

Camping Skills III

1. Be at least in the 7th grade.

2. Review six points in the selection of a good campsite. Review the safety rules of firebuilding.

The 6 “Ws” - Water, Weather, Wind, Wood, Wild Things, Willingness.

- **WATER:** The ideal campsite has easy access to plenty of fresh water. You can also bring water (though it is heavy - a little over 8 pounds per gallon) or purify water using filters, chemicals and boiling. Although you should be near a source of water, also be aware of how water can affect your camping area. Look for signs of flash-flood beds, of regular run-off, and of high-water marks around ponds, lakes, streams and rivers. Do not place your tent in a depression that could accumulate rain, and be aware of the angle of the land. Although it is pleasant to have a pond or stream near your campsite, also be aware of marshy areas, or areas that could breed mosquitos.
- **WEATHER:** Know the weather before you go, and bring proper equipment. Consider the path of the sun - do you want your tent shaded in the heat of a summer afternoon, or warmed as the first rays cree over the horizon on a cool spring morning? As with water, be aware of run-off patterns if you are expecting rain. Stay off ridge lines if there is a chance of lightning, and keep the tent door facing slightly downhill if there is the potential for rain.
- **WIND:** Do not pitch your tent too close to trees that could be blown over in high wind, or near dead branches that could break off in wind. A slightly distant stand of trees, however, may provide a good windbreak. If you know which direction the wind is likely to blow from, you can also set your tent to ensure a nice breeze can pass through your tent in the morning to air it out and help dry any moisture trapped within.
- **WOOD:** Most of our camping areas are now in parks or on other protected lands, so collecting firewood or wood for building camp furniture is not allowed. If you are in an area where collection is permitted, seek dead but not rotted wood, pick it up from the ground (avoid cutting down trees), and consider the type of wood for your intended fire (soft woods like pines and cedars burn quickly and hot, through sometimes sparking, hard woods like oak or pecan burn slower and their coals last longer for cooking).
- **WILD THINGS:** Pick a campsite in the open, and not too close to still water to reduce the chances of nagging insects. Do not place a camp in thick grasses, where ticks and other insects are likely. Be aware of dead wood which may host scorpions. Keep an eye out for ant hills. Look for animal runs, burrows and watering holes, and keep your campsite away from these so you do not disturb the animals, and they do not disturb you. Do not leave food in your tent, keep all food properly stored and sealed to avoid attracting insects or larger animals. Keep your campsite clean, do not leave food scraps on the ground, keep your gray water pit away from the main camping area. Watch also for other ‘wild things’ like poison ivy, greenbriar, thistles, briars and other plants that can scratch, trip and rash you up, particularly on those nighttime trips to the latrine.

- **WILLINGNESS:** Willingness has two parts. The first is to be sure you are camping where you are permitted. If it is private land, be sure to have permission and follow the owner's rules. For parks and other protected lands, keep your camping within the designated areas. The other part of willingness is your own. Camping is fun, but it also has its share of hassles, and you don't get many of the comforts of home. But it is also just for a short time. Enjoy the experience, avoid griping and complaining, find the positive, seek ways to make the experience better, and remember that whatever doesn't kill you will only make you stronger.

Fire Safety

- Be sure there is a clear area 10 feet on all sides of your fire (don't forget to look up for overhanging branches).
- Keep your fire in the fire pit, whether one designated by a park or one you shape in a less developed area.
- Never use gasoline, kerosene or other petroleum products to start your fire. The vapors can move quickly and ignite, potentially injuring you or others and spreading the fire well past its intended location.
- Do not play around (or in) the fire. Keep burning and glowing wood within the fire pit. Do not walk on the edge of the fire pit.
- Do not throw things in the fire. When adding wood, place it gently, where it is needed. Move it around with a poker or another stick if needed.
- never leave the fire unattended. Always keep water near the fire in case it gets too large or if sparks light brush or leaves nearby.
- Always put out fires completely before leaving. Douse with water and stir. To be sure everything is fully out, be able to place your hand in the ashes to test the temperature. Cover over the doused fire with soil if available.

3. Go on a weekend campout.

4. Lay the following three fires and tell their uses: Hunter's fire; Reflector fire; Star fire

- **HUNTER'S FIRE:** A cooking fire that provides a ready place to support your pan or other cookware. Build a fire between two larger logs or large flat stones that are close enough together to support a pan. You could also build a modified trench fire, raising the edges with the dirt dug out.
- **REFLECTOR FIRE:** Used for baking or for directing the heat, particularly when you are sleeping outside without a tent. To build a reflector fire, you need a reflector. This can be a large stone or cliff face. Or you can pound two logs vertically into the ground and stack logs or stones in front of them to build a wall. Build the fire near (but not too close) to the wall, and place item to be baked between the fire and the wall. For a very warm outdoor sleeping area, sleep between a rock wall or cliff face and the reflector fire - the heat will bounce between the two keeping the middle warm.
- **STAR FIRE:** A Star Fire uses logs of any length, so it is useful when you cannot cut your wood down to size. In a star fire, the logs form a radiating "star" out from the center. They may

overlap, or come together in the middle of the fire ring, where the main fire will burn. As the logs begin to burn, they can be slowly fed into the fire - just push the cold end.

