be 25 that night and you bring a 50-degree bag, you will not sleep, and it creates a dangerous situation you do not want to create!

For general winter camping, a zero or 20 or 30-degree bag is good. If you live in the south. If, perhaps, you are living in Colorado you need to get a much better bag, and let me tell you, the better the bag, has a **better** the price for the company selling it to you.

Personally, I use two 30-degree bags as low as -10 degrees. I slip into one bag wrapped in a fleece blanket and drape the other 30-degree sleeping bag over me like a comforter.

OK, if it is to be above 45 degrees during the night, bring a fleece type throw blanket or two. One under you and one over you.

Let's say you are camping in the mountains for the weekend. Let's say the forecast is a high of 79 and a low of 39, not unheard of in the mountains when camping. How do you camp and what do you use?

I have camped at a Summercamp in the mountains where the high during the day was 83, and it dropped into the upper 40's during the night. I brought my 30-degree bag, and a blanket. When I hit the sack I slept on top of the sleeping bag, as I got chilled I threw on the blanket, and about 3am I crawled in the bag. I had good sleep even though I woke up three times to change my sleeping arrangements.

THE ALTERNATIVE: You go to sleep and the air temp is 69. You crawl into your bag and zip it completely up and begin to warm up and fall fast asleep. A short time later you wake up and the air temp is 62. You are completely soaked and shivering. The rest of the night you toss and turn and try to get warm. As the rooster crows, you are still cold and reluctantly get up and feeling totally exhausted you start your day.

If I were in this alternate situation, I would get up and change clothing leaving my sleeping bag open to air out and hopefully dry out a bit. If it is not raining or snowing, I would unzip the bag and lay it on the top of my tent to let the rays of the sun dry it out.

Then the next night, reread my original scenario, and don't relive the alternate!

Prices of sleeping bags go from \$8 to \$800. Depending on what you are looking for the bag to do, size, weight, temp rating, and manufacturer.

This is where I like Amazon. I spent \$9 on my sleeping bag, the one I use as a quilt and \$27 on the one I sleep inside of; granted, I do have a third bag I can use if it is below -10, it is an extreme cold weather Army sleeping bag. I always have this in my car in cold weather camping, mainly because if someone is experiencing hypothermia, you strip off their clothes and zip them into this bag with a Nalgene bottle of really warm water, and they will warm back up in less the 10 minutes.

If you use Amazon, look at the reviews before you make the purchase. If there are a few hundred of them on that bag, and 90% of them are 4 stars and above, you are most likely OK to get and use this bag.

Buy smart. A sleeping bag is the most weight you will pack into a backpack, make it worth the weight you will be carrying. Use compression straps to make it smaller and tighter. I pack most of my gear in assorted Dry Bags. This way, if I fall into the lake, I may be wet, but my gear is dry.

You cannot sleep in a wet sleeping bag. You will not sleep well.

And yes, at 50 degrees you will suffer from the symptoms of hypothermia and will need medical attention.

Tents

Tents vary from a bivy to a Taj Mahal. Both have their place, both are useful, but you need to think smart about it.

How does a tent work? If it is cold, your body heat warms the air in the inside of the tent and therefore keeps you a little warmer.

My winter experience: I was camping in the Georgia mountains and the air temp was well below zero degrees Fahrenheit. I was tented on the ground in a 2-person tent. It snowed that night and completely covered my little A-frame tent. I woke up in the morning thinking it was really dark, but it was pretty warm, so I go up to get dressed. I looked at the three remote digital thermometers; the inside of my sleeping bag was 87, in the tent was 37, and outside was -8.

MINUS EIGHT DEGREES!! How could it be when the inside of my tent was 37? Easy, the snow, as I said, covered my tent which made it into a makeshift igloo. Snow is a fantastic insulator and the heat from my body warmed up the inside of my tent.

The downside, I was stupid! I moved to fast and hit the tent wall dislodging all the snow, which meant the inside of my tent dropped like a stone! I got dressed in much colder temps than I woke up in.

