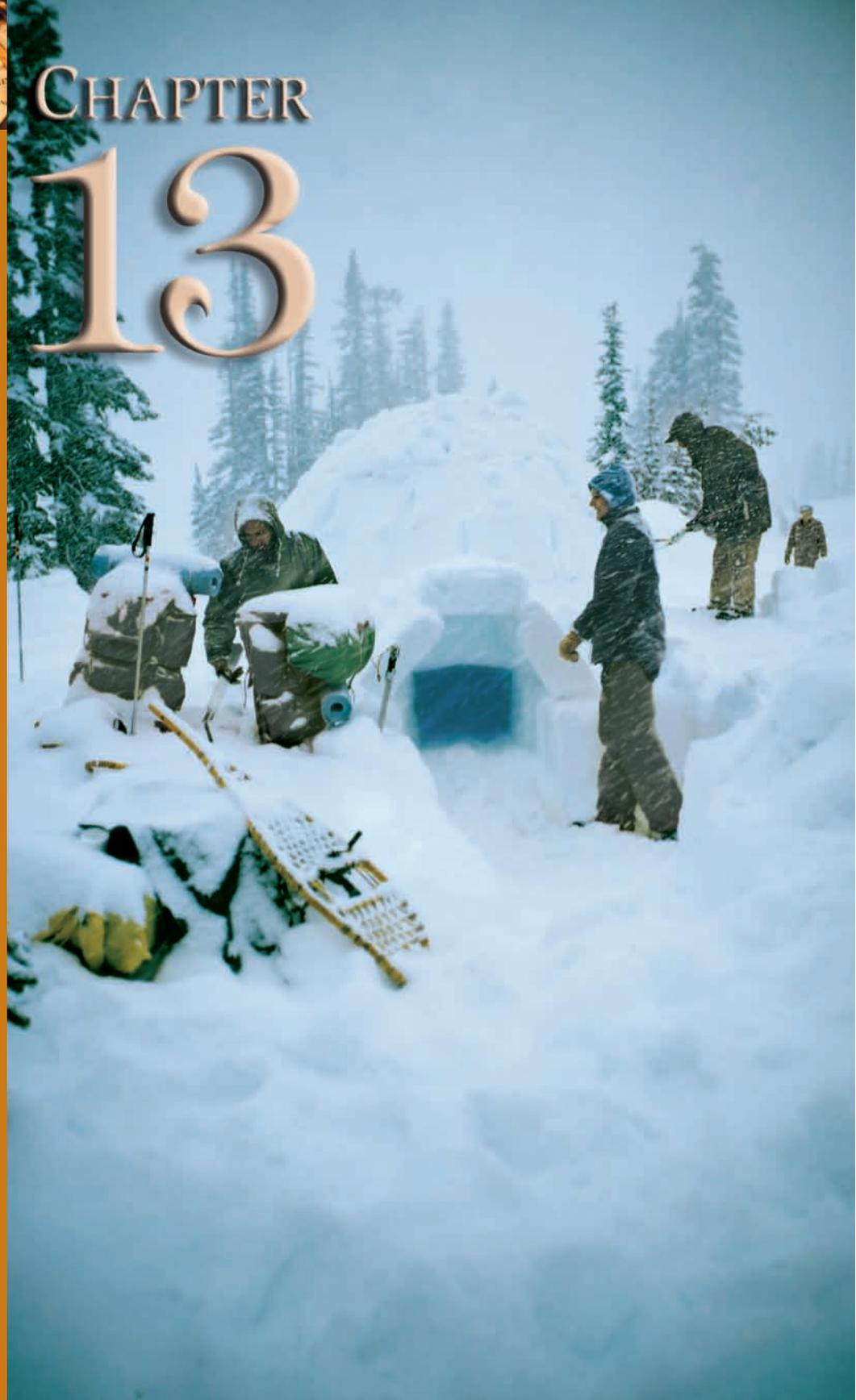




CHAPTER

13



Cold-Weather Travel and Camping

“Those hours spent monitoring the skies taught me a lot about the weather and have literally saved my life during my explorations, when I’ve been trapped in snowstorms thousands of miles from the nearest weatherman.”

—Will Steger, writer, photographer, polar explorer, and member of the BSA Northern Tier National High Adventure committee



Cold-weather camping is among the most challenging and rewarding of outdoor activities. In northern latitudes and at higher elevations, camping in the cold can happen almost any time of the year. As temperatures drop and winter conditions move in, the familiar meadows, campsites, and trails of summer disappear beneath the drifts and can become a wonderland sparkling with ice and snow. A day of traveling by snowshoes or skis, a hot meal cooked over a backpacking stove, steaming mugs of soup made from melted snow, and a camp beneath a frosty sky are pleasures reserved for those willing to learn how to thrive when even the thermometer seems to be in hibernation.

Living well in the cold requires planning and experience. You can do the planning with others in your group and master the skills you need on short trips and journeys when conditions are not so severe. As for experience, you’ll gain plenty of that when you pack up your winter gear, pull on your warm clothing, and head for the chilly outdoors to see how well your plans play out. It won’t be long before you discover the satisfaction of being in the outdoors year-round, staying comfortable no matter what the weather throws your way.



Many outing clubs, colleges, and universities sponsor public classes in winter camping, as do some sporting goods stores and military units. A number of BSA local councils conduct cold-weather camping programs. Philmont Scout Ranch and the Northern Tier National High Adventure Program bases offer courses in the best techniques of winter camping. The *Fieldbook* Web site can lead you to plenty of online resources exploring winter gear, books, and training for cold-weather adventure. 

