INTRO TO BACKPACKING

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II. TRIP PREPARATION

a. DESTINATIONS

Pick a place that matches your skill set and abilities, fits within your conditioning and time constraints and most of all is motivating for your group. It's good to try a small trip in the beginning and progress from there based upon your skills and abilities.

Consider the terrain, realistic abilities of your group, and the goals of your trip.

- Will your route be a loop?
- Out and back to a scenic lake for fishing?
- Point-to-point, including a mountain summit along the way?
- Will you need to shuttle a car?
- Depending on where you're going, allow anywhere from three to ten miles a day.
- Be sure to check local regulations and restrictions before you go.
    - Can you have campfires?
    - Are bearproof canisters required?
    - What permits do you need to hike or camp there?

b. TRAIL REPORTS

Research is the key when finding your backpacking route. Guidebooks are great resources, as are website of The Mountaineers (www.mountaineers.org) and Washington Trails Association (WTA.) www.wta.org . Once you've narrowed down your search, research the most current conditions or conditions in years past based upon similar conditions. Trip reports are available on-line thru The Mountaineers and WTA. This information will help you make informed decision about current trail conditions (covered in down trees, snow or ice on the trail, mud or rock slide blocking the trail), hazardous water crossings and if the road to the trailhead is open and drivable for the average vehicle or additional distance to hike to the trailhead is required.

c. WEATHER CONDITIONS

You should monitor the weather in the area you intend on hiking / backpacking to 5 days prior to the trip. This will alert you of potential problems you make encounter on the trail (Mud, high water flows, down trees.) www.weather.gov will provide a detailed forecast for these remote areas and are more usefully based upon the forecast is for the elevation of the destination.

d. PASSES / PERMITS

With the lack of funding for most of agencies, responsible for land care, passes are one way land managers try to fill-in their budget gaps. However permits serve a much different purpose. Permits limit the number of visitors to reduce the human impact to natural resource and improve upon the overall experience by the hiker / backpacker.

Once you have selected your destination, be sure you consult with the land manager, Mountaineer's, WTA or a guide book regarding the current passes and/or permits required for the destination. NOTE that this information is current as of Spring 2017 but is subject to change. Always verify with the appropriate agency.

i. National Parks

- **Entrance fee:** $25/car, $10/person walk-in or bike-in**.** Charged at Mount Rainier and Olympic National Parks. Good for seven days. $15 for a motorcycle 7-day pass in Olympic National Park, $20 for a motorcycle 7-day pass in Mount Rainier National Park. There are no fees to enter North Cascades National Park.

- **Annual pass:** $50**.** Provides entrance for a year to either Olympic or Mount Rainier National Park. This pass is only good at the park where it was purchased.
- **America the Beautiful Interagency Annual Pass:** $80**.** Also called the America the Beautiful pass. Provides entrance to any national park, Forest Service or other federal site charging fees for one year. Purchase at the park or online www.store.usgs.gov/pass/index.html
- **Interagency Senior Pass:** $10**.** This is the best deal around. This is a lifetime pass that is honored nationwide at any federal site charging entrance fees. Check out the details: https://www.fs.fed.us/visit/passes-permits/recreation-fees-passes
- **Annual Pass -** Military: Free. The Military Pass provides free access to federal land for all active military personnel and their dependents. For details: https://store.usgs.gov/pass/military.html
- **Interagency Access Pass:** Free. Those with permanent disabilities may be eligible for a lifetime pass that is honored nationwide. https://www.fs.usda.gov/detail/r6/passes-permits/recreation/?cid=stelprdb5353055
- **Wilderness Permits.** If you plan to backpack in a National Park or monument, you will likely need to secure a wilderness permit. Check individual park sites for information about how to get your permit. www.nps.gov or www.fs.fed.us

ii. U.S Forest Service Lands

- **National Forest Recreation Day Pass and ePass: $5/car.** Allows you to park at trailheads for one day. You can purchase several day passes ahead of time and write the dates on them as you use them. The pass is available at National Forest offices and visitor centers, via private vendors https://www.fs.usda.gov/detail/r6/passes-permits/recreation/?cid=fsbdev2_027026 or online. You can also buy the day pass (called an ePass) online http://www.discovernw.org/store_national-forest-recreation-epass-national-forests-in-washington-and-oregon-only_20281.html and print it at home.
- **Northwest Forest Pass: $30.** An annual pass honored at all Forest Service day-use or entrance fee sites in Washington and Oregon. The pass is available at National Forest offices and visitor centers and via private vendors or online
- **America the Beautiful Interagency Annual Pass: $80.** See national park info above for pass details
- **Mount St. Helens National Monument:** Mount St. Helens, managed by the USFS, charges on a per-person fee basis. Entry to the Coldwater or Johnson Ridge sites are $8 per person for those 16 and older (free for kids). They will honor Interagency Annual and Senior passes for named pass-holders, and a Northwest Forest Pass will gain entry for one person
- **Wilderness permits:** To backpack or overnight camp in some delicate or popular places, like the Enchantments in the Mt. Baker-Snoqualmie National Forest or the Mount Margaret backcountry camps at Mount St. Helens you will need to secure a wilderness permit. www.recreation.gov

iii. U.S. Fish and Wildlife Lands

Many of Washington's National Wildlife Refuges -- including Nisqually, Dungeness and Ridgefield NWRs -- require a recreation pass as well. Where applicable, the fee is usually $3 per family ($15 annually), payable at the visitor center or trailhead. They also accept the Interagency Annual, Access and Senior passes, as well as the Federal Duck Stamp pass.

iv. Washington State Public Lands

The Discover Pass is required to park at Washington State Parks, Department of Natural Resources lands and Department of Fish and Wildlife trailheads. More than 7 million acres of Washington state-managed recreation lands are covered –- including campgrounds, parks, wildlife areas, trails, natural areas, wilderness areas and water access points. For details about the pass - www.discoverpass.wa.gov/

- **Discover Pass Day Pass:** $10/car. Allows visitors to park at state recreation lands for one day.
- **Discover Pass Annual Pass:** $30. Allows visitors to park on state recreation lands for one year from issue. Hikers can purchase the Discover Pass at state parks, when renewing car tabs, online through Washington Department of Fish and Wildlife's automated system and in person at the 600 retail

locations that currently sell hunting and fishing licenses. If using a retail outlet or the online service, passes will be subject to a $5 upcharge. Day passes have a $1.50 upcharge. Staffed state parks and unstaffed payment stations sell the Discover Pass at face-value. The Discover Pass transferable between two cars.

- **Fish and Wildlife Vehicle Use Permit/Vehicle Access Pass (VAP).** Previously available for purchase, the complimentary VAP is provided to those who purchase hunting and fishing licenses. This pass only provides access to WDFW lands.
- Washington State Parks Car Tab renewal donation. We encourage you to continue to donate $5 to State Parks when renewing your annual vehicle license tabs. However, this is not the same as the Discover Pass.

v. Winter Recreation - Washington Sno-Parks

Washington's Sno-Park Permits allow you to park at plowed lots accessible to groomed and backcountry trails. You can find your nearest non-motorized Sno-Park , or you can snowshoe or ski on the nearest motorized Sno-Park.

- **Day Permits**: $20/day. Day Permits are valid at any Sno-Park location, including Special Groomed Trail locations,* until midnight of the purchase date.
- **Seasonal Permits**: $40/season. Seasonal Permits are valid at all Sno-Park locations **EXCEPT** those designated as Special Groomed Trail locations. If you know you'll be going out two or more times, buy the Seasonal Permit.
- **Special Groomed Trails Permits**: $40/season add-on. This optional add-on to the Seasonal Permit allows you to park at Cabin Creek, Chiwawa, Crystal Springs, Hyak, Lake Easton, Lake Wenatchee, Mount Spokane and Nason Ridge where trails are groomed for cross-country skiers.
- **Discover Pass and Sno-Parks in State Parks**: If you have a Sno-Park Seasonal Permit (the key word here is 'Seasonal') you do not need a Discover Pass to snowshoe within state parks. However, if you purchase a Sno-Park Day Permit you will also need either a Day Discover Pass or an Annual Discover Pass.

Sno-Park permits can be purchased online from November 1st- April 30th, or for an extra $2, at a number of locations statewide.

e. TRIP ITINERARY

If you stick to trails and use common sense while backpacking, you'll probably never have to worry about getting lost or seriously injured. If you do run into trouble, though, creating a trip plan and leaving it with someone you trust can significantly increase the odds of a quick return to safety. (You can find a printable trip itinerary in the appendices.

Plans should include details about who's hiking, the numbers of any cell phones you'll be carrying, when you plan to leave, where you're going (where you'll be parking, which trailhead will be your starting point, which routes and campsites you plan to use), when you're expecting to return and the license plate and make of the car you'll be using. Keep to the plan, and have this person initiate a search in the unlikely event that you don't return when expected. If you'll be hiking off-trail or are planning hikes along particularly challenging routes, it's also a good idea to drop off your plan with the local Ranger Station. If your plans change, let anyone who was given a copy of the plan know before you hit the trail.

III. TEN ESSENTIALS

a. Navigation

A detailed topographic map of where you are going (and how to get back) and a compass are basic navigational items. The hike leader decides the initial destination but each individual needs the tools to be able to confirm the correctness of the route should a problem arise. Always carry a detailed topographic map of the area you are visiting, and place it in a protective case or plastic covering (plastic bags work well). Always

carry a compass. Compasses come in a variety of sizes, shapes and prices - you should carry one that you are comfortable with and can use. If the instructions that come with your compass are not adequate, you may find the chapter on navigation in Mountaineering: The Freedom of the Hills to be helpful. The Tacoma Branch offers a Navigation Course several times a year – well worth the time and money! Hikers may also choose to carry other navigational tools such as an altimeter or global positioning system (GPS) receiver; other aids include route markers, route descriptions, and other types of maps or photos. You should always have the personal skills to fall back on should your electronic device fail you because of battery or satellite failure.
A good source for a free printable scale topographical map is www.caltopo.com or you download a USGS topographical map from www.store.usgs.gov

b. Sun Protection

Carry and use sunglasses, sunscreen for the lips and skin, and clothing for sun protection. Sunglasses and sunscreen are important at high altitudes and on cloudy/overcast days as well as on bright/snowy days. Sunglasses should block ultraviolet rays and, ideally, offer side protection (wrap-around lenses or side shields). Non-water soluble sunscreen with SPF of 15 or higher is desirable. Without adequate protection against both direct sunlight and reflected light (from water, snow and treeless alpine landscapes) damage to skin and eyes can occur.

c. Insulation (Extra Clothing)

