

Building a Snow Cave

There are many types of snow shelters. But one of the most common & easiest to construct is the snow cave. Almost any improvised tool can be used, even hands. But for a planned & comfortable cave a shovel is the best to use. There are (4) four main steps to follow in building a snow cave. **Choosing a site, tunneling in, shaping the cave and adding finishing touches.**

Choosing the site: When choosing a site for a snow cave one of the most important considerations is the snow depth. A depth of at least 4 or 5 feet is helpful to start. Choose a site free of any avalanche danger. Look for a drift or swail near ridges or trees. Try to arrange the entrance to the cave so that it is on the leeward side of the slope. This will offer protection from the wind.

Preparing to dig: Before the actual dig begins make sure that you are wearing the proper clothing. This includes layers with a waterproof shell. Remember dry is warm!! Heavy digging can be done with a large scoop shovel. In an emergency situation where a shovel is not available, use whatever you can. Hands, a small cooking pot, a snowshoe, etc.

Tunneling in: In deep snow begin by digging a trench downward into the snow. As you dig place snow that is being removed from the trench onto the roof area of the cave. In these conditions make the trench as deep as you are tall. The next step is to begin tunneling in. At a point about knee level make the entrance. Make the tunnel slightly wider than your body. If the terrain and snow are adequate, tunnel at a slight upward angle. Ideally the cave end of the tunnel should be at least a foot above the entrance, this will help prevent warm air from escaping the shelter. If possible make the tunnel the length of your body. Moving snow at this point becomes a major task. Use the shovel in front of your body to dig in. As you move forward use your feet to move the snow into the tunnel and out of the entrance. Now you are ready to begin shaping the cave.

Shaping the cave: The minimum thickness of the cave walls should be 12 inches. The thicker the walls the more stable the structure and the better it will insulate. The ceilings and the walls of the shelter should be dome shaped and smooth and be large enough for you to sit upright. Try to eliminate any sharp edges on the wall and ceiling. Initial shaping is done with the shovel. Final shaping is best done with a gloved hand. This will prevent water dripping as the cave temperature rises.

Finishing Touches: An elevated sleeping platform is the most important feature you can add to your shelter. This allows you to be nearer the warm air in the upper part of the cave. Another feature is the ventilation hole which can be made with a stick, ski pole or other object. This hole should be about 2 inches in diameter. This helps to eliminate carbon monoxide if stoves or candles are used. Check the vent hole at regular intervals to prevent it from clogging. Leaving a stick in the hole is a good idea. To clear the hole just wiggle the stick. Make a shelf for a candle. One lighted candle can increase the temperature in a small cave by as much as 20 degrees or more. The entrance of the cave can be blocked with a snow block, back pack or other gear. On occasion during the construction of a snow cave a collapse can occur. One person should always remain outside in the event of a collapse while building the cave.

Emergency Snow Caves: In an emergency, snow caves can be created quickly by digging into a snow bank or drift. Eliminate the tunnel and dig a compartment so that it is large enough inside for you to sit upright. Place your pack in front of the entrance hole. Use evergreen bows to insulate yourself from the ground. Use your pack as an emergency bivy sack and light at least one candle. Be sure to make a vent hole if you use candles or stoves. If you think people will be out searching for you, make the site as visible as possible from the ground and air by placing clothing, sticks or stomping an unusual pattern in the snow.