Staying Warm in Cold Weather

To function well, your body must maintain a core temperature of a little higher than 98 degrees. Chief among the sources of that heat are the conversion of food and water to energy, and warmth absorbed from external elements such as the sun, the earth, and campfires.

Heat can be transferred away from your body in several ways:

- *Radiation*—body heat dissipating into cooler surrounding air (from bare hands and head, for example)
- *Evaporation*—sweating
- *Convection*—wind stealing away the layer of warmth next to your skin
- *Conduction*—direct contact with cold surfaces, such as sitting or lying on snow, ice, or frozen earth
- *Respiration*—exhaling

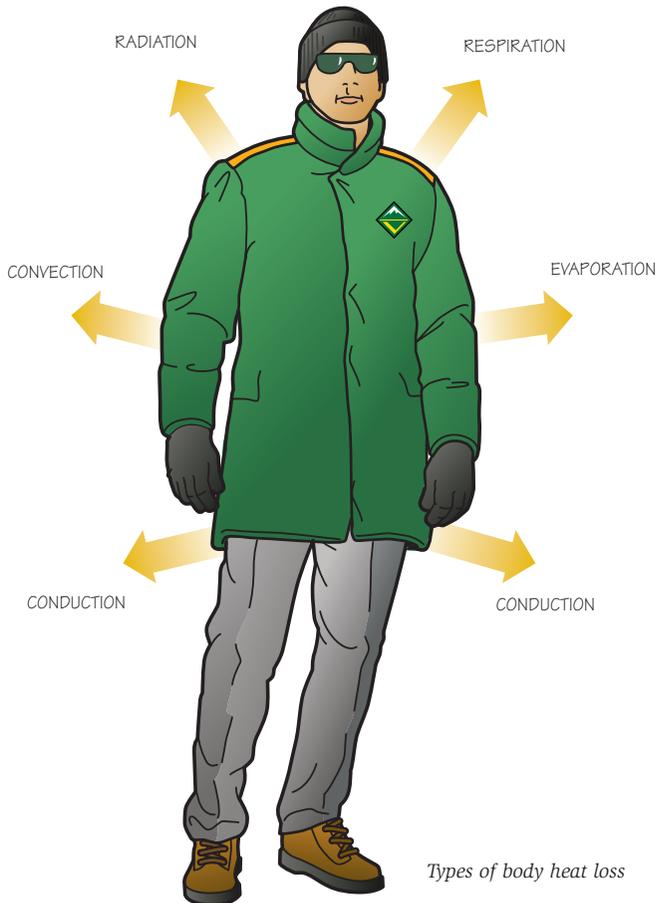
The challenge of staying warm in cold weather is a matter of maximizing heat generation and minimizing heat loss. That can be done with a threefold approach—*cold-weather clothing, food and fluids, and shelter.*

Cold-Weather Clothing

The clothing you wear and carry should be made of materials such as wool and fleece that can insulate even when damp. Do not wear cotton, even for inner layers, because it will retain body moisture. There should be several layers so that you can better regulate your body temperature—peeling off a sweater as you generate heat during exertion, for example, or pulling on a hat, mittens, and a parka as you are beginning to cool down. Various layers also should wick away moisture, insulate for warmth, and block the wind, as discussed earlier in this section of the *Fieldbook*.

Clothing insulates by trapping dry, warm air inside the fabric and between layers of garments. Perspiration can crowd out that warmth by filling fabric with moisture-laden air that conducts heat away rather than maintaining it. Cut down on sweating during periods of exertion by loosening or removing clothing layers *before* you become overheated. Try to stay comfortably cool by resting now and then as you travel. Replace damp clothing with items that are clean and dry.

For more on selecting outdoor clothing, see the chapter titled “Gearing Up.”



Staying Warmer by Keeping **COLDER**

Keep the word **COLDER** in mind when assembling your clothing system for outings in winter conditions. Each letter in the word stands for an important guideline to follow in order to maximize warmth:

CLEAN. Clothing free of grime insulates best.

OVERHEATING. Avoid it. Clothes will stay drier and warmer.

LAYERS. Rely on loose, light layers for the greatest range of adjustment.

DRY. Use protective layers to shield clothing from external moisture.

EXAMINE REGULARLY. Pay attention to the condition of your clothing.

REPAIR QUICKLY. Take care of tears, broken fasteners, frayed edges, and other damage as soon as you notice them. Duct tape is ideal for temporary patches in the field.

Cold-Weather Headgear

Heat loss by radiation from an uncovered head can be enormous, much greater than from any other area of the body. Experienced winter travelers know that when hands and feet begin to chill, it's time to put on a hat.



Stocking Hat

Hats made of wool or fleece will insulate your head even if the material becomes damp.

Balaclava

A *balaclava* is a stocking hat that can be pulled completely over your head and neck, leaving only a small portion of your face exposed.

Hood

A parka for winter wear should have a permanently attached hood to block the wind and provide insulation. A ruff encircling the face will protect it from harsh winds and gather frost from your breath rather than allowing it to saturate the hood's shell.

Scarf

Wrap a wool or fleece scarf around your neck for warmth. Pull it up beneath your eyes to shield your face from the wind. Tuck the ends inside the front of your clothing.

Neck Warmer

A fleece or knit-wool neck warmer has enough stretch for you to pull it over your head, and enough insulating power to slow the loss of heat from your neck and lower head.

Cold-Weather Footwear

The keys to warm feet in the winter are keeping them dry, keeping them insulated, and keeping the blood circulating through them. Thin liner socks will wick moisture away from your skin. Winter-weight socks made of wool, synthetics, or blends of both materials insulate well as long as they stay dry, and will retain some insulating power even when damp. Boots and other winter footwear should fit well enough so that circulation is not constricted even when your socks are bulky.