How much extra clothing is necessary for an emergency? The garments used during the active portion of a hike and considered to be the basic hiking outfit include inner and outer socks, boots, underwear, pants, shirt, sweater or fleece jacket, hat, mittens or gloves, and raingear. The term "extra clothing" refers to additional layers that would be needed to survive the long, inactive hours of an unplanned bivouac. If you are wearing all our clothes at the trailhead before starting out you don't have enough clothes in your pack. Your extra clothing is for the "worst case" scenario: Abrupt weather changes or an unexpected event that lengthens the day hike significantly - perhaps even into an overnight bivouac. A hiker incapacitated with something as simple as a sprained ankle after only 2 hours of hiking will require a longer, slower hike out if the hiker is at all mobile. If the hiker is not mobile, some members of the party will need to go for help while others will need to stay with the injured person until help arrives. The wait for help could easily be at least 6 hours, with additional time required for a slow evacuation. In this situation, extra clothing will protect you from hypothermia which is a real riskfor people sitting at rest outdoors. Your extra clothing should get you through 24 hours in the worst conditions that can be realistically expected for the time of year and the trip route chosen. Extra clothing should be wool or synthetic (or down) – In our northwest climate, **NO COTTON!** Cotton clothing may be appropriate in other climates but it has minimal insulating value and once damp or wet, it will lower your skin temperature. A minimal list of extra clothing would include a shirt or sweater, an extra hat or balaclava, extra gloves or mittens, extra socks and liner socks, extra polypro underwear (shirt and leggings), and rain gear. In colder weather an insulated jacket is critical. The extra clothing should provide you with an extra measure of warmth and protection from the elements.

d. Illumination

Even if the hiking party plans to return to their cars before dark, it is essential to carry a headlamp or flashlight, just in case. Most hikers now use lightweight headlamps which have long lasting LED bulbs, and allow hands free use. The illumination power of many headlamps is also much greater than most flashlights. Batteries and bulbs do not last forever, so carry spares of both (if applicable) at all times. Headlamp/flashlight - AND EXTRA BATTERIES AND BULBS, will prove to be an essential item just in case you don't get back to the car in daylight. If you use a flashlight, to keep the batteries from running down when not in use, you can carry them outside of the flashlight until needed or put one battery in upside down. When you need a flashlight, you can quickly load the batteries properly and have full use of the batteries. Extra bulbs should be stored to avoid breakage.

e. First – Aid Supplies

Carry and know how to use a first-aid kit, but do not let a first-aid kit give you a false sense of security. The best course of action is to always take the steps necessary to avoid injury or sickness in the first place. At a minimum, a first-aid kit should include:

- gauze pads in various sizes
- butterfly bandages
- antibiotic cream
- adhesive tape
- latex gloves
- Roll of gauze
- triangular bandages
- scissors
- paper and pencil
- small adhesive bandages
- battle dressing (or Carlisle bandage
- cleansers or soap
- Blister materials
- An extra bag for trash

First-aid supplies for hiking include materials to keep "hot spots" from turning into blisters and materials for sprains and other unexpected occurrences when you are hours from the trailhead and further still from the doctor's office or the emergency room. If you store first-aid items in plastic bags within your first-aid kit they will be easy to find and will stay clean and dry.

Your first-aid kit should be clearly marked in your pack so that if you are injured someone else could quickly find your supplies and not have to open everything in your pack in the search. This is particularly important if you have a medical condition such as asthma or an allergy to bee stings which require the prompt use of special medication. Remember, your first aid kit is what is going to be used to treat you, don't skimp on the important stuff.

f. Fire (Waterproof matches / lighter / Candle)

Carry the means to start and sustain an emergency fire if you have a trip-extending emergency. Most hikers carry a butane lighter or two as well as of matches in a waterproof container. Either must be absolutely reliable. Butane lighters do not always work well at higher elevations or in cold. Fire starters are indispensable for igniting wet wood quickly to make an emergency campfire. Common fire starters include candles, chemical heat tabs, and canned heat. On a high-altitude snow or glacier trip, where firewood is nonexistent, it is advisable to carry a stove as an additional emergency heat and water source. Check your favorite equipment supplier and see what you would be most comfortable using and stowing in your pack. If you are not sure how to build a fire in an emergency, try your choice of fire starting supplies at home – in the backyard, in a safe area, on a dry day and on a rainy, windy night

g. Repair Kits and Tools

Knives are so useful in first aid, food preparation, repairs, and hiking that every party member needs to carry one. Stainless steel or other non-rusting blades are recommended. Lanyards or leashes (to attach it to your pack or belt) to prevent loss are common. Other tools (pliers, screwdriver, awl and scissors) can be part of a knife or a pocket tool, or carried separately—perhaps even as part of a group kit. Other useful repair items are shoelaces, safety pins, needle and thread, wire, duct tape, nylon fabric repair tape, cable ties, plastic buckles, cordage, webbing, and parts for equipment such as tent, stove, crampons, snowshoes, and skis. Start out with the simplest, lightest weight knife you can find: Two folding blades, a can opener and a screw driver is all the gadgetry you really need on a knife for day hikes.

h. Nutrition

For shorter trips, a one-day supply of extra food is a reasonable emergency stockpile in case foul weather, faulty navigation, injury, or other reasons delay the planned return. An expedition or long trek may require more. The food should require no cooking, be easily digestible, and store well for long periods. A combination of jerky, nuts, candy, granola, and dried fruit works well. If a stove is carried, cocoa, dried soup, and tea can be added. There are many possibilities. The extra food is to provide energy and, as importantly, to boost morale. If you select extra food with a long shelf life you will not have to replace it after each trip. A high fat content is desirable in your extra food stash. Fat = calories. Pack your extra food separately from your lunch and trail

snacks so you will not be tempted by it. Your extra food should be for emergencies only!!! You should still have your extra food in your pack at the end of a regular, uneventful trip.

i. Hydration

Carry extra water and have the skills and tools required for obtaining and purifying additional water. Always carry at least one water bottle or collapsible water sack. Daily water consumption varies greatly. Two quarts (liters) daily is a reasonable minimum; in hot weather or at high altitudes, 6 quarts may not be enough. In dry environments, carry additional water. Plan for enough water to accommodate additional requirements due to heat, cold, altitude, exertion, or emergency. Again, if you plan to carry only the water you will need for the day hike, what will you do if the trip is extended due to an unexpected event? And, soda and caffeinated beverages are not good substitutes for water on a hike. Adding electrolytes to your water is a good idea, especially on a hot summer day. Electrolyte supplements come in powder, gel and tablet form; with sugar and without. See the section on dehydration on page 10 below for more information on the importance of drinking enough water. And, remember The Mountaineers' mantra: Your urine should be **copious and clear**.

j. Emergency Shelter

If the hiking party is not carrying a tent, carry some sort of extra shelter from rain and wind, such as a plastic tube tent or a jumbo plastic trash bag. Another possibility is a reflective emergency blanket. It can be used in administering first aid to an injured or hypothermic person, or can double as a means of shelter. Lightweight semi-disposable bivy sacks are another option.

IV. ELEVENTH ESSENTIAL & OTHER SUNDRIES

- Camera – document your experience
- Goodies to Share – Chocolate, cocoa, tea, etc.
- Insect Repellant – Can make or break a trip
- Money – Pay for carpool or have a hot meal at the end of the hike
- Change of Clothes – A fresh change of clothes for the ride back and a plastic bag for your muddy boots

V. BACKPACKING GEAR / EQUIPMENT

a. BOOTS

Hikers generally wear boots instead of shoes because boots provide two main kinds of protection: lateral support so you don't twist an ankle and a shield for your soles from the sharp rocks and pounding. Running shoes are not designed to give ankle support and are not the best choice. Low trail shoes that have good traction and lateral support are an option on many types of trails but may not be suitable for very wet, muddy conditions or for heavier load carrying.

i. Lacing Tips

I. Surgeon's knot (Prevent Heel Slip)

When your heel is slipping excessively as you hike, you probably have too much interior volume at the top of your foot. Cinch down your boot and hold it in place with two surgeon's knots: Once secured, these hold fast where they're placed and won't work themselves loose.

- Pull out any slack in the laces, snugging the boot over the top of your foot.
- Locate the two pairs of lace hooks closest to the point where the top of your foot begins to flex forward; you'll be tying a surgeon's knot at each of these pairs.
- Wrap the laces around each other twice, then pull them tight; be sure to run the lace directly up to the next hook to "lock" in the knot's tension.
- Repeat Step 3 at the next highest set of lace hooks.
- Finish lacing the rest of your boot in your usual way.

II. Window Lacing

If your well-tied boots start to create a pressure point on the top of your foot, window lacing (aka "box lacing") can help alleviate the problem:

- Unlace the boot down to the hooks that are just below the pressure point
- Re-lace by going straight up to the next hook and then crossing the laces over
- Finish lacing the rest of your boot in your usual way; alternatively, you can tie a surgeon's knot at the lower and upper edge of your window for a snugger hold

III. Toe-Relief Lacing

If your toes are in a world of hurt, this stopgap measure can help you make it back to the trailhead. This trick works by relieving pressure in the toe box:

- Completely unlace your boot
- Lace it back up—but skip the first set of hooks; this opens up the toe box and takes some pressure off your digits

If your toes always hurt when you hike, it's time to get a different pair of boots.

ii. Purchasing Tips

- Bring along whichever socks and/or liners you'll be hiking in to get a realistic idea of the fit
- A good store will have a steep ramp in its shoe department. See if your heels slip in the boots you are trying on by walking up the ramp. Some slippage is inevitable, but more than a half inch is trouble. Walk down the ramp to see if your toes slip forward. If they hit the front of the boot, they'll turn black and blue when you descend steep hills. Kick the front for a similar test
- With the boot unlaced, check for wiggle room for your toes. You should be able to slide your foot forward and slip one finger (and only one) behind your heel
- Walk around the store. Flex, bend our knees, put your feet in the funny positions trail walking causes, and see if you feel any problems
- Remember that your feet probably will swell after hours of hiking. This is especially important to consider if you try on boots in winter when your feet are cold
- If you plan on using the boots for backpacking, put on a pack with weights when you try them on
- Think about purchasing boots at a store that offers return privileges if the boots that seem so good in the store don't work out on the trail

b. SOCKS

Socks are almost as important as boots are. Wearing two pairs at a time helps reduce friction on the feet. A thin polyester and nylon or spandex combination or thin wool "liner" sock can help keep skin dry by wicking perspiration to the next layer. A heavier outer pair of socks should contain some combination of acrylic, wool, and stretch nylon and should be padded at the heel and the ball of the foot. Newer wool socks are made of soft Merino wool and are not itchy. Cotton socks don't move moisture away from your feet and can cause blisters.

c. CLOTHING – 3 LAYER METHOD

i. Skin Layer

This usually consists of a high-tech knit polyester material such as polypropylene, Capilene, or Thermax. These materials are hydrophobic - they "wick" sweat away from your body to an outer layer where it can evaporate. Lightweight wool or silk also wicks well and performs well as the first layer. Note that the skin layer is **NOT COTTON**. Remember that cotton underwear will hold your perspiration next to your skin and very quickly make you very cold when the sun disappears behind a cloud.

ii. Middle Layer

A thicker polyester material called pile or fleece, or a wool garment. These materials will also help wick moisture away from your body. If you are sitting still, or in colder weather, a jacket "puffy" of down or synthetic is key.