That's how a tent works. A bivy tent is like sleeping in a large trash bag. You can carry it easily, they are very light weight and pack small; but they are also very small as in you slip in from the top and right into your bag. No room for anything else but you, your pad, and your bag.

In the summer, they may be good depending on ventilation. Remove the fly and if there is no rain, the mesh will keep the bugs away, but you will be comfortable.

On the other side of the coin is the Taj Mahal. What's a Taj Mahal tent you ask? That is normally the first tent a Cub Scout parent buys so they 'have enough room'. Just them and their child and a lot of extra and unused real estate inside the four walls. Enough room for a recreation room, maybe a garage. Yep, you can definitely stand up and get dressed in the morning and if the weather is warm it seems to be a nice tent, but in the late fall, winter, and early spring you will start

thinking you are sleeping in the refrigerator and both of you will hate camping because of it. Your two little bodies will not be able to keep the inside of that structure warm.

In the early fall and late spring, an entire patrol can sleep in there, no adults, and be comfortable. The adult can get their own tent. Remember, I said talk to the other people in the unit, they will not lead you astray.

What do I have? Currently, I am using my favorite tent. A Eureka Tetragon HD 2 and in hind sight, I wish I had gotten a 3. The weight and size difference are not enough to say the extra space ain't worth it, and I would like a few extra inches all the way around.

Being a hair shy of 6-foot-3, there are times my head or feet hit the tent walls. If that happens when it's raining, the water seeps in at that point of contact, through the tent wall. As in no holes, it comes through the material. Not the greatest thing to wake up to. I sleep caddy corner in the tent now and am very comfortable.

When this tent needs replacing, I will get a bigger tent, but since it is a newer tent, it will be a long time before I need to replace this one.

Last thing about tents to remember are:

1. The rainfly should go all the way to the ground for 3-season camping
2. Look for a 'bathtub' floor
3. Well ventilated to keep the condensation to a minimum
4. A price, size, and weight you can live with

The Kitchen

Mess kits, stoves, spices, utensils, pots and pans, water containment, water filters...the list goes on.

Your personal mess kit, however, should be simple.

A mess kit is your personal eating stuff. Plate, bowl, knife, spoon, fork, cup.

There are cheap one's, and there are expensive ones. I have a set of both I use at varying times, depending on the situation, including chopsticks I get from Chinese carry-out. After you eat, they make great kindling!

Also remember that a single walled metal cup gets so hot with hot liquids in it you cannot hold it, as will the metal bowl with oatmeal in it.

As far as a mess kit goes, get the titanium (knife/spoon/fork) set and they will last you forever. Yes, you pay a little more, but you will most likely never need to buy a new set again and also, they are very, very light so weight is not an issue.

As for the Light My Fire spork (or mess kit), well, I have had several of them. Mainly because they break easy. If they get cold, like in winter camping, they snap. I stopped carrying them for this reason. Yes they look really cool and come in awesome colors, but, I like practical!

Now, how about the plate, bowl and cup. There are a million options out there. I like the GSI offering the best. Everything you need, plastic, in a mesh bag.

Why is a mesh bag a good thing, well, have you ever heard of a dunk bag? I use the mesh bag to store the clean dishes. I can wash them and put them into the mesh bag, hang them up and let them dry.

As for the cup, stay away from the metal single walled cups. If you put coffee or hot chocolate or hot tea in them the entire cup is the temperature of the liquid. You think because it has a handle on it you will be alright, huh? Well, remember when you sip on the really hot drink, your lip touches the cup!!

Stick to plastic is my recommendation.

Briefly, stoves are the topic. There are a TON of different stoves from Troop and Pack size to Patrol size to personal size. As I mentioned previously, (a) Talk to the people in your unit and (b) look for the best deals online.