Layers of insulation between your feet and the cold ground slow the rate at which heat is drawn away from your feet. The rubber soles of hiking boots provide some protection from the cold ground. Even better are foam insoles. Buy them at sporting goods stores or make your own by cutting pieces of an old closed-cell foam sleeping pad and shaping them to fit inside your footwear.

Leather hiking boots might be the most frequent choice for winter camping trips, snowshoeing, and mountain travel. (Follow manufacturers' instructions to waterproof your boots, giving special attention to the seams.) Other winter footwear choices to consider, especially as the temperature drops, are mukluks, shoepacs, plastic mountaineering boots, insulated cross-country skiing boots, and vapor-barrier boots.



Mukluks



Plastic mountaineering boots



Shoepacs

Tip: Standing on a small square of closed-cell foam will keep your feet much warmer while in camp.



Leather hiking boots

Cross-country skiing boots



Shoepacs

Cold-Weather Handgear

As distant outposts of your body's circulatory system, your hands are likely to feel the chill early and often. Prepare for the worst with cold-weather handgear that is the best.

Gloves and Mittens

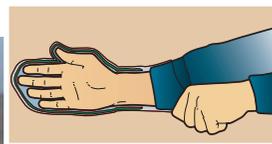
Synthetic or wool gloves trap body heat and still allow a maximum of hand flexibility. Mittens will keep your hands warmer than gloves of the same weight because your fingers are together inside mittens and can share warmth through direct contact. The disadvantage of mittens is that they decrease your dexterity for picking up items and manipulating gear.

Mittens and gloves are the clothing items most likely to get wet during cold-weather activities. Stow a backup pair in your pack when your travels will take you into snowy or wet terrain. To keep from losing mittens or gloves, thread a length of parachute cord through your sleeves and use an alligator clip tied to each end of the cord to secure your handgear.

Shells

Many models of gloves and mittens are sewn into waterproof shells. Separate shells worn over mittens or gloves are a good choice because they serve as a layer that you can remove if you become too warm. Also, mittens and gloves that become damp are easy to remove from shells for drying.

Zippers on clothing, tents, and packs can be a challenge to manage when you are wearing bulky mittens or gloves. Give yourself something larger to grip by tying a loop of nylon cord to each zipper pull.



Mittens allow fingers to share warmth through contact.



Cold-Weather Food and Fluids

The most efficient cold-weather heat generator is the one you always carry with you—your own body. Keep it well-fueled by eating plenty of nourishing food. Peanut butter, nuts, cheese, hard sausage, and butter or margarine add fats that provide lots of slow-burning calories. Carry plenty of snack food where you can reach it easily, and eat whenever you feel hungry or chilled. A stick-to-the-ribs evening meal and a bedtime snack will help you stay warm through the night.

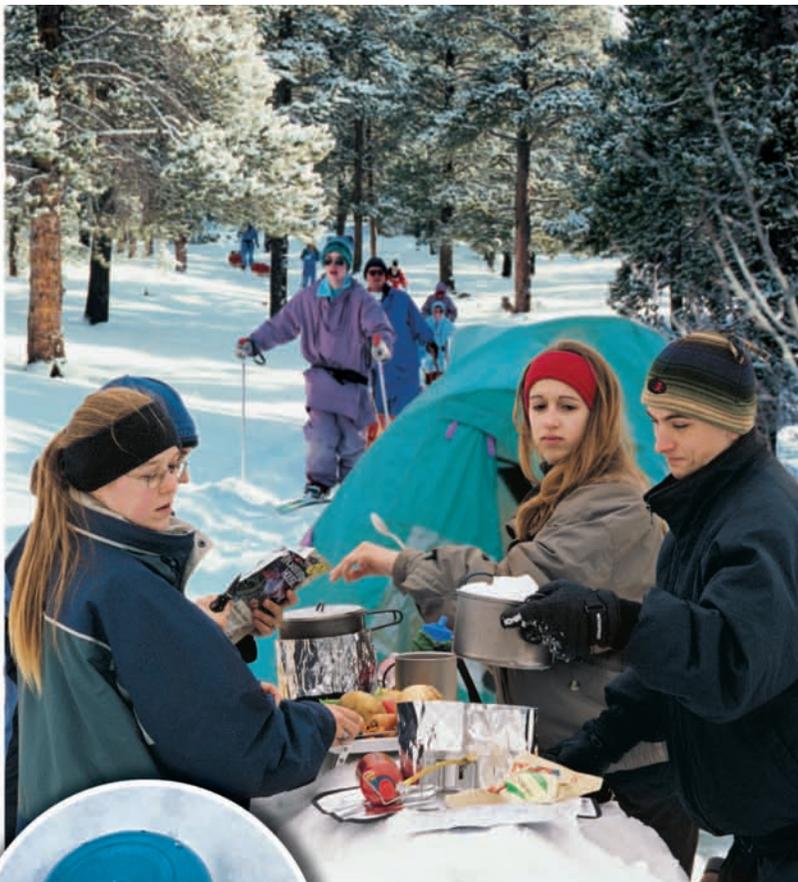
Drinking fluids is every bit as important in cold weather as during hot-weather adventures. Thirst is an unreliable measure of your body's need for fluid, especially when conditions are cold. A better gauge is the color of your urine. If it is dark yellow, you aren't getting enough fluid in your system. Drink frequently so that your urine stays light-colored or clear.

For more on fluids and trek menus for any weather, see the chapter titled "Outdoor Menus."

Gathering and Storing Winter Water

A good place to replenish your water supplies is a stream flowing too swiftly to freeze. To dip from a stream without the risk of falling in, hang a widemouthed water bottle by a cord from a long stick or a ski pole.