iii. Windproof / Waterproof Layer

This layer should be made of fabric that contains pores smaller than a water molecule but larger than a water vapor molecule. Thus, rainwater is repelled but water vapor from your body passes through the garment. The best known such fabric is Gore-Tex, but there are many other similar fabrics marketed under different names. Look for items that have a good balance between waterproofness and breathability. .

d. WARM WEATHER DRESSING

In warm weather, clothing is naturally less of a worry. Shorts and a T-shirt may be all you need to wear. But always remember; when you're in the mountains, the weather can change quickly, so always have the three-layer system with you.

e. HATS - GLOVES

An old mountain expression says, "If your feet are cold, put a hat on." Mountaineers know that in cold weather lots of body heat escapes if your head is bare. That makes a fleece or wool cap a key piece of equipment. You can take it off while climbing and put it on when resting on a chilly mountaintop or windy ridge. Backpackers often sleep with their hats on. A knit or fleece balaclava protects and warms both your neck and your head. Similarly, gloves or mittens protect and warm your hands, helping to conserve your body heat.

f. BACKPACKS

i. External Frame

This frame holds the pack away from your body, which allows air to circulate and carry away some of the heat from your back. However, it rigidly holds the load and doesn't move the weight as well with your motion as you might want. The frame can swing the weight away from your center of gravity and throw you off balance. This is not a problem on trails but is a disadvantage when hiking off-trail, scrambling over rocks, and crossing streams. These are not frequently used anymore but are still available.

ii. Internal Frame

This frame hugs your body and moves with you. Its advantages are felt when mountain climbing, cross-country skiing, and hiking on rough terrain. There are some disadvantages: This frame is harder to fit correctly to your body and harder to load properly. It's harder to engineer one that can handle heavy loads as well as an external frame, which is probably why internal-frame packs are perhaps 50% more expensive than external-frame packs of similar quality.

iii. Size of Pack

Base your pack capacity on what you intend to use the pack for: day hikes, short overnights, or more extended backpacking. Capacity for daypacks can range from about 18L to 35L; smaller backpacks from about 35L to 60L; packs for extended trips range from about 65L to 75L or even more. . It all depends on what you plan to carry and how you want to pack it. You can load your gear in a laundry basket or big garbage bag, take it to the store and try out several packs. Many backpackers start out with overnight trips and then go on longer ones, so consider a mid-range volume. On the other hand, an extremely large pack will be much heavier and will tempt you to fill it up with items you may not need. Weight of Pack:

The rule of thumb is that your pack, packed, should weigh no more than 25 to 30% of your IDEAL weight. This is difficult for smaller people to achieve but sharing "group gear" helps.

g. TENTS

A three-season tent is all one needs in most cases, unless you intend to camp in the winter/snow or in other very harsh conditions.

When choosing a tent, remember you can get wet two ways when you're catching up on your sleep: from precipitation and from condensation. Your breath and skin constantly give off vapor that can condense on tent walls and drip onto your sleeping bags and clothes. That's why standard tent construction involves two layers - an inner, non-waterproof layer and a separate, waterproof rain fly. The fly spreads like a canopy over the tent without touching it, leaving a space between. Vapor from your body rises through the tent wall and leaves via the space beneath the fly. A vent in the fly can be adjusted for ventilation or warmth.

Protect the bottom of your tent with a ground cloth, tucking it completely under the tent to avoid funneling rain underneath.

Before buying a tent, crawl into one and make sure you fit without touching the sides, bottom, or head. If your bag touches the walls of your tent condensation will make it soggy.

You can't test out too many tents. Don't be shy about shedding your shoes, crawling in and stretching out in all the display tents set up in every outdoor equipment store you can find. Better to find out that a tent is too small in the store than at the campsite.

i. Types

- A-FRAME
- DOME
- TUNNEL
- FREESTANDING
- VESTIBULE
- TARP SHELTER
- BIVY SACK

Once you've bought a tent, practice setting it up at home. Every tent system has its own idiosyncrasies. Learn what these are and how all the parts of your tent work before you get out in the wilds. !

h. SLEEPING BAGS

Sleeping bags are rated according to degrees; generally the rating is the coldest air temperature that the bag will keep you from becoming excessively cold. It may or may not keep you comfortable. Remember that temperatures decrease as elevation increases so even in mid-summer, it may be in the 30's where you camp. Some people naturally "sleep warmer" than others so consider your needs when buying. Also consider that

the bag should not be excessively large or you will not be able to heat up the extra airspace well. For most mild weather trips, a bag rated down to 30 degrees is fine; but if you plan to camp in early spring, later in the fall, or at higher elevations, consider a bag that is rated to 20 or lower.

i. Goose Down

- **Pros:** Lightest known insulator, most compactable, lasts up to three times longer, greater "comfort range" not as hot and clammy on warmer nights
- **Cons:** Useless when wet, dries very slowly, more expensive initially

ii. Synthetics

- **Pros:** Retains some insulating power when wet, dries more rapidly than down, easier care
- **Cons:** Heavier, bulkier

iii. Stuff Sack

If you choose a Down bag make sure you purchase a waterproof stuff sack or cover with a plastic garbage bag. There are down bags available with Wm. Gore's "Dry Loft" waterproof, breathable fabric. This helps to solve the old problem of soggy down bags.

i. SLEEPING BAG LINERS

A mummy-shaped bag liner helps keep your sleeping bag free of dirt and body oils. Clean is good, since a clean bag doesn't require laundering and will last much longer. (It's much easier to launder a liner than a sleeping bag.) A bag liner also provides anywhere from 5° to 15°F of extra warmth to your sleeping bag, depending on the liner material. In hot climates, you can use a bag liner or travel sheet by itself and forgo the sleeping bag.

i. Types

- **Silk:** Very lightweight (about 5 oz.) and compact. Silk helps insulate in cold weather but is absorbent and breathable in warm weather
- **Cotton:** Strong, durable and absorbent, but not the lightest or most compact
- **Fleece and microfleece:** Warmer (adds up to 12°F) and heavier. Fleece is soft, moisture-wicking and quick-drying, but the mid- and heavyweight varieties are bulky
- **Synthetics:** Moisture-wicking and breathable, which makes these ideal for humid conditions. They offer some stretch, too, which is nice for restless sleepers
- **Insulated:** This adds up to a claimed 25°F of warmth, so you can greatly extend the range of a lightweight bag. It uses hollow-core fiber insulation which helps it dry 50% faster than cotton

j. SLEEPING PADS

A sleeping pad is necessary to insulate you from the ground. Even in warm weather, if you sleep directly on the ground your body heat will continuously transfer into the ground and you will be cold. Pads are rated using an "R" value which indicates the degree of insulation; higher ratings mean the pad insulates better. Values range from about 2 or 2.5 to 6 or more.

i. Self-Inflating or Manual Inflating

- **Pros:** Twice the insulating value, much more comfortable, less bulk to carry
- **Cons:** 2-3 times heavier, more expensive, can puncture (Carry repair kit)

ii. Closed-Cell Foam

- **Pros:** Lighter, less expensive, virtually indestructible
- **Cons:** Not as insulating, not as comfortable, bulkier

k. STOVES

i. White Gas

Provides a very hot flame. The flame is appreciably hotter than canister or alcohol stoves, which means it boils your water more quickly but can be too hot for a good simmer. The fuel containers are refillable. White gas stoves are generally more efficient in very cold temperatures and/or higher elevations but they can be more involved to use and maintain. .

ii. Canister stoves

This stove is the least inexpensive initially to buy; however, the canisters cost significantly more per BTU than white gas and they are not refillable. These stoves are convenient to light; just turn the knob and light. The flame is not as hot as white gas but many stoves are fully adjustable to a true simmer. One major drawback is that efficiency drops in very cold temperatures, although newer designs are compensating for this to a degree.

Whichever stove you choose, make sure you know how to use it before you go on your backpack trip. Test it out in the backyard or on a day hike.

You don't need a full cook kit for cooking. You can plan your meals so that the only cooking thing you'll need is a pot for boiling water. . Minimalist cooking gear is a pot/cup to boil water and fix food in and a spoon to cook and eat with. Remember that the fewer utensils you use to cook with, the fewer things you will have to clean up after the meal. For a short summer trip, you might consider no stove at all—just "eat cold".

l. COMFORT ITEMS

- Camp shoes – something quick and easy to slip on while in camp
- Camp Pillow
- Trekking poles – to reduce the strain on your knees and improve your balance
- Gaiters – Prevent mud, rocks and water from getting inside your boot
- Binoculars – Observe wildlife from a distance
- Camera

m. TIPS FOR SELECTING EQUIPMENT

Hiking and Backpacking is like everything else we do in our lives. There is no one way to do it. We all have our personal preferences about what we wear, what we eat and how we sleep, to make a short list of preferences. And technology is constantly changing. Take your time making major purchases. Unless you arrive at closing time there is no limit to the amount of time you can spend browsing at an outdoor equipment store.

- Take your shoes off and crawl in the display tents that are set up
- Try on packs with different weights in them
- Test the different cooking systems for weight and packability
- Ask the sales staff for their advice (both personal and professional) on different sleeping bags, tents, stoves, water filters, headlamps, etc
- Talk to fellow hikers on day hikes to find out what equipment they like and why
- Borrow and rent equipment
- Look for deals on websites

Load your backpack for an overnight backpack trip when you go car camping or for a Dayhike.Hike around the campground with your full pack on before setting up camp. Carry your full pack on a short day hike out of the campground. This will help you figure out the tradeoffs you are willing to make; pack weight vs. creature comforts; lighter gear and clothing vs. price, weight and fragility. These trade-offs are at the heart of any trip into the wilderness.

VI. PACKING YOUR PACK

Before loading the pack with your outdoor gear, be sure that you have the proper pack size to fit the gear you plan to bring. In short, you want to find the line between eliminated unnecessary weight and certain luxuries for comfort. Upgrading to new and lighter equipment will help keep weight and pack size down. Also, keep in mind that shorter trips will require you to pack less gear while more gear, such as clothes and food, are needed for longer trips. A packing list for your reference is provided in the Appendices.

a. WEIGHT DISTRIBUTION

Packing a backpack properly isn't just about making sure everything fits—where you put things will largely affect how comfortable your pack is to carry. A general rule of thumb is to put water, cooking gear, and other heavy items close to the center of your back and pack lighter weight items around them. This will help you maintain balance by keeping the bulk of the load close to your center of gravity. Keep snacks, maps, and other small items you might need throughout the day in the side pockets or lid of your pack for easy access.

i. Internal Backpacks

Internal backpacks have recently become the standard backpacking frame type. While trail hiking with an internal-frame pack, items with the most weight wants to be centered high between the shoulder blades and close to your back. By doing this, the weight is placed on the hips which should hold most of our backpacking pack's weight. When off the trail, items should be placed a bit lower on the back, lowering your center of gravity and stabilizing you better on rough terrain.

ii. External Backpacks

External backpacks are still used, although less common than internal frames. They are recommended for trail hiking only. The heaviest items should be packed on top and closes to the back to center the pack's weight over the hips and help you stay in a more upright stance.