In really cold weather camping, the backpack stove that use the Iso-Butane may not work properly. They need to be a winter mix, or in extreme cold, they become a candle and not a stove. The green bottles of propane for the Coleman type stoves will also have the same issue, maybe not nearly as bad. To resolve the issue take a couple hand warmers and put them on the bottle and wrap it in a towel. It does the trick, although a bit odd.

For an education in stoves, head to an outdoor store like REI or Dick's and learn from a local expert. You may find what you are looking for there and will not need to look any further.

Cooking

Cooking in the woods is just like cooking in the house, you have a heat source, pots, pans, utensils, and food.

Cooking in cold weather does not mean you need to crank the stove to its oxy-acetylene setting. Blasting the flame against your cooking pot means you will professionally burn your dinner, and quite efficiently. Cook it in a covered pot or pan, it helps it retain the heat better. Cook it on a medium heat, letting it heat up to proper temp slowly.

As for what to cook, that's easy. What do you like to eat! I am not going to talk all that much about cooking because this is a requirement and in each unit the older Scouts will train the younger Scout to cook, and in Cub Scouts the adults will cook.

Suffice it to say, there are various things and situations, like Cub Scout Family Camping and Patrol Camping, and also Backpack Camping. Each is unique in the foods you bring and prepare, and each has its own challenges.

There is a cookbook that can aid you in getting the ideas as to what you can cook, I know, I wrote it and I give it to the units that I and their commissioner and also if I teach a cooking merit badge, I give it to the Scout. If you want a PDF copy or even a KINDLE copy, go to my website and fill out the contact form. I will send you a copy in the version you need.

<http://www.AuthorCancilla.com> is the address. Check it out and follow the links.

SLEEPING WARM:

1. Go to bed warm
 - a. Brisk walk or jumping jack before getting into your sleeping bag
2. Prepare the Furnace
 - a. Before hitting the hay, eat a slow burning high protein fatty snack.
 - b. Energy bars are excellent
 - c. Do not eat refined sugars or candy bars
3. Drink Water
 - a. Drink water, you need more than you think you do
4. Sleep clothing
 - a. Change as much of what you wore during the day into fresh new clothes.
 - b. You will stay warmer since you have not perspired in these clothes yet.
5. Bottle in bed
 - a. Fill a Nalgene water bottle with very warm (NOT BOILING) water
 - b. Keep it near your body core inside your sleeping bag to warm you and your bag up faster
6. Wear a hat
 - a. A knit hat will keep your body warmer, less heat loss
7. Don't hide your face
 - a. Putting your face in your bag to keep it warm is very bad
 - b. It means the water vapor you exhale is now floating around in your bag
 - c. Water in your bag means the temp in the bag drops
 - d. You are a lot colder
8. Don't sleep on the ground
 - a. A sleeping pad, designed for cold weather, will insulate you from the cold ground
 - b. An AIR MATTRESS is evil.
 - i. Imaging sleeping on an ice cube, because that is what you are doing.
 - ii. The air in the mattress gets to the temp of the tent, and you freeze
 - c. Put a silver windshield shade under the sleeping pad for an extra layer of insulation
9. Special sox
 - a. A good thick pair of wool sox, used ONLY for sleeping, will help your feet
 - b. Zip up your coat and pull the arms inside, slide the coat over the FEET part of your sleeping bag for an extra layer of warmth
10. The Bag Itself
 - a. Before use, shake it! Rearrange the insulation material in the bag
 - b. Use a wool blankey inside the sleeping for an extra 15 degrees of warmth
 - c. Bring two sleeping bags and use the second one like a comforter over the bag you are inside of. It will give you an additional 20 degrees of toastyness
 - d. Make sure to block the air around your shoulders using either a fleece blanket, or the pull ties of the bag if it has them, or better yet, BOTH!

Most important, **DO NOT** TRY TO BE THE TOUGH GUY!!

- Doing so can lead to hypothermia, or worse.
- Self-check, and buddy check, every 10 to 30 minutes depending on the ambient temperature. The colder it is, the more frequent you need to check on each other.
- Drink warm/hot drinks as often as possible. Stay away from Kool Aid and other BAD sugar drinks.
- If you get chilled to the bone, tell an adult you are going to your tent because you are cold to the bone, get into your sleeping clothes or at least take off your pants - sox - and outer shirts, and crawl into your sleeping bag. **THAT** is the fastest way to warm up.