5. Know six ways to start a fire without a match. Build a campfire using one of these: Compressed Air; Curved Glass; Flint; Friction; Metal Match; Spark

- **COMPRESSED AIR:** Use a Fire Piston - uses rapidly compressed air to create heat to ignite char cloth. initially developed in Southeast Asia, where dampness often interferes in fire starting. It takes advantage of the basic physics of gasses - that rapidly compressed gas creates heat as the molecules are pressed closer together and are more likely to strike one another (air conditioners and refrigerators use the opposite - the decompression of a gas can chill).
- **CURVED GLASS:** Used to focus light to a fine point. A Magnifying glass works best, other glass can be ground to work. Hold the glass between the tinder and the sun, and slowly raise or lower the glass until it creates a very fine (and extremely bright) point of light, which will also concentrate the heat.
- **FLINT:** Creates a spark by striking a steel against a hard stone (Flint, quartz, etc). Keep char cloth close to flint, to be able to catch the spark quickly. The spark is a hot piece of the steel shipped off by the flint, the friction creating enough heat to ignite it.
- **FRICITION:** Uses a hard-wood spindle to turn against a soft-wood board to create friction and heat to ignite tinder. This is often done with a “bow” to ensure rapid enough turns, though it is possible (albeit difficult) to turn the spindle by hand, creating enough fine powdered wood and friction to ignite.
- **METAL MATCH:** Used similar to flint and steel, but the metal match is composed of a man-made alloy called ferrocium or mischmetal, usually made of iron, cerium, lanthanum, magnesium, and a few rare-earth metals. In the case of the metal match, the cerium allow is what is heated by the friction striking against the steel.
- **SPARK:** There are different ways to create an electric spark to try and ignite tinder. One os to use jumper cables connected to the car battery. Another is to use a nine-volt battery and a piece of fine steel wool. Place the steel wool across the battery terminals, and the metal will carry the current, overheat and spark or burn. (It will also short out the battery, so do not hold it there too long).

6. Know how to properly sharpen a hatchet and knife.

Knife Sharpening: Tools needed - Sharpening stone, knife. Optional - Oil.

For sharpening your pocket knife, get a sharpening stone with two grits (they are often two-sided). If you have oil, wet the stone lightly with the oil before beginning. With slight pressure, slide the blade (held at a 10-15 degree angle) across the stone, as if shaving a very thin slice of stone. If the blade is longer than the stone, be sure to draw the length of the blade along the stone with each sweep. Sharpen 10 times on one side, 10 on the other, than a few times alternating between each.

Hatchet Sharpening: Tools needed - leather gloves, mill bastard file OR sharpening stone.

To sharpen a hatchet, clamp it to a work bench or other sturdy surface, with the blade laying parallel to the table. Wearing gloves and if possible, build a guard on the handle of the file to protect your hands if you slip. Hold the handle of the file in right hand, lay file along blade, press gently on top of file with left hand, and slide the file toward the hatchet handle (think of the way the knife “sliced” the sharpening stone - the file and hatchet is similar to this). Use smooth strokes, work from outside to inside, Do not file the blade too thin, or it will be liable to bend. If you do not have a file, you can use a sharpening stone, similar to knife sharpening, though it is easier to slide the stone along the blade as opposed to the blade along the stone (as with the knife).

Useful sources for further information:

Axes: http://www.fhwa.dot.gov/environment/recreational_trails/publications/fs_publications/99232823/toc.cfm

Knife sharpening: <http://artofmanliness.com/2009/03/05/how-to-sharpen-a-pocket-knife/>

7. Cook a one-pot meal using fresh or dried food.

8. Describe the various types of tents and their uses.

There are different ways to look at “types” of tents.

Season: Describes the sturdiness of tents in dealing with weather and wind.

- Four Season Tents - Designed for use in inclement weather, generally heavier with sturdier pole and material construction, able to withstand stronger wind and snow accumulation, and better insulated against much colder temperatures.
- Three Season Tents - General purpose tents, good for most spring, summer and autumn conditions (and here in Central Texas, generally good enough for winter as well). Not quite as heavy as four season tents, are commonly available, and come in many styles, sizes and price ranges.
- Lightweight Tents - Although there are lightweight three season tents, in general, lightweight tents are small backpacking tents, frequently for just one person, offering minimal protection with minimal weight. Many are little bigger than than sleeping bags or pads, but they set and stow easily, and provide sufficient cover from late spring to early autumn.
- Emergency Tents/Shelters - A tarp, a poncho, a rain jacket, a blanket or towel, hung over a rope between two trees, can serve as an emergency tent or shelter, offering some protection from wind, rain or sun. There are also many ways to use natural materials to provide emergency shelter.