Either frame type you choose, medium weight gear (water filter, first-aid kit, stove) should be placed in the middle and furthest from the back. Lightweight items (sleeping bag, clothing, odds and ends) should be placed lowest in the backpack. To learn more about the different frame types, see the Backpack Buying Guide.

Be careful to not overload your pack or body. A loaded backpack shouldn't exceed 25% – 30% of your ideal body weight. Although this is a general guideline, some experienced backpackers may be able to carry more weight. Beginner backpackers and less-fit persons should start with less weight.

b. BACKPACK ORGANIZATION

In order to pack your backpack correctly, you may want to lay out all of your backpacking equipment to get it organized. This is a great way to make sure you have all your gear and organize it by weight. Another good idea is to cluster similar small items, such as eating utensils and pots, together in zip lock or stuff bags. You may want to even go further and color-code them as well. It is also a good idea to store food and liquid fuel in bags to prevent spills.

When loading your pack, be sure to follow the weight distribution guidelines given above. As lightweight items should be stuffed at the bottom of the backpack first, the sleeping bag usually goes in first along with other light nighttime supplies. After, pack medium-weight items, followed by heavy gear.

When packing your backpack, be sure to fill in all empty space with small or compressible items. For example, you can stuff a shirt inside a pot, put a roll of duct tape around your hiking poles, or remove your sleeping bag from its sack and stuff it around other gear. If you are using a bear canister, as more and more national parks and wilderness areas are requiring, be sure to fill it completely full with food and other scented items (be sure to pack this closest to your back).

Certain items like a GPS, insect repellent, snack food, rainwear, or a headlamp may need to be accessed at any time. Because of this, these essential things should be stored inside a front pocket, top lid, or in the top of the main compartment so they can be found with minimum searching.

After your bag is loaded and packed, tighten all compression straps to limit load-shifting while hiking.

c. ATTACHING GEAR EXTERNALLY

If you have packed your backpack properly and have the right pack size, you shouldn't need to attach much to the outside. However, sometimes it is necessary due to limited space or odd shaped items. Try to avoid doing this, however, because lashing gear to your pack could affect your balance and may also swing, rattle, or snag plants on the trail. To avoid stability issues, be sure to balance weight of items attached to your bag.

Trekking poles can be vertically attached on the outside of your backpack on either or both sides beneath compression straps and tucked inside the water bottle pockets on the bottom of pack if available. You may also choose to strap your tent poles to the outside as well.

Bulky items such as a tent, sleeping pad, or sleeping bag (although many packs come with a special sleeping bag compartment) could be attached on the top or bottom of the pack horizontally. Just remember, if you plan to do on-trail hiking, keep items with the most weight higher. Some backpacks have straps near the top lid or underneath. You may want to store air-filled pads or sleeping bags inside a bag to avoid possible punctures.

If you backpack as a daisy chain on the front, you may also utilize this to hang gear from. Although it is intended for mountaineering equipment, you can improvise with rope or carabineers to hang items.

VII. LEAVE NO TRACE

"Leave No Trace" is the concept and practice of minimizing our impact on the environment as we travel through or camp. Several outdoor groups and government agencies developed "LNT" and continue to do research on effective techniques. Much information isi available at lnt.org. There are 7 principles; some of the specific techniques vary based upon the environment you are in. Described here are general practices for sub alpine conditions.

a. Plan Ahead and Prepare

- Know the regulations and special concerns for the area you'll visit.
- Prepare for extreme weather, hazards, and emergencies.
- Schedule your trip to avoid times of high use.
- Visit in small groups when possible. Consider splitting larger groups into smaller groups.
- Repackage food to minimize waste.
- Use a map and compass to eliminate the use of marking paint, rock cairns or flagging.

b. Travel and Camp on Durable Surfaces

- Durable surfaces include established trails and campsites, rock, gravel, dry grasses or snow.
- Protect riparian areas by camping at least 200 feet from lakes and streams.
- Good campsites are found, not made. Altering a site is not necessary.
- In popular areas:
  - Concentrate use on existing trails and campsites.
  - Walk single file in the middle of the trail, even when wet or muddy.
  - Keep campsites small. Focus activity in areas where vegetation is absent.
- In pristine areas:
  - Disperse use to prevent the creation of campsites and trails.
  - Avoid places where impacts are just beginning.

c. Dispose of Waste Properly

- Pack it in, pack it out. Inspect your campsite and rest areas for trash or spilled foods. Pack out all trash, leftover food and litter.
- Deposit solid human waste in catholes dug 6 to 8 inches deep, at least 200 feet from water, camp and trails. Cover and disguise the cathole when finished.
- Pack out toilet paper and hygiene products.
- To wash yourself or your dishes, carry water 200 feet away from streams or lakes and use small amounts of biodegradable soap. Scatter strained dishwater.

d. Leave What you Find

- Preserve the past: examine, but do not touch cultural or historic structures and artifacts.
- Leave rocks, plants and other natural objects as you find them.
- Avoid introducing or transporting non-native species.
- Do not build structures, furniture, or dig trenches.

e. Minimize Campfire Impacts

- Campfires can cause lasting impacts to the backcountry. Use a lightweight stove for cooking and enjoy a candle lantern for light.
- Where fires are permitted, use established fire rings, fire pans, or mound fires.
- Keep fires small. Only use sticks from the ground that can be broken by hand.
- Burn all wood and coals to ash, put out campfires completely, then scatter cool ashes.

f. Respect Wildlife

- Observe wildlife from a distance. Do not follow or approach them.
- Never feed animals. Feeding wildlife damages their health, alters natural behaviors, and exposes them to predators and other dangers.
- Protect wildlife and your food by storing rations and trash securely.
- Control pets at all times, or leave them at home.
- Avoid wildlife during sensitive times: mating, nesting, raising young, or winter.

g. Be Considerate of Others

- Respect other visitors and protect the quality of their experience.
- Be courteous. Yield to other users on the trail.
- Step to the downhill side of the trail when encountering pack stock.
- Take breaks and camp away from trails and other visitors.
- Let nature's sounds prevail. Avoid loud voices and noises.
- Minimize your visual impact if possible when selecting camp sites

VIII. CONDITIONING FOR HIKING / BACKPACKING

The best way to train for backpacking is to mimic the activity as closely as possible. The amount of conditioning you need depends on your current fitness level and the kinds of trips you have planned. However, when you cannot do the specific activity, numerous other training options can help you prepare optimally. Know your physical condition. Not just the "in shape" or "outta shape" question, but how's your heart had a checkup lately ? That knowledge will also minimize potential problems in the backcountry. If you have a health condition, of any consequence, understand beforehand, the implications and potential impact of strenuous exercise and venturing into the backcountry. If you haven't already, get the medical checkup to find out one way or the other if you have anything to be concerned about. The backcountry is not the place for medical emergencies. There's just no 911 out there!

a. Already in Shape

If you exercise regularly, you may already be in good enough shape to tackle day hikes over easy to moderate terrain. However, walking or jogging on pavement is not the same as carrying a pack over a rough trail tread. Put on a pack loaded with 5 more pounds than you would be carrying on your hike, then truck around the neighborhood for a few miles to see how it feels. Next, plan a short hike to see how you fare on a trail with the pack on. Gradually, in addition to your regular exercise program, take more difficult hikes that keep challenging you as well as increasing your level of conditioning and endurance. This method is the least painful, if you will, because it leverages off of what you already have and gets you on the trail, immediately. What could be better than hiking yourself into hiking condition.

b. Not in Shape

If you're not in good physical condition, you should take the time to set up a regular exercise program. It must be consistent and it must be a priority (or, guaranteed, you will not be consistent and you'll always be on the brink of getting in shape but not quite). Many folks who want to go hiking but get discouraged when doing so primarily because they did not get into hiking condition beforehand. Hiking is so very rewarding in multiple ways but it is a strenuous activity.

c. Starting points for Training

i. Gym

- Try stair-steppers, elliptical trainers and climbing machines. These machines provide a great cardiovascular and strength workout, while isolating your lower-body muscle groups and help build muscle and cardio-vascular endurance.
- Consider step aerobics. Check out your local gym to see if they offer it. Or, do step aerobics at home with a bench and instructional video.
- Lift weights. A backpacker does not particularly want to transport a huge upper-body mass on the trail. Still, a consistent, diversified weight-resistance program helps prepare muscle groups all over your body for the sudden jolt of day-long physical activity. Trained muscles are less susceptible to injury and strains.
- Swim. A great aerobic workout, swimming is easy on the joints and good for the lungs and heart.

ii. Little things matter

- Take the stairs whenever possible. Walking or running up and down stairs in your home, office or neighborhood on a regular basis is terrific pre-trail training. You can even mimic step aerobics by running up 1 step and then back down, repeating the motion.
- Walk instead of drive. If you can perform routine chores by leaving your car keys in your pocket, do it. Walk to the library, the park or the store. Toss a weighted daypack on your back for a little extra benefit.
- If you have a bike, start pedaling. Cycling is another good way to condition your legs and increase endurance.
- Jogging is also a popular training option to get in shape for backpacking. But use caution if you're not already a runner, since jogging can lead to muscle strains that backpacking may aggravate.

iii. Posture and Balance

As you walk, stand tall and firm. Being aware of your posture can help align, or unkink your body in way that you are now utilizing more of your muscles, especially in the middle of your trunk. As you walk, focus on stepping off from your heels; this small action can increase the use of strong gluteus muscles as well as hamstrings. You can also reduce the strain on your quadriceps muscles, knees and calves and ankles while greatly increasing your efficiency.

Everyone can improve balance. And it's a myth that we lose it as we age. What really happens is that we practice less. One simple and fun way to see improvements in balance and stability is to see how long you can stand on one leg—fifteen seconds, thirty seconds, a minute or more. For an extra challenge, try standing on one leg with your eyes closed.

d. Level of Difficulty

You will put yourself and your fellow packers at risk, if you think you can wait till the trip and then get in shape on the trail.. Several weeks before a trip, anticipate how much weight you will be carrying, then prepare a pack that weighs 5-10 pounds more than that. That, then, becomes your training pack for the next several weeks –walk or hike with it a few times s a week right up until two or three days before the trip. In addition, continue with your normal exercising routine. That way, you'll be very confident and will be successful on the trail.

e. Stretching

Stretching muscles reduces muscle tension and allows better, more flexible movement. Prior to and after your workout, whether in the backcountry, or at home, take some time to stretch your lower back, legs, torso, neck, etc. If you're not sure how or what, do some research there's plenty of material available on the subject. stretching is necessary and will help prevent soreness and injury, both on and off the trail.

f. Pack Lift Injuries

Jerking a heavy 30 or more pounds pack off the ground and swinging it onto your back is a good way to injure your back or shoulders. There's several popular, and safe, ways to do it. The one method, is to place your pack on the ground with shoulder harness facing you; Next, grab the shoulder straps one in each hand and with straight to slightly bent back and slightly bent knees, put your knee into the backpadding of the pack and pull the pack up your leg to the upper thigh. With your leg now under the pack for support, slide your right arm thru the shoulder harness and then turn and do the same with your left arm. Next, tighten the hip belt and proceed to secure pack as usual. This may have taken a lot of words to explain, but it's relatively intuitive, fast and safe. Another method is to rest the pack on a tree stump or embankment and squat down to slip into the shoulder harness. Yet another method is to have someone hold the pack while you slip into the harness. Or if a large rock or stump is available, put your pack onto it and squat down; sliding your arms into the harness. Then just stand up (or use a pole for assistance).

g. Already in Shape

There are numerous ways to stay in shape, during the Winter. The first requisite, though, is to make it a priority, otherwise you probably won't find the time, at least not on a consistent basis.