You also can get water by melting clean snow. If you have a cup of water, add it to a pot full of snow before melting the snow over a stove. That will speed the melting process and prevent the pot from scorching. Ice and slab snow will produce more water than powder snow.



A bottle of water won't freeze overnight if you take it with you into your sleeping bag. Fill it with hot water, tighten the lid, slip it into a sock, and use it for a foot warmer. You can also count on the insulating power of snow by burying widemouthed water bottles or a covered pot of water under a foot of snow. Place the bottles upside down, clearly mark the spot, and in the morning when you dig up the cache you'll have water for cooking breakfast.

For information on treating water, see the chapter titled "Hygiene and Waste Disposal."

"Just what causes most people to refrain from outdoor life in winter is the fear of cold."

—Claude P. Fordyce, *Touring Afoot*, 1916

Cold-Weather Shelters

Four-Season Tents

Tents for winter camping usually are sturdier than summer-weight tents. Some have an extra pole or two to help them stand up to snow loads and wind, and there might be a vestibule for storing gear. Tents designed for arctic conditions have large vents so that water vapor can escape, and frost liners to trap moisture before it can infiltrate the tent fabric.



Cover the dead man with a generous layer of snow.

Since tent pegs are intended to hold in the ground rather than in snow, staking out a tent on a snowfield can be a challenge. Try tying tent lines to skis, ski poles, or ice axes jammed into the snow, or to trees or large rocks. Another possibility is the *dead man*, made by securing a tent line around sticks buried in a foot or more of snow. Use brightly colored parachute cord instead of white tent cord so that the lines will be visible against the snow. Lines should be longer for snow camping to accommodate a wider range of anchoring options.

Tie loops of cord through the tent loops so you need only cut the cord if you cannot remove the dead man anchor.

Snow Structures

Shelters made of snow can be ideal refuges on winter camping trips and a unique part of a cold-weather adventure. With an interior temperature just below freezing, a snow shelter insulates much better than a tent, which will have an inside temperature almost matching that of the outdoors. Unlike

tents, snow shelters won't flap in the wind. They do take time to construct—several hours for a snow cave, half a day or more for an igloo—and the right snow conditions must be present. In snow that's not too deep, the best snow structure might be a snow dome.

DRY CLOTHES

Building a snow shelter can be a strenuous effort that might leave you with wet clothing. Plan ahead by bringing dry clothes and mittens to replace those dampened by sweat and snowmelt.

Snow Shovel

An essential tool for building snow caves and other winter shelters is a snow shovel. The shovel you choose should be strong, light, and durable. Those designed to be packed by cross-country skiers, snowshoers, and mountaineers are just right.



Snow Saw

When the snow is deep and well-packed, use a snow saw or an ordinary carpenter's saw to cut blocks for constructing wind breaks, igloos, and snow trenches. Snow saws are available at military surplus stores and at outdoors supply shops specializing in winter adventures. The best carpenter's saw to use has a stiff blade and large teeth. Make a sheath for your saw by cutting a piece of old fire hose to length and tying it in place with short nylon cords secured through holes in the hose.

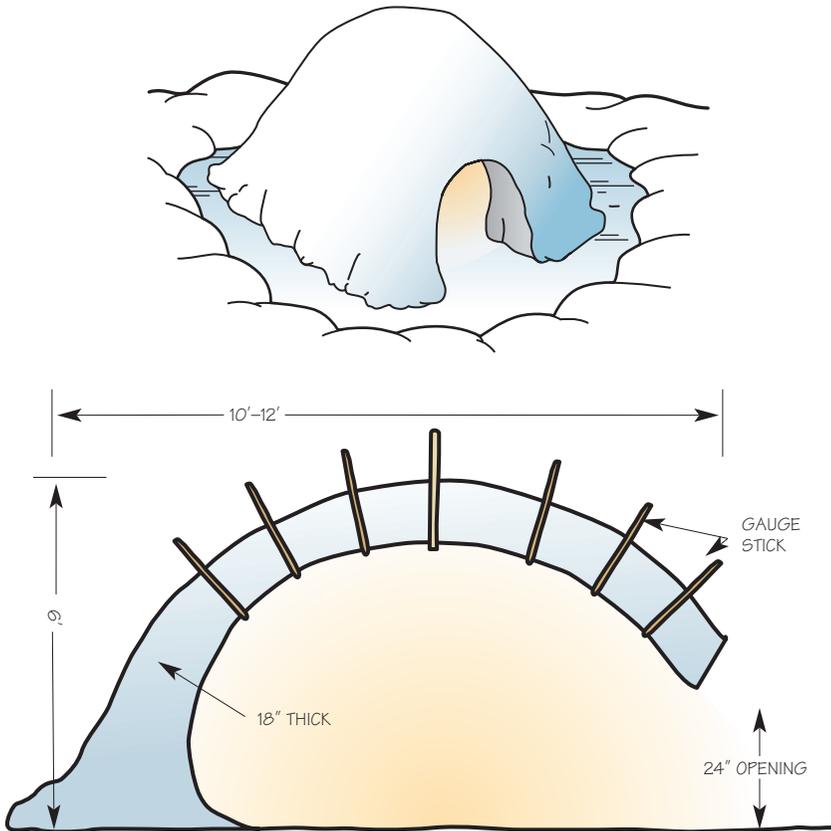




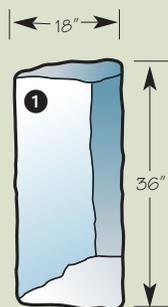
Snow Dome (Quinzee)

Begin by shoveling up a mound of snow 6 feet high and 10 to 12 feet in diameter at the base. Leave it alone for a couple of hours to give the snow a chance to settle (the drier the snow, the longer it will take). If they are readily available or you have brought them from home, push several dozen 18-inch-long sticks into the mound at regular intervals, aiming them toward the center. (Do not break branches off trees for this purpose.)