The Dreaded Lists

CLOTHING

1. Layer your clothing. Wear several layers of lighter clothing instead of one heavy layer. This way you can better regulate the amount of insulation. When you get warm, take layers off. Getting chilly? add some more clothing. Do not wait until you are cold - it is too late by then!
2. Keep yourself dry, both from the weather and perspiration.
3. Wear loose fitting clothing, to optimize insulation.
4. Remember when buying clothes for cold weather, wool retains most of its insulation properties when wet, while cotton loses most of its insulation if wet.
5. There are excellent manmade fibers that retain their insulation properties as good as, or better, than wool. Other benefits are light weight & wind-blocking.
6. Rain gear is water proof **AND** will not allow perspiration to exit (SEE #2). During rainy weather change your clothing several times a day. Raingear will also help a LOT if there is a cold wind. Rain gear is also a great wind breaker.
7. Athletic shoes and nylon hiking boots do not provide any insulation. Wear either mukluks, water-proofed leather hiking boots, rubber overshoes or rubberized boots.
8. Waterproof your leather hiking boots with the appropriate commercial treatment. Use only silicon-based products on leathers which require it. Check the care tag that came with the boots.
9. If you choose to wear rubberized boots, remember they do not allow for ventilation, therefore you will need to change your socks several times a day (SEE #2). You may want to get some felt or wool inserts for insulation.
10. Wear a pair of cotton **AND** a pair of wool socks to increase insulation and wick perspiration away from your feet.
11. Pull trouser legs over the top of shoes to keep out snow. Use nylon gaiters (leggings), or tie or tape them to make a good seal.
12. Wear mittens instead of fingered gloves when you do not need independent use of your fingers. Mittens allow fingers to help keep each other warm. Use a pair of socks to cover hands if mittens get wet.
13. Wear a stocking cap or other warm hat: one that covers the ears and neck area is particularly effective. Heat loss happens through exposed skin of which your head is about 10%. So wearing warm head gear is a must when it's cold and windy.

14. A scarf reduces heat loss around the neck. Alternatively, a “ski mask” or balaclava offers protection from the cold and wind on your face.
15. If you need a fire to keep you warm, you are not dressed properly. If the heat can get to your body, so can the cold.
16. Paper is a good insulator and can be wrapped around the body (under your clothes) to add insulation.

BEDDING DOWN

1. Natural fiber sleeping bags do not maintain their insulation properties when damp, down bags also fit here. A 3 to 4-pound synthetic bag will take care of most of your needs.
2. A mummy style bag is warmer than a rectangular, as there is less space for your body to heat. Also, most mummy bags have a hood to help protect your head.
3. If you only have a rectangular sleeping bag, bring an extra blanket to pack around your shoulders in the opening to keep air from getting in.
4. Do not sleep with your head under the covers. Doing so will increase the humidity in the bag that will reduce the insulation properties of the bag and increase dampness.
5. Remember to air out your sleeping bag and tent, when weather permits. Perspiration and the breath you exhale at night condense in the tent while you sleep, and the water will reduce the insulating properties of your bag.
6. Wear a stocking cap to bed in order to reduce heat loss.
7. Wear a loose fitting hooded pullover type sweatshirt to sleep in.
8. Make a loose-fitting bag from an old blanket or carpet padding to put both feet in when in your sleeping bag. You can also pull the arms of your winter coat into the coat and zip it up, the stuff the feet portion of your sleeping bag into it for a little added protection.
9. A bag liner, either purchased or made from an old blanket, preferably wool, will greatly enhance the bags warmth.
10. Insulate yourself from the ground as much as possible to avoid cold spots at the shoulders and hips. Use a sleeping pad of closed cell foam instead of an air mattress. A good rule of thumb is that you want 2 to 3 times the insulation below you as you have over you. The sleeping bag's insulation becomes compressed and is not as effective below you. Another option is to use the Silver car windshield sun covers. They work very well. Put it under your pad or between your pad and your bag. Experiment which method works best for your pad/bag setup and gear.
11. Use a ground cloth under your tent to keep ground moisture sneaking inside your tent and away from your bag. Your body will warm up frozen ground to a point were moisture can become important.
12. Space blankets, if used as a ground cloth, will not reflect the body heat. Instead it will conduct the cold from the ground to your body.
13. Cold air will be above and below you if you sleep on a cot. Cold air will also be all around you if you sleep on a wooden Summercamp platform in zero-degree weather. You will be cold!