- Begin with shorter, less strenuous hikes with a daypack or light backpack. Nothing gets muscles ready for the trail better than the trail itself.
- Gradually increase the length and elevation of your hikes and increase your backpack load.
- As you begin to strengthen your lower body and improve your endurance, switch to longer, more challenging hikes. Loading your backpack with the gear and weight you are most likely to carry will help you become familiar with conditions you will face deep in the backcountry.
- If you don't have a chance to hike the great outdoors as much as you'd like, try the next-best option.

IX. HYDRATION

Backpacking can be hard work, and you'll need to keep hydrated, especially on hot days. A good rule of thumb is to drink a liter and carry a liter at all times, that way you can be sure to have extra in case of emergency.

But even if your water source is a clear-looking running steam, you can't be sure it's OK to drink. To be certain your water is safe to drink, you want to eliminate the "Big Three"—protozoa, bacteria and viruses. They're the culprits behind many backcountry trips ending in a gastrointestinal nightmare.

- **Protozoa:** Protozoa are microscopic parasitic organisms about 5-500 microns in diameter. The most commonly known protozoa are Cryptosporidium and Giardia.
- **Bacteria:** Bacteria are microscopic organisms about 0.2 – 2.0 microns in diameter. The most commonly known bacteria are Salmonella and E. coli.
- **Viruses:** Viruses are infectious microbes about 0.004 – 0.1 microns in diameter. They are much smaller than protozoa and bacteria, making them harder to eliminate from water. Filters generally aren't fine enough to be able to trap them.

Luckily, there are a number of ways to treat water to make it safe for drinking. The simplest and most effective method is simply bringing water to a boil. (No need to wait a certain length of time after it starts boiling- the heating process is enough to kill any pathogens). When you're not at camp, though, you can use chemical water treatments or filters to make water drinkable.

a. Water Filters

Water filters not only remove sediment and debris, but they are fine enough to block protozoa and bacteria from passing through. Some water filters have a charcoal element in their filter cartridges to remove certain odors or taste as well. However, viruses are small enough to pass through the pores of most filters, so that method is insufficient if you believe viruses are present in your water source.

- **Pros:** Remove sediment, protozoa, bacteria; can improve taste. Ideal for standing water.
- **Cons:** Do not remove viruses

i. Pump Filters

Pump filters and purifiers offer a human-powered method for filtering and purifying water. While these are popular, they do have some drawbacks: the number of moving parts can increase the likelihood of equipment failure, and filter tubes or parts can actually freeze if you are treating extremely cold water. Also, be aware that putting a pump back into a pack can result in the contents of the pack getting wet, so ensue that it's totally empty before inserting into your pack, or bring along a dry bag to stash it in just in case.

- **Pros:** Quick, easy to use, effective.
- **Cons:** May break, require regular cleaning/maintenance

ii. Gravity Filters

Gravity-fed filters and purifiers offer a "set it and forget it" option to water treatment. Once the water bag is filled from your water source, the system is hung on a pole, tree or tall object and gravity forces the water from the dirty bag through the filter/purifier on to a separate bag containing clean, treated water. Just note that gravity filters require some attention—you need to keep track of which bag is the "dirty" (untreated) bag and which is the treated bag. The results of accidentally swapping bags could be very uncomfortable.

- **Pros:** Simple, best option for large groups
- **Cons:** Must keep track of 'clean' and 'dirty' containers; filter will require occasional cleaning

iii. Water Bottles with Filters

Some bottles come with a filter built into the bottle that is either a part of the lid or incorporated as a straw. The user fills up the bottle with water and as water is consumed it passes through a filter. Overall, this is a fast, painless option that simply requires filling the bottle with water. However, it's obviously not an option for large groups, and you won't be able to filter large amounts of water in one go. Water sources will need to be readily available during your trek

b. Water Purifiers

When it comes to water that needs to be treated for viruses as well as protozoa and bacteria, you'll need a water purifier; filters will not eliminate viruses because they are so small they slip through the filter's pores. Water purifiers use chemicals or UV light to destroy all the pathogens (protozoa, bacteria and viruses) that are found in the water. Some water purifiers also include a filter for removing sediment or debris from the water. On the downside, chemical options can leave a taste or odor to the water and also require a period of waiting time before the water can be safely consumed. SteriPens and other electronic options require batteries which can get expensive over the life of the product. Water may require pre-filtering if you're drawing from a stagnant source; if you're drawing from running water, go for it.

- **Pros:** Do a great job of cleansing the water of all pathogens, including viruses. Compact, convenient, relatively easy to use.
- **Cons:** Depending on system, may be slow and not as sustainable as filters (tablets run out or eventually expire, batteries are depleted).

i. Chemical Treatment

Tablets and chemical drops are a great choice for weight-conscious or ultralight backpackers. Tablets take up less space in your pack and weight little, both big benefits. Many people love having tablets or drops as a backup system and they are also a good idea to include in an emergency kit. If you are using these means, however, be sure to budget the time for them to fully disinfect your water.

- **Pros:** Most reliable, simplest solution
- **Cons**: Amount of time required for the water to sit with the chemicals; taste that some (not all) chemical treatments leave behind; finite (when you're out, you're out).

ii. UV Light Purifiers

SteriPen UV light purifiers emit a stream of UV light into the water. This high-intensity light disrupts the DNA within the bacteria, protozoa, and viruses that may be lurking the water, rendering them unable to reproduce and, therefore, harmless.

The major shortcoming of UV light purifiers is that they tend to run through batteries quickly. They're also is only effective in clear water, so if you're using a source with a lot of sediment, it should probably be filtered first to clarify it. There is also a chance your bulb could burn out or break in transit, so it's wise to carry tablets as backup.

- **Pros:** Effective, highly portable
- **Cons:** Power & bulb requirement, water needs to be relatively clear. Carrying a backup option is a good idea.

c. Water Storage

It's a matter of preference to the individual users., , As a general guideline, men should consume 3.7 liters of water and women about 2.7 liters, but exercise intensity and high temperatures will increase a person's daily water needs. So ask yourself, how much water are you willing to carry and how often are their opportunities to replenish your water supply?

i. Hydration System

Considering water is one of the heavier items in your pack, carrying it close to your back (When used with a hydration pocket in the pack) is the best way to carry the weight. Hydration bladders offer a convenience factor, by allowing you to drink as you go. However a bladder is prone to leaks and can rupture

- **Pros:** Easier to use, instant access to water, keep water cool, when empty take up less space
- **Cons:** Prone to leaks, ruptures, requires maintenance and cleaning after each use, hard to use in cold weather, should only be used for water, hard to refill, don't know how much water is left in the reservoir.

ii. Water Bottle

- **Pros:** durable, Easier to use in colder temperatures, refilling, price
- **Cons:** Requires a pack with side pockets, or another attachment ; takes up the same space whether full or empty.

If you have and use a hydration pack, you should carry a water bottle as a back-up. If your hydration ruptures or springs a leak, you will have a back-up

X. NUTRITION

One of the pleasures (and challenges) of overnight hiking is feeding yourself. A warm meal eaten on a boulder overlooking the peaks of the North Cascades is something you won't experience on a day hike. Because you're trying to balance nutrition with conserving weight, you'll want to focus on foods with high energy and nutrition content for their weight. Since water makes food heavier, dehydrated foods are easier to pack, and can be rehydrated easily and quickly.

When pondering how much or little to carry, err on the side of taking a little more. One of the Ten Essentials for an overnight trip, in fact, is a supply of extra food. A reasonable goal is 1.5 to 2.5 lbs. of food (or 2,500 to 4,500 calories) per person per day depending on your size, weight and exertion level.
On the other hand, don't overdo it. A common blunder is to pack too much food, forcing you to lug unwanted bulk and weight. Experience will teach you what amount of food works for you

XI. FOOD PLANNING

Backpacking weight limitations restrict the variety of food people carry but this restriction is offset by one of the principles of being outdoors: Food tastes so much better there, especially after a day spent hiking. Most of a food's weight is in the water it contains. But because water is available on almost any hike you'll do, you can add it to dried foods at your campsite.

You can simplify menu planning by buying light, convenient, freeze dried foods at an outdoors specialty store. Instead of figuring out ingredients and shopping for them you can pick up a variety of these already-put-together

meals. Most are packaged in foil pouches. Just pour in boiling water and wait a few minutes while the liquid soaks into the food. You can eat right out of the pouch, leaving no dirty dishes.

Freeze dried food is expensive; however, even more expensive than it first appears because you can't believe the cheery labels that say, "Serves two." After a hard day on the trail it's easy for one person to polish off a dinner meant to serve two.

Food from the supermarket takes a little more preparation and planning but is a lot less expensive and not necessarily heavier. Use your imagination and create gourmet meals using Top Ramen, other noodles, instant rice, cous couse,or the numerous packaged meals put out by Liptonand others as a base ingredient. Be always conscious of fuel consumption.

Lunch tends to be the heaviest meal to carry. A good lunch is bagels and cream cheese because bagels are indestructible in the pack, and cream cheese will keep up to 5 days in cooler weather before it becomes a science project. Also good for lunch are hard cheese, crackers, salami, peanut butter and jam in refillable squeeze tubes you can purchase at outdoor equipment stores, salted nuts, gorp, etc.

Instant oatmeal, cream of wheat and rice or granola are all good breakfast foods. You can also cook dehydrated eggs, pancakes, griddle scones, and spiced cider, etc.

TIP
Repackage foods in zip lock bags and add powdered milk to bag if recipe on packages require milk. Labeling the bag with the amount of water to add will take the guesswork out of meal preparation on the trail.

XII. FOOD STORAGE

All kinds of animals can get into your food wherever you camp. Mice and other rodents, not to mention bears, will gnaw right through a tent or backpack to get at crumbs or goodies left inside.
It's our responsibility as campers to prevent wild animals from getting any human food (and other aromatic items such as toiletries). This disrupts their natural diet and makes them dependent on people and makes them a safety threat.