Cut a 24-inch-high entrance into the mound and hollow out the inside of the dome. Dig until you've exposed the ends of all the sticks, or until the snow inside of the dome takes on the light blue color of light refracted through snow. Either way, you should end up with a roomy, secure shelter inside an 18-inch-thick shell. Fashion a door by piling snow on a ground cloth, gathering up the corners, and tying them with a cord. The snow will crystallize into a ball that can be pulled with the cloth against the entryway to trap warm air inside the dome. Punch several ventilation holes in the dome with a ski pole or stick, orienting them at different angles so that drifting snow will not cover them all.

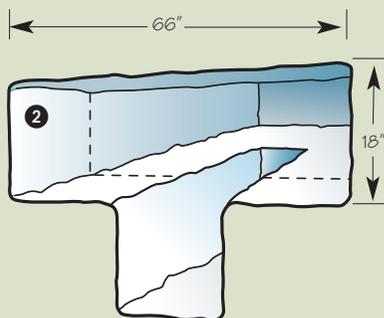


T-Front Snow Cave



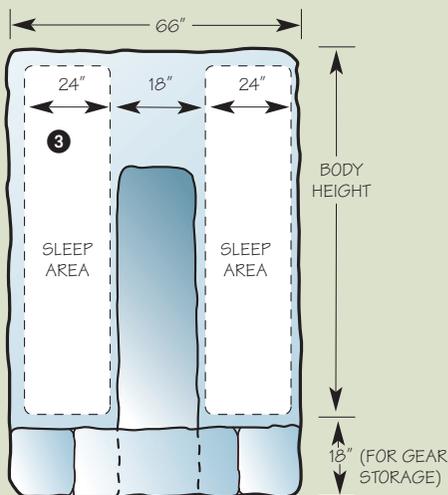
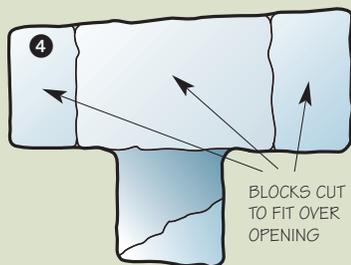
A variation on the classic snow cave design can be quick and efficient:

- 1 Dig an entrance about 18 inches wide and as high as your chest.



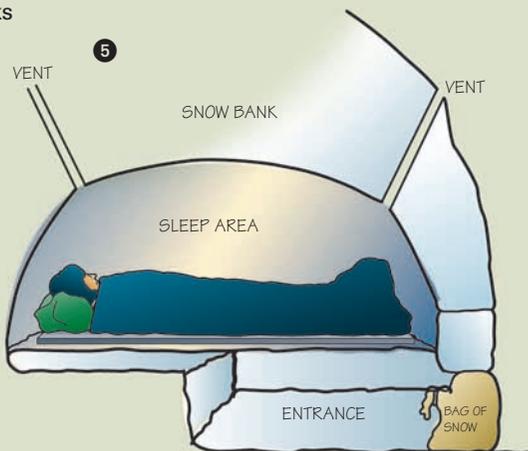
- 2 Widen the top to form a T shape.

- 3 Dig several feet farther into the drift and excavate the interior of the cave. The floor of the cave will be at about waist level, so much of your digging will be upward and to the sides.



- 4 When the interior space is fully formed, use blocks of snow, bags of snow, or snowballs packed together to seal the top of the T.

- 5 Use a ski pole or shovel handle to poke several ventilation holes in the ceiling at a 45-degree angle to the floor.





Snow Cave

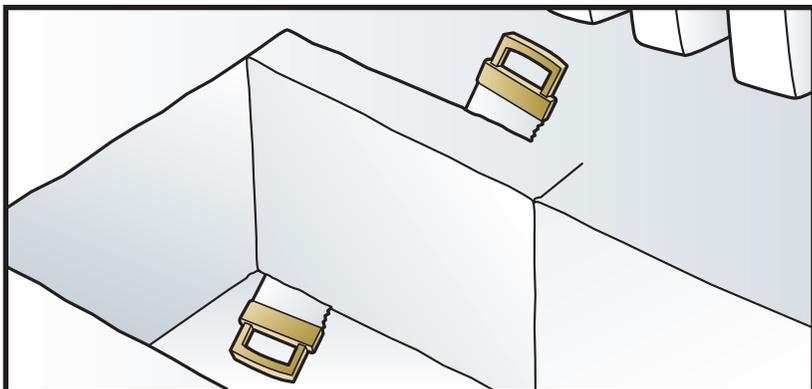
For terrific protection in the worst winter storms, dig a snow cave into a deep drift or a steep, stable snow slope. Start by burrowing a tunnel into the drift, angling it upward for several feet. Next, excavate a dome-shaped room at the top of the tunnel, judging the thickness of the roof by watching from the inside for a light blue color of the snow that indicates the wall thickness is about right. Smooth the curved ceiling to remove sharp edges that could cause moisture to drip onto your gear. Finally, use a ski pole or shovel handle to punch several ventilation holes in the ceiling at a 45-degree angle to the floor. Since the entrance to the cave is lower than the sleeping area, rising warm air won't escape through the entrance and heavier cold air can't seep in.

Igloo

Although you'll need practice to build an igloo, the finished structure will be as windtight and pleasant to use as it is attractive. The best snow for building an igloo is found on open, gentle, windswept slopes. For the snow to be firm, temperatures must be no higher than 25 degrees Fahrenheit during the day and no higher than 10 degrees Fahrenheit at night—snow hard enough that your boots leave only faint prints. Test the hardness and depth by pushing the handle of a ski pole into it; there should be firm resistance for at least 36 inches.