14. Put a hand warmer (in a sock) at the foot of your sleeping bag before getting into it. Or, fill an old school canteen with hot water (not boiling) and place at foot of bag to keep warm. Be careful with plastic canteens. Never use BOILING water.
15. Exercise before bedding down to increase body heat. This will help to warm your bag quicker. Be careful not to start perspiring.
16. Remove the clothes you are wearing before bedding down if they are damp with perspiration. Put on dry clothing or pajamas before entering the sleeping bag.
17. Build a wind break outside your tent by piling up snow or leaves to a height sufficient to protect you when laying down.
18. **Never store your sleeping bag compressed.** Hang it up, lay it out, or use a very large stuff bag between trips so the piling/filling will not compress and lose its insulating properties.
19. Before you get out of bed bring the clothes you plan to wear that day inside your bag and warm them up some before dressing.
20. Place an empty capped plastic bottle outside your tent door for “night calls.” This will reduce your exposure when you have to answer that call. Think twice before using it inside the tent, especially if you have a tent mate. Remember to empty the bottle away from the camp in the morning.

ODDS AND ENDS

1. If at night you get cold, let the leadership know so action can be taken before injury from cold weather health problems occur. In other words, it's better to be kidded about forgetting your good sleeping bag than risking hypothermia. If shivering does not go away after 10-15 minutes in your sleeping bag, seek help and warmth. It will not get better.
2. Organization and proper preparation is very important in cold weather camping. Good meals, proper shelter and comfortable sleeping arrangements make for an enjoyable outing.
3. Drink 2 quarts of fluids (water is best) per day besides what you drink at meals. Cold reduces your thirst feeling but you are still becoming dehydrated through exertion and dry air.
4. Learn to recognize and treat cold weather health problems. These include frostbite, hypothermia, dehydration, chilblains, trench foot, snow blindness and carbon monoxide poisoning.
5. Use the buddy system to check each other for cold weather health problems. Notify the leadership if symptoms do occur.
6. If you feel cold gather some wood or do some other type of work. Working will help warm you.
7. Eating ice or snow can reduce your body temperature and it is not pure. Don't eat it. Snow and ice can be used for drinking water but only after boiling. Use only pure white snow.
8. No open flames (candles, matches, etc.) inside the tents. It consumes the oxygen and is a fire hazard.
9. Wiggling your toes inside your boots will help keep feet warm. If your feet get cold, they are not insulated well, or your body is conserving heat in its core. Speak to the leadership.
10. Take and wear sunglasses if snow is in the forecast. The glare of the sun (even if it's going to be cloudy) off the snow could lead to snow blindness. Sunglasses will reduce the glare and lessen the chance of a headache caused by reflected light.
11. Use hand warmers. They are cheap and easy to use. You can also get toe warmers, and foot warmers. They work wonderfully, I know from firsthand experience thanks to an awesome lady who donated a set to me when we needed to stand on a cold, frozen, snowy field..
12. Keep off ice on streams, lakes and ponds. Always, always, always! Once again, keep off ice on streams, lakes and ponds!
13. It takes longer to cook food in cold weather, so plan accordingly. Before going to bed pour enough water for breakfast into a pot. It is easier to heat the pot that contains frozen water than to heat a plastic water can so you can pour the water out.
14. Keep matches in a metal match safe as plastic can freeze and break if dropped.