- Never leave food, trash or other scented products inside your tent especially while you are sleeping
- Never leave your food unattended. Jays, squirrels and chipmunks can quickly snatch food in broad daylight, and other animals come foraging at night.

a. Bear Canister

These hard-shell plastic cylinders have lids that humans can screw on and off (some require a coin or screwdriver to lock and unlock). They are designed to fit into most backpacks and come in different sizes, so if you're traveling solo, you can choose a smaller one.
If you're backpacking in areas where canisters are required, be sure to use one. If a ranger stops you on the trail and you don't have one, you could be issued a hefty fine. In some national parks, rangers loan or rent bear canisters. However, on high-demand summer weekends they may run out of canisters before you get there, so have a backup plan. Canisters also prevent raccoons from getting into your food and garbage, and may be required for that reason.

b. Bear Bag

If a bear canister is not specifically required but you still need to protect your food from bears, then a bear bag is a good choice. These are made of a high-density polyethylene that a bear cannot tear open. An aluminum liner is available separately

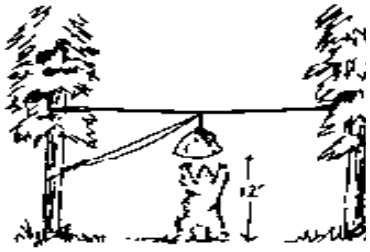
that fits inside the smaller model to keep a bear from crushing or puncturing the contents.
Odor-proof plastic bags (that are also waterproof, unlike the bear bag itself) are available separately to put your food and garbage into first to further add bear deterrence.
Some models are designed to deter marmots, mice and other rodents, but if you're in bear country, choose a bag model that is specifically for bears and has passed the test of the Interagency Grizzly Bear Committee (IGBC).

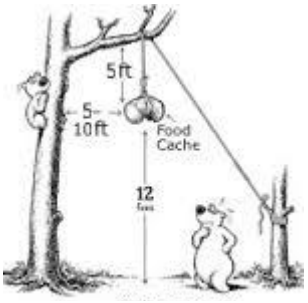
i. Tips for using bear bags:

- Be sure to cinch the drawstring tight and tie the knot exactly the way the manufacturer instructs.
- While these bags can be left on the ground like a canister, you might want to tie the bag to a tree limb or hang it from a bear pole (see below).
- Bear bags are usually solid white. To tell yours apart from others', use a permanent marker to write your name or draw a design on it.
- If you're uncertain whether to use a canister or bag, bring a canister for your most important food as well as a bear bag for your trash and least crucial items.

c. Hanging Food

- Select a pair of branches 20 feet apart and at least 15 feet off the ground.
- Attach one end of a 100-foot utility cord (3 mm) to a fist-sized rock that's heavy enough to drag the line through dense boughs. Tie the other end to a tree trunk or any nearby sturdy anchor.
- Throw the rock over both branches in succession.
- Tie a knotted loop (bight) in the cord midway between the branches. Attach the food bag (the stuff sack for a tent works fine) to the loop using a simple overhand or slip knot, or a carabiner.
- Pull on the unsecured end of the cord to lift the bag high enough up to be out of a bear's reach from the ground (at least 10 feet) or in either tree (4 feet). Tie off.





XIII. CAMPSITE SELECTION

Before heading into the backcountry, know in advance where campsite can be found along the trail. Consult the land manager for information regarding if permits and fees are required and any special regulations or closure to heavy impacted areas. Knowing this information beforehand will eliminate the need to choose a different site, and then the one previously planned. Allow yourself 2 hours to unwind and set-up your campsite.

a. GROUND SURFACE

Needless to say, where you choose to sleep will be the most important decision when picking a campsite. It's crucial to pick a spot with flat ground and no sharp protrusion to pitch a tent. Otherwise you may find yourself waking up in the middle of the night crammed against the tent wall and entirely off your sleeping pad

- Seek out **previously impacted** areas. These are usually flat, shaded spots close to a water source.
- **Consider others** when selecting your site. Don't crowd other campers unless positively no other choice exists. Also: Don't plunk down your tent in a spot that spoils a view that other people came to see. When you enter the wilderness, blend in, don't barge in.

b. DRAINAGE

Examine the site and determine which way water will flow if it rains. Avoid low spots where water may pool. However, do not dig trenches or try to alter the site.

c. SHADE

Shade is another factor to consider when choosing a campsite. Having permanent shade throughout the day isn't mandatory. But direct exposure to intense sun over a long period of time does eventually break down the fabric of your tent and rainfly. On the other hand, some sunshine will dry out a damp fly quickly from dew or a shower. And, during springtime, if you are under trees you may find fine sap all over your fly which is very difficult to remove.

d. OVERHEAD CANOPY

Always be aware of what's looming above you. Don't choose to set up beneath a dead tree branch with the reasoning that 'it's still standing, so it's probably safe.' Same goes for rockslide and avalanche paths, as well as pitching a tent beneath a loose rock ledge. Always be cautious of these sorts of hazards, because Mother Nature isn't always forgiving.

e. YOUR SURROUNDINGS

Not only is it important to think about what's above you, it's also smart to note what's surrounding you. Views are nice, but proximity to water is your #1 factor is choosing a campsite. Choose a spot at least 200' away from water and trail. When camping near a water source, consider a spot with a slight breeze to minimize the bugs.

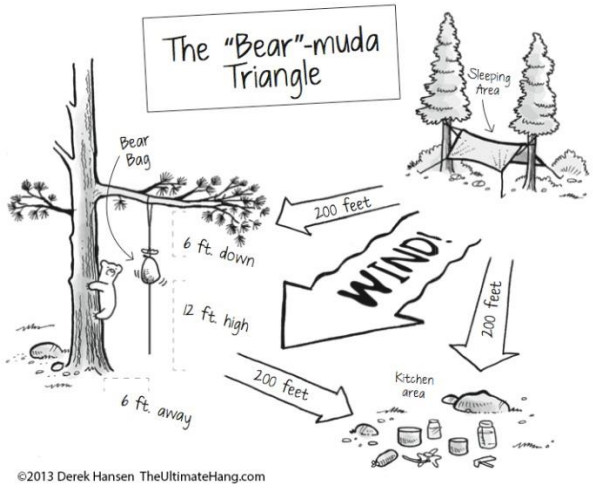
Assume the wind will be blowing at some point, try to select a site with plenty of natural windbreaks. Remember to follow Leave No Trace practices and avoid constructing a wind break from branches and rocks.

If you're camping along a creek or river in a low lying area, consider the risk for rising waters and camp on higher ground.

If you're camping on the beach, ensure your campsite is above the most obvious high tide line.

f. GENERAL AREA SET-UP

Ideally, your sleeping area should be 200' away upwind from your camp kitchen and food storage site. Your camp kitchen should be 200' away from your food storage and all areas should 200' from a water source.



This configuration is more important if you are in bear habitat and/or if you plan to actually cook food thereby creating a strong aroma. Finally, consider the impacts of your camp. If you find yourself in a spot that looks camped-in already, your overall impact will be less than if you forge your own brand new spot. Although the wilderness may seem endless, there is a finite amount of it, and protecting what's already there will go a long way for future generations.

XIV. HYGIENE

a. PERSONAL HYGIENE

- Carry hand sanitizer gel (or wipes, which must be packed out). Always use it after you poop and before handling food. Soap and water and the physical act of rubbing can be a more thorough way to wash hands. But the rubbing action with sanitizers may have the same result
- While backpacking, it's a good idea to thoroughly wash your hands at least once a day with soap and water
- Dry your hands with a different towel or bandana than you use for drying dishes
- Personal wipes are good for cleansing your body or minimum feet, arm pits and private parts

b. PROTECTING THE ENVIRONMENT

Before taking that refreshing dip into the lake or stream, follow these steps to ensure you keep the water pristine and clean

- Never lather up directly in a lake or stream. Not even with biodegradable soap—it can harm aquatic life
- Use a portable container to carry bathing water far (at least 200 feet) from a water source
- If you choose to use soap, make sure it's unscented and biodegradable
- Before swimming, wash off any sunscreen and insect repellent from your skin; those chemicals can badly pollute a small pond or stream
- After washing, pour your dirty water on dirt, rather than on plants or lichen-covered rocks and 100' away from your camp spot
- Consider carrying a small, fast-drying pack towel

c. FEMININE HYGIENE

After the first time backpacking with your period, you'll realize it's no big deal. And you can rest easy that the old notion that bears are attracted to menstrual blood turns out to be unproven. With a little preparation and knowledge, you won't have to think twice about heading into the backcountry at any time of the month:

- **Know your options:** Your main choices will be tampons or pads vs. a menstrual cup. There are pros and cons to each
- **Organize your supplies:** A "go kit" will help you keep your clean supplies organized and used supplies properly stored
- **Follow backcountry guidelines:** Be sure you understand your backcountry hygiene basics

i. Menstrual Cup

This is a flexible silicone or rubber cup you insert to catch menstrual blood. Many companies make them. You buy one and reuse it, often for years. Brands may have different sizes based on your age, flow amount or childbirth history.

Once you insert the cup—it's a different process from inserting a tampon so read the manufacturer's instructions—you can keep it in for up to 12 hours. Then you remove it (again, follow instructions) and empty the contents into your "cat hole" (the hole you dig for bathroom use during a backpacking trip). After you empty out the cup, rinse it with clean water if possible, or wipe it out with tissue, and reinsert it. You can do this as often as you need to. You may prefer to use the cup only at night or only during the day. Typically a cup can be boiled for a thorough cleaning. Most come with a small drawstring storage bag made of breathable cotton. Be mindful of cleaning your hands / fingers to avoid introducing germs into your body.

ii. Tampons / Pads

If these are what you're comfortable with and you don't like the idea of or can't get the hang of the menstrual cup, then by all means stick with these.

iii. Carrying / Storing hygiene items

Once you've decided what feminine hygiene items you're going to bring backpacking, you can make a "go kit." This is a sack containing a clean bag to carry products in, and a waste bag to carry used items out. By keeping all your items together inside the larger kit, you just need to pull out one bag when you reach into your backpack for your supplies. Some women, however, prefer to keep the two completely separate.

Clean bag: For your main bag, start with an opaque, ultralight 4-liter to 8-liter roll-top stuff sack or dry bag. Then, add the following:

- Quart-size zip-top bags (about a half dozen if you're using tampons/pads). A couple will hold your clean tampons/pads and the rest will go into your waste bag to hold the used items
- Hand sanitizer (small bottle)
- Pre-moistened wipes in a zip-top bag (1-3 per day), or toilet paper removed from the cardboard roll
- Biodegradable soap (small amount for washing hands and underwear)

Waste bag: Zip-top bags are the best way to carry out used tampons, pads and toilet paper to contain odors. (**Tip:** To further help with odor control, include a dry tea bag or ground coffee. Or a little cat litter.) Here are three ways to make a waste bag from a gallon-size zip-top bag:

- Completely line the bag with aluminum foil so the contents remain private
- Cover the bag with duct tape; this weighs more, however
- Instead of foil or tape, put waste items into quart-size zip-top bags and stow them inside the gallon-size waste bag
- This waste bag needs to be hung or in a bear canister as if it is food trash.

iv. Hygiene Tips for Your Period

- Wash your hands with soap and clean water when you're in camp, and use hand sanitizer while on the trail
- You can bring pre-moistened wipes to clean your hands before and after inserting or removing the menstrual cup or tampons. Ensure you consult the menstrual cup instructions prior to using a pre-moisted wipe on the cup itself
- Bring along a few nitrile medical gloves to use when inserting or removing a menstrual cup or tampon to avoid getting your hands messy. They're good to have in your first-aid kit even if you don't use them, but they do create extra waste to manage. (Put them in your waste bag and carry them out with you.)