Shape: There are numerous shapes of tents, with manufacturers coming out with new designs almost every year. The more common tents you are likely to encounter, however, fall within a few broad general categories.

- A-Frame Tents - A basic tent, with two legs formed into an inverted “V” at each end and the tent material draped over this. A simple tent, though with minimal headroom, primarily good just for sleeping.
- Hoop Tents - Like an A-Frame, but with inverted “U” at each end. This allows the tent to stay wider higher up the walls, giving it more overall room.
- Wedge Tents - Two poles, crossed into an “X” curve down from the center-point to create a rectangular or square floor. Wedge tents combine sturdiness and light-weight, making them very common backpacking tents. [Our club tents are wedge tents]
- Dome Tents - Like Wedge Tents, but having three or more intersecting poles, giving extra strength for windy conditions.

Additional Information:

<http://www.wisegeek.org/what-is-a-three-season-tent.htm>

<http://www.abc-of-hiking.com/hiking-tents/tent-types.asp>

9. How does condensation occur in tents, and how can it be prevented?

Condensation inside the tent is primarily caused by your breathing. The warm, moist air you exhale reaches the cooler walls and ceiling of the tent, and the moisture condenses. Think of a glass of ice water on a summer day. It will soon have water on the outside as the moisture in the air condenses on the cooler glass. Warm air can hold more moisture, cool air holds less (which is also why clouds form on the windward side of mountains, and why it also rains on the windward side, leaving only the cool, dry air to pass over the mountain, contributing to deserts on the far side of mountains with prevailing moist breezes). Sweaty or wet clothing left inside the tent overnight can also contribute to condensation, as the water evaporates from the clothing.

To prevent condensation, ensure plenty of ventilation. Keep the windows and doors open, only closing the screen. That allows the moist air to pass through the mesh and condense on the rain fly, where it will (ideally) slide down to the ground outside. Also, if possible align the tent to catch the evening or morning breeze, to help keep the air circulating.

10. Demonstrate your ability to anchor a tent down, using the taut-line hitch and two half hitches.

Tie the half-hitches to the tent, the tautline hitch to the anchor.

http://www.animatedscoutknots.com/tautline_hitch.html

AND http://www.animatedscoutknots.com/twohalf_hitches.html

11. While camping, plan and give a ten-minute devotional or organize and lead a nature or Bible game or lead out in Sabbath School, camp church, or camp vespers.

12. Properly locate and build one of the following and describe its importance to the individual and the environment: Camp sink and dishwashing area; Latrine; Shower

13. Demonstrate four basic lashings and construct a simple object using these lashings.

Square <http://www.animatedknots.com/lashsquare>

Diagonal <http://www.animatedknots.com/lashdiagonal>

Round <http://www.animatedknots.com/lashround>

Tripod <http://www.animatedknots.com/lashtripod>

Shear <http://www.animatedknots.com/lashshear>

14. Know how to replace the mantels on a camp lantern. Demonstrate how to refill gas in a camp lantern and stove. Know how to maintain the pressure pump on a camp stove in good working order.

We no longer use pressurized stoves, so do not be concerned with the last one. For the other two, we will practice with the club. Changing gas is simple now that we work with bottled gas. Just ensure the stove or lantern is turned off, screw the gas cylinder onto the stove or lantern, and you are done. To replace mantles, it will depend upon the type, We usually use mantles with internal retaining rings, so the trick is to keep the wire retaining ring open as you slide the mouth of the mantle over the gas tube inside the lantern. Then secure the retaining ring, and burn the mantle. Next, reassemble the lantern, and light it up.

Why do we burn the mantle? - Mantles are made usually of silk, rayon or some other strong but thin mesh material that has been impregnated a combination of Yttrium oxide (Y_2O_3) and Cerium oxide (CeO_2) (sometimes also with others like Magnesium oxide (MgO)). The cloth provides a mesh framework for the oxides to adhere to, but is not actually part of the lighting unit. Burning away the silk leaves just the oxides in their own mesh form (it is extremely brittle in this state, so do not touch the mantle once the silk has been burnt away).

When you light the stove, the gas ignites inside the mantle area, and the heat causes the mineral oxides to glow. This is why you do not see flames inside the lanterns, and why the light is often a more brilliant white than the normal blue and yellow of burning gas. On a side note, the original mantles were impregnated with radioactive thorium, because it produced a brilliant white glow, but it is no longer used in mantles in the United States.