15. Gather twice as much fuel as you think you'll need for fires if they are permitted.
16. Carry tinder from home. It may be hard to find in snowy or wet conditions. See APPENDIX "E" for ideas on fire starting in cold weather.
17. Gather wood and tinder for the morning fire in the evening so that you will be able to start the fire quickly in the morning. Keep it dry by covering it for the night. A large tarp or a garbage bag work well.
18. Space blankets make good wind shields only. The metallic properties take over the insulation properties in cold weather and become cold conductors.
19. Wrapping a space blanket around your body, but inside your coat, will increase the thermal ability of your coat. But, remember to not keep it on long enough to start sweating inside of it, this will lead to becoming REALLY cold, really fast.
20. Carry extra plastic trash bags in cold weather. They can be used as personal wind shields and ponchos by slitting a hole in the top for your head to go through.
21. Carry extra matches because the more you need a fire to warm up the less likely you will be able to start one easily.
22. Flashlight batteries are affected by cold. You can revive a frozen dead battery by warming it up.
23. You may want to take a bottle of propane into your tent with you at night. This will keep it warmer and make it easier to light your stove for breakfast.
24. Heaters inside your tent can lead to carbon monoxide poisoning.
25. Personal stoves use isobutane. In cold weather make certain you have purchased a winterized version of the gas or all you will end up with is a candle. As the gas freezes, the internal pressure drops, and the heating ability of the stove decreases geometrically.

LAYERED CLOTHING SYSTEM

Select the proper type and amount of clothing. Regulate your clothing according to your activity rate. This is the most effective way to ensure comfort. Pay attention to your bodies' signals.

Don't wait until you are cold to put on more clothing.

Act when you *first* begin to feel cooler.

Clothing layers:

• **UPPER BODY:**

- Long, thermal underwear. polypropylene
- Shirt or inner layer
- Sweater, light jacket
- Heavier coat
- Wind or rain gear

• **LOWER BODY:**

- Inner pants wool, wool blend
- Long johns
- Wind or rain pants

• **FEET:**

- Wicking inner socks polypropylene
- Insulating socks wool or wool blend
- Boot liners insulated insoles
- Footwear, boots waterproof, loose-fitting, mukluks or snow boots

• **HEAD:**

- Head coverings
- Neck, ears, face covering

• **HANDS:**

- Gloves and mittens

If I am camping near my car I normally have a bag or bin of additional stuff to wear in the event I get wet or a Patrol-mate needs something. It has come in handy in the past.

I got this idea from a troop I was in when my Scout crossed over from Webelos to Scouts. That troop referred to it as the Blue Boy Bag. It was filled with a variety of sizes of warm items from sox to coats to hats and gloves. Wool sweaters and pull overs. A lot of things.

Only rule, if you used something out of the bag you took it home and washed it before it went back into the bag. As far as I know, all these years later, that troop is still using the same stuff.

You can locate items like this at the Goodwill store. Buy a lot and in a lot of sizes. Get a 55-gallon garbage bag or a large bin (in an off color to identify it) to store the stuff. Always add it to the troop trailer when packing for a winter campout.

TYPES OF COLD

- **Wet cold: 50° F to 14° F**

The most dangerous. Wide temperature variations from melting during the day to freezing at night makes proper dressing difficult, and important. Damp conditions from melting snow or rain makes keeping dry difficult.

- **Dry cold: 14° F to -20° F**

Ground is frozen, and snow is dry and crystallized. Strong winds cause the most concern with keeping warm. Extra clothing layers and wind-proof outer garments should be added.

- **Arctic cold: below -20° F**

Requires the most insulation and wind-proofing. Many materials change physical properties, becoming brittle. Only for the most experienced campers.

CONCERNS

Hypothermia

Remember to **stay warm, don't** try to get warm:

By dressing in multiple layers, you can maintain a comfortable temperature, which is easier and safer than trying to warm up after getting cold.