XV. SANITATION

How do I go to the bathroom in the woods?" Rest assured, it's something humans have been doing for millennia. Before you go, make sure consult the land manager regulations regard backcountry toilet facilities available in some areas and specific regulations regarding packing out all waste including human waste. Many popular camping areas have pit toilets or even composting toilets. If there is one in your area, use it.

a. PEEING IN THE BACKCOUNTRY

- Choose a place that's well away from your trail or campsite.
    i. **Small bodies of water:** Never go directly into a small pond, stream or lake. Always move 200 feet (about 70 steps) away from a water source
    ii. **Large bodies of water:** If you're in a rafting group camping along a very large river, Leave No Trace recommends peeing directly in the water; the river volume will dilute it, and the camping area avoids getting over-saturated
    iii. **Alpine areas:** Up high in mountain goat territory, peeing on a rock surface is recommended. Goats are attracted to the salts in urine, and may dig up fragile vegetation to get the salt

i. Tips for Women

- If you can, find a soft spot of earth that absorbs quickly (pine needles are good) so you won't get splashed. A wide stance helps you stay balanced when you squat. Make sure your pants, boot laces, straps, etc. are well out of the way and pay attention to which way the ground slopes and make sure you're uphill so any stream runs away from you
- On a day hike, carry a couple wads of toilet paper or tissue and a small zip-top plastic bag. Put the used toilet paper in the bag and dump the paper in your toilet when you get home
- While backpacking, some women prefer to "shake dry" or use a bandana as a "pee rag." Tie the bandana to the outside of your pack to dry it out, and rinse it when you can
- In cold or rainy weather, or in a desert or alpine area where there's little to no privacy, try using a women's pee funnel. You can use this standing up (practice at home before your trip). Rinse it if possible, and carry it in a plastic bag
- If you're sleeping in a tent and don't want to go out in the cold of night, you can use a pee funnel and a bottle that you designate for this purpose (definitely practice this at home first). Close the bottle and place it just outside your tent. In the morning, dump it out in the bushes away from camp
- If there's not much privacy where you are, you can also squat with a lightweight sarong, towel or hiking skirt wrapped loosely around you. Or, if you're hiking with someone, that person can act as a lookout and warn you of any approaching hikers (and vice versa)

b. POOPING IN THE BACKCOUNTRY

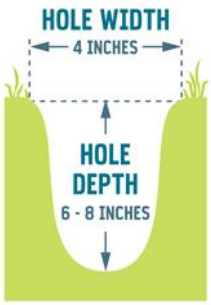
Before you head to your outdoor rest stop, make sure you have the supplies you need with you and know the proper techniques to follow.

- Toilet paper
- Hand sanitizer
- Sealable plastic bag – packing out toilet paper
- Camp trowel – helpful in digging a cathole
- Solid waste bags – packing out human waste where required.

i. Appropriate spot

- Carry your supplies 200 feet (70 steps) from a trail, campsite or water source. Choose underbrush for privacy if you like, and notice your surroundings to make sure you can find your way back to your camp or trail.
- If possible, find loose, rich soil and a sunny site. Both of these conditions help decompose waste more quickly. Use a trowel, stick, rock or boot heel to make a hole about 4 inches wide and 6 to 8 inches deep.
- If the ground is too hard or rocky to dig, try lifting a rock and use that spot. Replace the rock when you're done. Or carry your waste out in a bag..

ii. Hole



iii. Managing toilet paper

- Use as little toilet paper as possible. To reduce your use of TP, you can wipe off with natural objects such as large leaves (make sure they're not poisonous), smooth stones and even snowballs. Make sure you have your chosen item handy beforehand.
- Place TP in a waste bag to pack out. Don't try to burn it; damp paper is hard to burn and you may start a forest fire.
- Pre-moistened wipes can be nice to use on occasion, but don't drop them in the hole; they need to be packed out in your waste bag (as do menstrual supplies).

iv. The cover-up

- Cover the waste () with the original dirt and completely fill the hole. Tamp it down with your foot. Place a rock or branch over the space to discourage digging critters. You can place an upright stick in it to discourage the next humans in need of a hole.
- Lastly, use some sanitizer on your hands and rub vigorously, paying attention to fingers.

XVI. WILDLIFE ENCOUNTERS

The beauty of backpacking is the wild solitude. But with it comes animals who call that same wild solitude home. Washington is home to bears, cougars, snakes, and tiny but hazardous ticks. Before you head out on a backpacking trip, make sure you know what to do in case you encounter potentially dangerous wildlife.

a. Bears

"Black" Bears (Ursus americanus) live all over Washington state and they come in brown, "cinnamon" and near-blonde colors as well as near-black. These bears are rarely dangerous a but you should nonetheless take them seriously in order to protect yourself- and them. . Once a bear becomes accustomed to people and our food, the animal can become a danger as it may approach people or camps. A so called "problem bear" may end up being hazed, relocated, or at worst, euthanized due to our poor practices. Understand how to act before you leave, so you'll know how to be safe to prevent a wildlife sighting from turning dangerous. Learn how to recognize signs that bears are active in the area. First and foremost, do not attract them unintentionally with smelly foods or unprotected food. If you see bear sign, be especially cautious—make noise while hiking and always move slowly and cautiously around blind corners and through thick brush. Don't startle a bear, encroach upon it, or interfere with its feeding. Wait it out or take a detour if the bear does not move away once he knows you are there. If you are especially concerned, you may choose to carry bear spray. . *Tip: Bear spray or bear mace is typically more potent, and therefore more effective on a bear than human grade pepper spray.* Stay calm, use a low voice, Don't stare. And if the bear charges, play dead to neutralize yourself as a threat to the animal. If you have it, use that pepper spray but ONLY if it charges. Read more on the Washington State Fish and Wildlife web site or other resources.

b. Cougars

Dealing safely with cougars requires the opposite attitude. If a cougar approaches you, be aggressive and large, maintain eye contact, throw things, and shout. Being aggressive is the only way to make the cougar back off. In general, to minimize wildlife encounters and stay safe, hike in groups and talk or sing loudly as you walk so animals hear you approaching and aren't surprised when you hike down the trail. Wildlife in general is more afraid of you than you are of them, if they hear you coming their instincts will tell them to flee and leave you alone. If you are hiking with small children or dogs this is another good reason to keep them close by and keep your dogs leashed.

c. Rattlesnakes

If you are hiking in Eastern Washington, or Oregon, you might see some rattlesnakes along the trail. They are actually just as afraid of you as you are of them -- so walk away slowly. Avoid putting your hands into palces they may be hiding in- such as dark, damp rock formations. If you get bitten, stay calm, wash the wound, immobilize the limb, and seek medical attention as soon as possible.

d. Ticks

You will be in tick territory if you hike east of the Cascades. We also have ticks on the “west side” but they tend to be less plentiful. Most people fear bigger animals, but encounters with ticks are more common and can be more dangerous since ticks carry disease. Staying safe in tick territory means being preventative: during tick season in the spring, wear long sleeves and long pants. Tuck the hem of your pants into your socks. If you do happen to get a tick, use tweezers to gently squeeze the head until it lets go.

In general, animal and wildlife safety while backpacking is all about being smart and knowing what to do if an encounter occurs. Treat wildlife with respect and keep your distance on the trail. The wilderness -- and your backpacking trail -- is, after all, their home.

XVII. TRAIL SAFETY

a. Trailhead Pre-Check

- Always take a compass bearing at the parking lot prior to starting your outing.
- Set your altimeter at the trailhead
- Remove a layer of clothing just before starting out to minimize sweating problems.

b. Chafing

Chafing is irritation to the skin caused by friction—usually skin-on-skin or clothing-on-skin. This friction will eventually cause enough irritation that it will injure your skin, resulting in a rash, blisters or raw skin. Severe chafing can be extremely painful, making movement difficult.. Some factors that may cause or contribute to chafing include:

- Ill-fitting clothing
- Fabrics that don’t wick moisture
- Hot weather
- Humidity
- Sweat
- Water from watersports
- Sensitive skin
- Large muscles
- Extra body weight

The first sign that chafing is occurring is a hot spot. Just like with blisters on your feet, early detection is important. As soon as you feel a hot spot somewhere, stop what you’re doing and check out the area. If the area is even a tad red and irritated, take the time to address the issue.

i. Prevention

- **Apply lubrication:** You can use the lubricant to pretreat known problem areas or address hot spots that develop mid-activity. Be sure to follow the directions
- **Say no to cotton:** The old adage "cotton kills" applies here, too. Cotton is great for lounging and everyday wear, but as soon as you work up a sweat, it will take a long time to dry and can cause painful skin irritation when it rubs. Choose synthetic or wool fabrics instead.
- **Proper fit is key:** A sports bra or briefs that are too tight can dig into skin. Baggy shorts and shirts can rub skin raw. Make sure your clothes are neither too tight nor too loose.
- **Go seamless and tagless:** Even properly fitting clothes can cause chafing when seams and/or tags rub against your skin. Choose clothing that has very few seams and, if possible, zero tags
- **Evaluate Your Underwear:** For some people, shorts with built-in briefs can be just what they need to prevent chafing, while others choose separate underwear or compression shorts. Men typically need the support of underwear, but some women prefer to forgo it when hiking in formfitting tights
- **Secure your pack:** The bouncing and shifting of a running pack, vest or waistbelt can cause chafing in a number of places, including your waist, back and shoulders. Make sure you snug the straps on your pack to limit the amount of movement while you're running.
- **Hydrate:** As you become dehydrated, the concentration of salt in your sweat becomes greater. Salt irritates the skin and can lead to friction that causes chafing. Stay properly hydrated and you can help prevent chafing.

c. Blisters

While blisters can be caused by burns, allergies, skin conditions or even spider bites, the most common culprit: friction. When you have enough friction in a focused spot, cell damage occurs.
The serum (fluid) inside a blister helps protect and heal the damaged tissue. Red fluid found in a blood blister simply means that capillaries in the area of the blister have also been damaged.
Several factors make blisters more likely to happen:

- **Pressure:** A tight spot in your boot or a wrinkle in your sock can create a pressure point.
- **Heat:** Hot weather and a long, uninterrupted stretch of hiking can turn up the temps inside your boots. And any place—like the heel—where your boot is slipping excessively will also create heat as it rubs.
- **Moisture:** Moister skin is softer skin, which is more susceptible to damage.

i. Prevention

- Proper Boot Fit and Break-in
- Early Hot-Spot Detection
- Sock Strategies

ii. Blister Care

- Molefoam with a Doughnut Hole – Create a space to prevent further irritation
- Pads and Gels – Protective layer to prevent the blister from worsening
- Draining – Refrain from opening the blister to release the fluid

d. Hypothermia

Hypothermia can be a problem even on a day hike. If you are not wearing enough clothes your core temperature can drop precipitously. You will also get cold when you get wet, whether from perspiration, rain, or an unexpected dunking in a mountain stream. Clothing layers and being sensible are the solution. When you stop, even if for a short rest, put another layer of clothes on if you start to feel at all cool. Adding a hat and mittens or gloves will lessen heat loss. You will quickly lose heat through your extremities - your head, hands and arms. When your extremities cool down you run the risk of having your core temperature drop. It

is easier to keep your hands and arms and head warm than it is to rewarm your whole body when hypothermia sets in. An ounce of prevention….