For an igloo large enough to sleep five campers, first clear away any soft surface snow from an area about 20 by 40 feet. This will be the “quarry” from which you'll harvest snow blocks for the igloo.

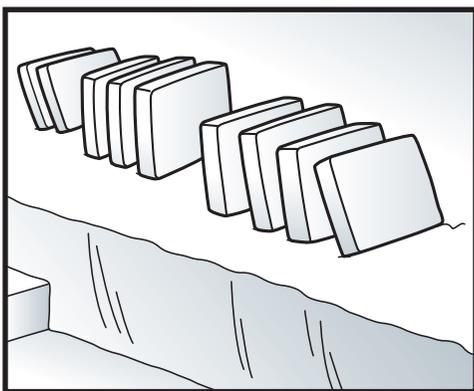




Use a snow saw or a full-sized carpenter's saw to cut from the quarry blocks measuring about 6 by 30 by 36 inches. The first block or two won't come out cleanly; clear away the debris with a shovel until you can hop into the hole left by the removal of the initial blocks. From then on you can cut each block cleanly along its back, sides, and base, and lift it from the quarry. Line up the blocks on the slope above the quarry. Keep the sides of the quarry square as you work, and make the blocks uniform in size. You will need 40 to 50 full-sized, well-shaped blocks.

After the blocks are cut, use a piece of cord and a ski pole to scribe a circle 10½ feet in diameter. The outside of the circle should be about 8 feet up the slope from the quarry. Tramp down the snow along the outside of the line marking the circle, then set the snow blocks side by side around it to form the first tier of the igloo. Using the saw for precision shaping, taper the base of each block slightly and lean it inward just a little so that all the blocks lock solidly against one another. Pack snow against the outside of the blocks.

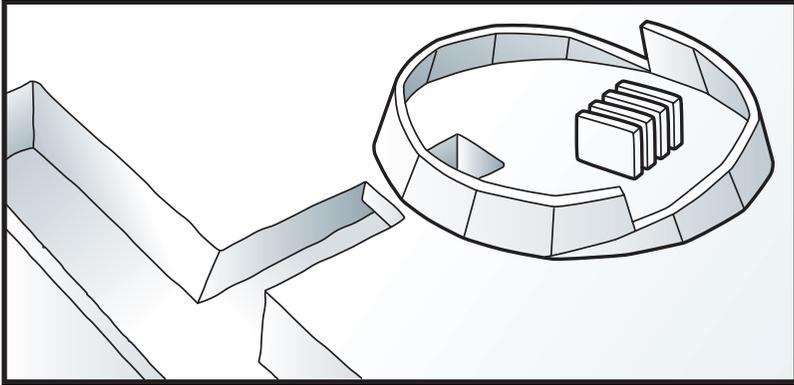
Next, remove one of the blocks to create an opening in the tier. Carry as many blocks as possible into the igloo; it's much easier to build



with them when both you and the blocks are inside the structure. Replace the entrance block, then use the saw to cut two side slopes in the first tier of blocks. Called *spirals*, these slopes are essential to the success of your igloo-building efforts.

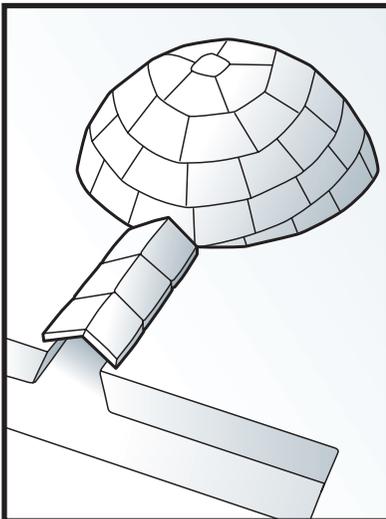
Trim the tops of the first tier's blocks with the saw so that they are banked inward toward the center of the igloo. That done, begin the second tier by placing a block at the low point of a spiral. If the spiral rises from left to right, note that the upper left-hand corner and the lower right-hand corner of each second-tier block bear the weight of that block. When those

two corners are secure, gravity will lock the block in place on the sloping spiral and banked top of the first tier. Lift the next block into position, again locking the upper left-hand and lower right-hand corners into place. For a perfect fit, trim the edges of the block with the saw.



Continue to build your way up the spirals, leaning each successive tier more sharply toward the igloo's center. As the blocks near the top, they will be almost horizontal. Trim every block so that the two critical corners fit properly. The last few blocks might require extensive shaping before you can ease them into place, but the shell of the igloo will be strong by then, and you shouldn't have much trouble securing the blocks. The final block is known as the *keystone*. To get out of the igloo, create a maintenance entrance by removing a block from the first tier on the side away from the quarry, but save the block so that you can replace it later.

Use a saw and shovel to cut a tapered trench from the quarry to the base of the igloo. The trench should be as deep as the floor of the quarry, about 24 inches wide at the top and 36 to 48 inches wide at the base.



Burrow under the igloo wall and up through the floor to create an entrance, then lean blocks of snow against each other over the trench to form a gabled roof over it. Fill any gaps between the igloo blocks with snow.

Add a few last touches to make your winter house a home. Cut ventilation holes near the top of the roof. Bring in your sleeping bags and pads through the maintenance entrance, and then close it off by replacing the snow block. Stow the rest of your equipment in the entrance tunnel.