This is the body's temperature decreasing due to exposure to the cold conditions. It can be life threatening. A person can become hypothermic without even noticing it.

Symptoms:

1. Shivering.
2. Slurred speech.
3. Non-communication.
4. Lethargy.

Prevention:

1. Stay warm.
2. Stay dry.
3. Stay hydrated.
4. Eat well.

Remedies:

1. Put on dry clothing.
2. Eat and drink warm foods and fluids.
3. Put the person in a sleeping bag pre-warmed by another person—a hypothermic person doesn't have enough heat to warm the bag. Remove outer clothing to aid in getting heat to their skin faster.
4. Put warm water in bottles and place them in the sleeping bag with the person.
5. Use another person to warm the severely hypothermic person.
6. In severe cases, careful evacuation to a medical facility is required.

Tip: Carry a small vacuum bottle with a hot drink or soup—it'll warm you up when you're getting cold.

Frostbite

This happens in cold-weather conditions. Frostbite is a freezing of the tissues usually on the fingers, toes, nose or face. It is a result of heat being lost faster than the blood can circulate. In severe cases, appendages may have to be amputated.

Tip: Use chemical heat packs to help stay warm and to avoid getting frostbite.

Symptoms:

1. Numbness to an area.
2. Loss of sensitivity to touch.
3. Tingling that feels like burning.
4. Shivering.
5. Skin appears red and then white-to-purple.

Prevention:

1. Don't put yourself in that position. You don't have to reach a summit; your health and well-being are more important.
2. Be aware of your body signals.
3. Stay warm and dry.

Don't be the tough guy:

If you feel your fingers or toes getting too cold, check on them, warm them up. Consider using hand warmers and toe warmers. THEY WORK!

Remedies:

1. Place the cold/frostbitten appendages against warm skin, such as your feet against a companion's stomach or armpits, or your fingers in your own armpits.
2. Use warm water—99°F to 104°F—on the afflicted area.
3. Do not use fire to thaw area—speedy relief can increase the injury.
4. Do not rub because the abrasive action could damage tissue more.
5. Evacuate to a medical facility.

Dehydration

Even when the temperature is low, you can still get dehydrated and that's not good for your kidneys, heart or brain. So drink plenty of water—even if you're not thirsty. Drink before you become thirsty.

Tip: Keep the fluids flowing in freezing weather with an insulated reservoir and tubing. In extreme cold, leave the reservoir at home and use a water bottle cover for your bottle. Turn the bottle upside down. (Water freezes from the top down, so by turning it right-side up you'll be able to unscrew the cap and drink.)

A good way to determine if you're drinking enough is to check the color of your urine. If it's dark, you are dehydrated. If it's pale in color, you're doing a good job hydrating!

Other symptoms of dehydration in extreme temperatures:

1. Increased heart rate.
2. Dry mouth.
3. Dizziness.
4. Muscle cramps.
5. Confusion.
6. Weakness.

For treating water:

1. Water filters do not work well, if at all, in sub-freezing weather—the filter and seals freeze. Filter all your water in mid-day when the temp is the warmest and above freezing if possible. Warm up the filter periodically if it seizes up on you by dipping it warm (not hot or boiling) water.
2. Chemical water treatments take longer to work in cold water, so allow extra time. Keep in mind that iodine is not effective against cryptosporidium and should not be used alone.
3. Melting snow is a good option. Putting a little bit of water in the pot with the snow will help it melt faster.
4. Portable UV light systems offer another effective option.
5. **Boiling water from the lake can become drinking water.**
 1. **Boil the pot of water, covered, for 5-minutes.**
 2. **Let it sit until it is cool enough to touch and it feel a bit cold.**
 3. **Pour the water through a pitcher filter thing to remove all the sand and dirt. What drops into the bottom is good clean water.**
 4. **There are cold weather water filters you can get. An item called a LifeStraw can be used in a pinch. I like to keep one in my backpack just in case.**