XVIII. NAVIGATION

A map and compass are part of the ten essentials that all participants are expected to carry on Mountaineers trips. Of course, if you are going to carry this equipment, it is important for you to know how to use it.

Why carry a map and compass on a day hike that is on an established trail? Most trails do not exist by themselves in the wilderness. The network of trails often creates junctions where two trails intersect or where the trail branches off into two forks. When this happens – when you come to a junction or fork in the trail, how do you know which way to go? Signage is sometimes in place but often is not. Having a map of the area will help you to orient yourself so that you will take the right trail. Further, if you take a wrong turn, the map will help you find your way back to the main trail.

What else can a map tell you on a day hike? Topographic maps show the terrain so that you can see when the trail goes uphill, when it goes downhill and when you can expect to enjoy a long flat stretch with no elevation gain. The elevation listings on the map can also help you to figure out how steep the trail is. 500 feet of elevation gain in a two mile stretch is a much gentler slope than 500 feet of elevation gain in one mile.

Why should every trip participant have a map instead of the leader taking responsibility for carrying the map and compass? Because The Mountaineers is not a guide service, every participant on every trip must be fully prepared for that trip. It is important for everyone on the trip to have a map and to familiarize him/herself with the nature of the trail before the trip and to be able to help the group stay on track should a problem in navigation arise.

What do I do with a compass? For a day hike on an established trail a compass will enable you to orient yourself toward the direction of the trip before starting out. At the trailhead, use your map and compass to help you to find north and to figure out the direction you will be traveling in toward the trip destination. By reversing that information, you can figure out the direction you will be traveling in on the return trip to get back to the trailhead and the cars. When you are hiking in the forest you will not be able to see neighboring mountain peaks to orient yourself to make sure you are heading in the right direction. Using your compass will help you to do this. Checking the information at the trailhead, during the hike and at the destination lunch stop will help you to familiarize yourself with using the map and compass and will make you more sure of where you are on the trip.

The attached six pages provide information you will need to master basic compass and map reading skills for Mountaineers day hikes. Additional information is included to give you a sense of the more sophisticated ways that these tools can be used when you are not traveling on an established trail. Additional information can be found in several places – most compasses come with a page or two of instructions that will familiarize you with any special features of that compass, as well as providing information on basic navigation. Mountaineering: The Freedom of the Hills contains a chapter on navigation that covers basic information very well. And, if you have any questions, trip leaders are an excellent source of information and can offer you hands on field experience when you are on a trip.

XIX. THINGS TO DO AFTER YOUR OUTING

- As soon as possible after you get home:
- Set your tent up so that it can dry out and air out. Clean off any dirt and mud that you brought home with you. The tent should be put away clean and dry, with all the poles, tent stakes, the repair kit, rain fly, ground cloth packed together.
- Take your pack apart and let it dry and air out.

- Open your sleeping bag, hanging it up or laying it out where it can fluff up and dry and air out. Storing your sleeping bag in a large, cotton stuff sack is fine but leaving it scrunched into a compression sack between trips reduces the loft and hence the insulation of the bag.
- Clean and dry out your sleeping pad.
- Clean and repack your stove and cooking gear.
- Clean and re-waterproof your boots if needed.
- Repair or replace any clothing or equipment that is no longer doing its job for you.

Yes, you're tired. But, when you are getting ready for your next trip you will be glad you took some time after your post-trip shower and burger to clean and store your gear properly.

XX. Mountaineers Trips

Mountaineers hikes posted on The Mountaineers website, www.mountaineers.org, an interactive website. Hike leaders post their trips directly on the website. Hikers can search the website for trips and sign up for trips on the website in many instances. Some hike leaders prefer to handle sign ups themselves but many are now using website sign up. Instructions for using the website can be found on the website home page. Additional assistance is available by contacting the webmaster through the website. Non-members who can go on two trips as guests of the Club can sign the required waiver on line and then will be able to sign up for trips on line.

a. Trip Classification

- E = Easy hikes are up to 8 miles RT and up to 1200' elevation gain.
- M = Moderate hikes are up to 12 mi. RT, 1200'-2500' gain.
- S = Strenuous hikes are up to 14 mi. RT, 2500'-3500' gain.
- VS = Very Strenous hikes are over 14 mi. RT and/or more than 3500' gain.

Remember that everything will be more strenuous with a heavy backpack so you may consider selecting less strenuous trips for backpacking than you might for day hiking.

b. Signing up for a hike

On the main webpage, look under "Explore"/ "Find Activities" and filter for hiking or backpacking. Then select the trip you are interested in. You may find that some trips say "Leader Permission Required". Leader Permission Required

> The "Leader's Permission Only" restriction exists so that leaders can verify each participant is qualified to go on a specific trip. Usually the leader asks a series of questions or might have you fill out an application. Click HERE to learn more about how Leader's Permission works. Do not register until the leader responds and gives you approval- you'll be removed from the roster.

c. Cancellation

If you need to cancel, you should do that – on the website or by calling the leader (however you signed up for the trip) as early as you can prior to the trip date. This will enable the leader to add people from the waiting list. Because there is a limit to how many people can go on a trip it is important to release your spot as soon as you know you will have to cancel. PLEASE AVOID CANCELLING AT THE LAST MINUTE, this ensures those who want to attend have the opportunity to attend

d. Carpooling

Carpooling: Is NOT handled by the trip leaders. Carpooling is a voluntary activity and not part of the official trip. The leader will set a final meeting place and time and may suggest some intermediate places where participants can carpool. The leader may also facilitate this by charing contact information of people on the trip. However leaders may not assign drivers or rquire anyone to share their vehicle.. Each rider should be prepared to pay the driver the club mileage rate, currently 12-15 cents per mile. Be prepared for the possibility you might need to drive, with your fuel tank full and your car in good repair. . The official trip starts

at the trailhead and ends when the group gets back to the trailhead. Once back at the trailhead, all cars are expected to wait until everyone is ready to leave to be sure that every car starts so that no one is stranded.

Mountaineers Trips: Expectations and Policies

- ☐ The role of the Trip Leader is to help you safely enjoy an outing always keeping in mind the welfare of the group as a whole.
- ☐ Leaders will plan the routes, will indicate required gear, and will set meet times. As a team member, you should still take responsibility to know where you are going, what to bring, and where to be. Mountaineers leaders are not "guides".
- ☐ If you have questions, email or phone the leader. Don't wait until sign up has closed or until the night before while you are packing.
- ☐ Leaders on more technical or strenuous trips may ask questions about your experience and skill level before allowing you on a trip, and to help you be prepared. ("Sign up with leader" or "leader permission required" options.)
- ☐ As part of a team, be prepared to assist others if needed and don't be afraid to ask for assistance if you need it.
- ☐ If you have any medical or other condition (e.g. allergies, asthma, etc.) that might affect your participation on the trip, inform the leader confidentially.
- ☐ We encourage carpooling and sharing of "group gear". The leader cannot dictate or arrange carpools but can and will specify meeting times and places. The leader may specify gear but cannot dictate that you share your gear if you don't want to.
- ☐ Each Rider should reimburse the driver approximately 12-15cents per mile– the cost of operating a vehicle is greater than gas alone. (If there are 3 riders, then the driver is being reimbursed at a nominal rate close to what many companies use.)
- ☐ The trip leader may ask for input but he/she has the final say on any decision involving safety, route, return time, etc. He/she may also refuse a participant if that person is unprepared or exhibits problem behaviors.
- ☐ Cancellations can be a big headache for leaders and participants!! Don't sign up unless you are sure you can go. If you must cancel, do so asap before registration is closed so someone else can take your place. If you must cancel last minute, **phone the leader.**
- ☐ Leaders may cancel or move a trip at the last minute if weather or snow/trail conditions are expected to be poor.
- ☐ Pets (except service animals), firearms, and illegal drugs are not allowed on Mountaineers trips. (Marijuana is still illegal on federal lands.)
- ☐ Alcohol is not to be used **if** it will compromise safety or the enjoyment of the whole group. (Talk with your trip leader if any questions.)

Intro to Backpacking Overnight Recommended Packing List

Item	Weight

Pack
Pack Cover (optional)

Shelter
Tent or other shelter
(weigh each part - body, poles, footprint, fly)
Sleeping Bag
Liner (Optional)
Sleeping Pad

Food Prep
Stove (share with 2-3 people)
Pot (share if only boiling water; otherwise have your own)
Fuel (1 oz per person)
Ligher or matches
Utensils (spork, spoon, knife)
Mug (if you plan to have hot beverage)
Bowl (can use your mug if you want)
Empty stuff sack to hang
Zip loc for trash

Water
Filter (share with 2-3) or alternate system
Bottles or bladders for up to 4 liters (one or two for on trail; able to fill all in camp)

Food
Lunch and Snacks for Sat and Sunday; Dinner Sat.; Breakfast on Sunday
A little extra in case

Clothes--in addition to what you are wearing
wool or fleece cap
wool or fleece gloves, mid weight
lightweight fleece, wool sweater or long sleeve base layer
Jacket for camp: wool, fleece, synthetic or down
rain shell
rain pants
long underwear or tights (optional but recommended if you are wearing light pants)
one pair extra socks
Ball cap (optional)
Camp shoes (optional)

Other 10E's

map
compass (optional for this trip)
Firestarter and lighter or matches
Sunglasses
sunscreen
Headlamp or small flashlight with extra batteries
Repair kit (duct tape, zip ties etc)
First Aid kit (small)

Other

50 ft of thin cord for hanging food etc.
Sit pad (optional)

Personal

Zip loc with toilet paper plus a couple for used paper
Hand sanitizer
Toothbrush, paste
comb/ mirror (optional)
Baby wipes (unscented are best)
Small sliver of soap
Bandana (s) or camp towel
ID card/ medical card/ one credit card and cash for driver (leave most of your wallet at home)
Any personal medications
Extra pair contacts or glasses if applicable
Contact solution if applicable
Trowel for digging cathole (note on this trip we will have a toilet)

Optional

small book or deck of cards
small notebook and pen
insect repellent

In the car: Have a plastic bag for your muddy boots plus maybe a clean shirt