An igloo is a very efficient winter shelter, one that can last for

weeks if temperatures remain low. If built correctly, it is tremendously strong and, after the snow has settled for several hours, it can easily support the weight of a person standing on top of it. Cold air will drain out of the igloo into the quarry below, and even when the outside temperature is well below zero the interior of an igloo can be a relatively comfortable 25 to 30 degrees Fahrenheit. The quarry also can serve as a patio and kitchen; use your saw to carve benches on which to do your cooking and eating.

Emergency Winter Shelters

While not as comfortable as snow caves or igloos, tree pits and snow trenches have the advantage of quick construction. They are good examples of alternative winter shelters that can serve you well in emergency situations.

Tree Pit

The area beneath the branches of a large evergreen tree can be nearly free of snow. Crawl underneath and form a small living space. Bare earth radiates some heat, so remove the snow from the tree pit floor if you can. Use a foam pad protected by a ground cloth as insulation beneath you. A fir or spruce tree will shed snow outside of the pit.





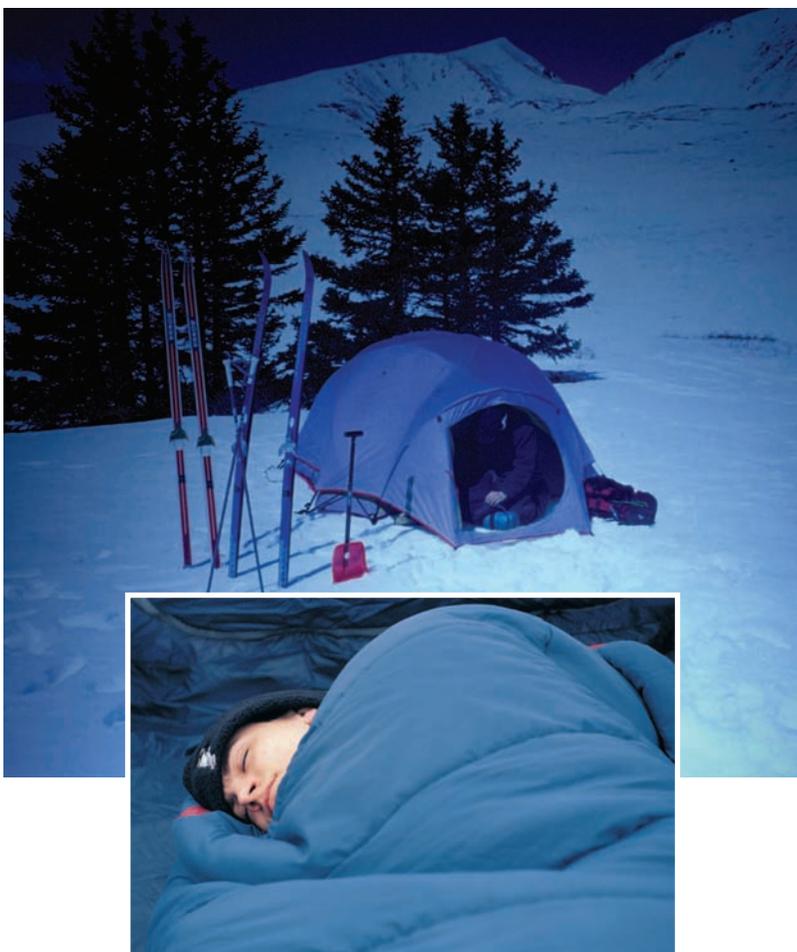
Snow Trench

Build a snow trench by using the same method as for an igloo entryway. Insulate the trench floor with a foam sleeping pad if you have one. Cut blocks of snow to shape a 36-inch-deep trench that tapers from 24 inches at the top to 36 to 48 inches at the base. Place the blocks on edge along the sides of the excavation, then lean them against each other to form a pitched roof.



Snow Pit

Where snow is deep enough, you can dig a long, narrow pit for an emergency shelter. Insulate the floor of the pit with a foam sleeping pad if you have one. Form a roof by stretching a tarp or ground cloth over the top of the trench. Weigh down the edges with snow, stones, or branches, then cover the roof with several inches of snow to provide insulation. Tunnel into one end of the pit and, when you are inside, fill the entry with snow to keep out the cold. Poke a few ventilation holes near the entrance and check them occasionally to ensure that they remain clear.



Winter Sleeping Systems

When the thermometer plunges, a well-insulated sleeping bag is essential to your nighttime comfort. Adding layers—fleece clothing, mittens, a hat, warm socks, and even one or more additional sleeping bags—extends the range of a bag. A fleece liner will keep the bag clean and add a few more degrees of insulating power, as will a bivouac bag. (Liners must not be made of cotton.) Sleeping inside a tent or snow shelter can prevent wind from sapping away warmth, too. Of course, insulation beneath your bag is vital, usually in the form of a foam sleeping pad.

With all the emphasis on insulation, don't become so warm that you perspire during the night. That can rob your sleeping system of its ability to keep you cozy. Ventilate by opening the bag, taking off your hat, or removing other clothing layers.

For more on sleeping systems, see the chapter titled "Gearing Up."



Carrying Your Gear

A winter trek requires more gear, provisions, and fuel than a summer trip of equal duration. A large backpack can serve you well if you will be hiking and works fine for mountain travel in rugged terrain. With some practice, you also can snowshoe or cross-country ski with a backpack.

Many snow campers depend on sleds for moving their gear. A smaller sled with a harness is sized for one person to pull, especially while on skis or snowshoes. Larger sleds can carry the bulk of a group's equipment and food with several people hitched to the harness to haul the load. Whether on foot or using skis and snowshoes, cold-weather travelers will find their balance enhanced with the use of ski poles.



