

Shelter from the Storm

Introduction

Protection from the elements is a key element for backcountry survival. A 20mph wind can drop the temperature by as much as 50° F. One of the first things when stranded, injured or lost in the backcountry is to build a shelter. Use what is available; don't waste energy searching for the perfect shelter making materials. Once you have a shelter, a single candle can warm it enough to make it almost comfortable. **Make sure you mark your location so your rescuers don't miss you.**

Types of Shelters include:

- Natural shelters such as caves and overhanging cliffs. Keep in mind that caves may already be occupied and before exploring a large cave, be sure you have a way to find your way back to the mouth. If you do use a cave for shelter, build a fire near its mouth to prevent animals from entering.
- A natural pit under a fallen tree. Enlarge it and line it with bark or tree boughs.
- On rocky coastal area, build a rock shelter in the shape of a U. Cover the roof with driftwood and a tarp or even seaweed for protection.
- Make a lean-to with poles or fallen trees and a covering of plastic, boughs, thick grasses or bark to provide shelter from wind, rain and snow. A tarp is perfect for constructing a lean-to shelter. Make a fire so that it is reflected into the shelter to help keep you warm.
- Construct a wigwam using three long poles. Tie the tops of the poles together and upright them in an appropriate spot. Cover the sides with a tarp, boughs, raingear or other suitable materials. Build a fire in the center of the wigwam, making sure there is a draft channel in the wall and a small hole in the top to allow smoke to escape.
- In open terrain, build a snow tunnel, a snow trench or a snow cave.
 - For a snow tunnel, find a drift and burrow a tunnel into the side that is longer than your body and wider than your width. The entrance of the tunnel should lead to the lowest level of the chamber where the cooking and storage of equipment will be. A minimum of two ventilating holes are necessary.
 - For a snow trench use a shovel to dig a 36" trench just wider than your shoulders and longer than your height. Less is better as it will stay warmer and save your energy. Use your tarp over some branches or poles to create a ceiling. Make sure to anchor the edges of the tarp to prevent it from blowing away.

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- For a snow cave starting in a tree well or snowdrift and going across the wind direction dig in and up into the mound of snow so that the entrance is below the cave. This will trap the heat in the cave and reduce the chance of the entrance filling in with blowing snow. The ceiling should be about 12” thick so as not to create a danger if it should collapse. Create a vent hole at the top and a ledge for sleeping to keep you out of any dripping water. Use your pack to seal the door.

Fire Building 101

Building a fire is the most important task when dealing with survival in the wilderness. Be sure to build yours in a sandy or rocky area to avoid forest fires and near a supply of sand and water that can be used to put it out. In the winter, you can build a fire on top of some green tree branches or foliage if the ground is snow/ice covered.

To build a fire you must have fuel (both tinder and larger materials), ignition source (spark, match, lighter) and oxygen (air). Gather all the necessary materials before starting your fire. Common mistakes made by are poor tinder, failure to shield matches from the wind and piling on too large pieces of fuel.

Selecting and Using Tinder and Fuel

- Dry grass, paper or cloth lint, gasoline-soaked rags, steel wool and dry bark are all forms of tinder. Tinder should be placed in a small pile resembling a tepee with the driest pieces at the bottom. Use a fire starter or strip of pitch if it is available.
- Before adding larger pieces of fuel, be sure smaller pieces of kindling such as, twigs, bark, shavings, are well involved in the fire. They will be necessary when trying to ignite larger pieces of fuel.
- Be sure you have gathered fuel before attempting to start the fire. Dry wood burns better. Wet or pitchy wood will create more smoke. Dense, dry wood will burn slow and hot. A well ventilated fire will burn best.

Creating a Spark

Several means to lighting a fire include using

- Waterproof, strike-anywhere matches are your best bet. Matches may be waterproofed by dipping them in nail polish or wax. Store your matches in a waterproof container.
- A cigarette lighter is also a good way to produce a spark and can create a spark with or without fuel.

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- Using the flint and steel method is one of the oldest, most reliable methods in fire starting. Aim the sparks at a pile of dry tinder to start a fire.
- An electric spark produced from a 9 volt¹ battery will ignite a pile of steel wool or a gasoline dampened rag. Be sure to use eye protection and be especially careful not to catch yourself on fire with this method.
- Use a magnifying glass, the lens of glass eyeglasses or a curved piece of glass and the sun's rays to ignite the tinder.
- Last, but not least, the tried and true boy scout method of rubbing sticks together (friction method) by using the fire bow, hand drill or fire plough method and a lot of elbow grease will eventually result in ignition of tinder.

¹ While any battery will work, a 9-volt is most convenient because the terminals are both at the same end of the battery.