Making Camp

Transformed by snow, frost, and cold, a winter camp can be a place of wonder. The campsite itself might be your destination for an adventure, or it might serve as a base from which you can range out each day to ski, snowshoe, and explore. In either case, settle in and make yourself at home with a secure shelter, a convenient cooking area, and an eye toward the weather.

Stowing Your Stuff

Drifts have a habit of swallowing up unattended camping gear. Snowmelt can soak into clothing, equipment, and food. Organize your clothing and provisions in plastic bags before departing from home, and leave your sleeping bag and extra clothing inside your pack until you need them. Tie fluorescent tape or brightly colored nylon cord to knives, compasses, and other small items so that you can find them if they slip away. Keep your mittens and gloves on your hands or tied to a cord threaded through your sleeves. Stash cooking utensils inside pots when you aren't using them. Before going to bed, make sure everything is stored in your pack, on your sled, or in your shelter; items left outside could become buried by snow during the night.

Cold-Weather Camping Expertise

Every time you camp out in the winter, you'll figure out a few more ways to make your cold-weather adventures more rewarding. Here are a few hints from the experts:



Carry waterproof matches (in a plastic container), flashlights, and extra batteries in the inside pockets of your clothing, where body heat can help improve their performance.



Fill an unbreakable vacuum bottle each morning with hot drinks or soup to be enjoyed later in the day. Fill it before going to bed, too, so that you'll have something hot to drink when you wake up the next day.

The lids on widemouthed water bottles won't freeze up as quickly as can those on smallmouthed ones. The larger caps also are easier to manage when you are wearing mittens. Insulate a water bottle with a piece of closed-cell foam sleeping pad sized to encircle the bottle and duct-taped in place.



Choose an insulated mug that will retain the heat of soup and drinks, but won't burn your lips.



A 12-by-12-inch piece of 1/4- or 1/2-inch plywood will insulate your stove from surface cold and prevent a lit stove from melting into the snow. A wind-screen designed specifically for your stove will concentrate heat. Cover pots with lids to speed up cooking.



Pack along a small whisk broom to sweep snow off your clothing and out of your tent.



Avoiding Cold-Weather Emergencies

Prepare well and keep your wits about you, and you should seldom encounter cold emergencies. Increase your comfort and safety by wearing layers of clothing to stay warm and dry. Eat plenty of food and drink lots of fluids. If bad weather catches you, make camp and crawl into your sleeping bag.

Visit the outdoors in small groups—*never alone*. Use the buddy system, pairing up so that all group members are watching out for one another. Stay alert for symptoms of hypothermia, frostbite, and dehydration—the medical emergencies most often associated with cold weather. The intensity of reflected sunlight can make sunscreen and a broad-brimmed hat vital protection when you are traveling and camping on snowfields. Protect your eyes with sunglasses and your lips with zinc oxide or a lip balm with an SPF of at least 15.

For more on hypothermia, frostbite, avalanches, and other cold-weather hazards, see the chapter titled “Managing Risk.”

Travel into areas prone to avalanches is beyond the scope of the *Fieldbook*. If your interests lead you in that direction, prepare by taking winter backcountry travel courses and learning how to use avalanche beacons, probes, and snow shovels.



Leave No Trace While Cold-Weather Camping

Winter conditions provide unique challenges and opportunities for travelers to leave no sign of their passing except for prints in the snow.



Plan Ahead and Prepare

Learn about the area where you are going and know what to expect. Check weather reports before setting out, and prepare for the worst conditions that might occur.

If visibility on your return trip might be a concern, be ready to mark your route with flagging tape or pin flags. (Both are available at hardware stores. Or you can make flagging with strips of brightly colored cloth.) Remove all flags and flagging on your way home.



Travel and Camp on Durable Surfaces

Stay on deep snow whenever you can. Walk in the middle of muddy pathways to avoid damaging trailside plants. Choose campsites on snow, rock, or mineral soil well away from avalanche paths, cornices (overhangs), and steep snow slopes. Take care not to trample tundra vegetation.



Dispose of Waste Properly

Frozen ground, snow cover, and frigid conditions can make disposal of human waste an interesting endeavor. Plan ahead by asking land managers of the area you intend to visit for guidelines on what to do about waste. *Pack-it-out kits* might be a workable solution, as can using snow for toilet paper. A small dispenser of waterless hand cleanser rounds out your ability to make outdoor hygiene simple and convenient.

For information on making and using pack-it-out kits, see the chapter titled “Hygiene and Waste Disposal.”



Leave What You Find

Leave dead branches on trees—breaking them off for firewood leaves sharp, ugly protruding ends.



Minimize Campfire Impacts

The ease of using lightweight stoves makes them a natural choice for cold-weather camping and travel. Factor in additional fuel if you expect to melt snow for water. Where fires are appropriate, gather wood from the base of trees, where doing so will have no lasting impact on the appearance or health of the environment. Where the ground is bare, follow the Leave No Trace fire-building principles. When the earth is covered with snow, you can use a fire pan to contain a blaze and prevent it from extinguishing itself by sinking into the snow.

For more information, see the chapter titled “Using Stoves and Campfires.”



Respect Wildlife

Winter can be an especially vulnerable time for animals. Low temperatures, scarcity of food, and greater danger from predators can place a great deal of stress on them. Observe wildlife from a distance.



Be Considerate of Other Visitors

Share winter trails with other users. Don't hike or snowshoe on ski tracks. While traveling on skis, yield to downhill traffic and those catching up with you from behind, and be especially diligent as you approach blind corners. When you stop to rest, move off the trail.



“Take long walks in stormy weather or through deep snow in the fields and woods, if you would keep your spirits up. Deal with brute nature.”

—Henry David Thoreau (1817–1862),
American author, philosopher,
and naturalist