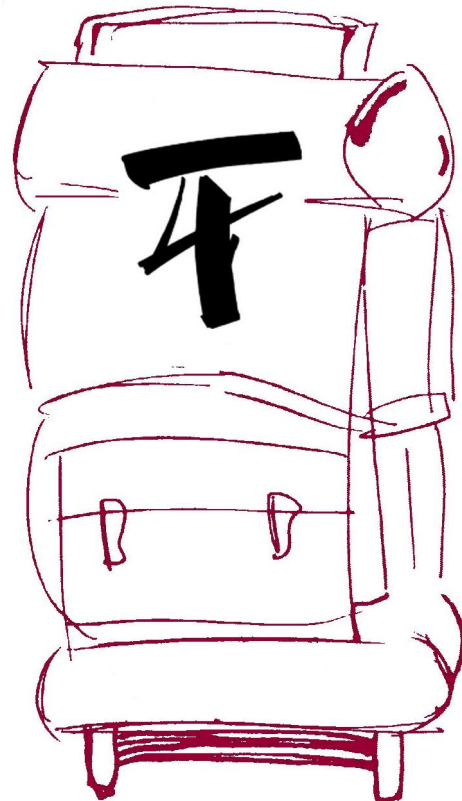


The Scouts' and Parents' Guide To Backpacking in Troop 4



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<http://www.troop4.net>

The Troop 4 Backpacking Program may expose the participants to the hazards of traveling in mountains, desert, and wilderness terrain, to accident or illness in locations without medical facilities, to forces of nature, and to travel by air, bus, or other conveyance. The health and safety of your son is, to a significant degree, dependent upon his being adequately clothed and equipped and being emotionally capable of meeting the challenges of this program. This material is intended to help you and your son understand these needs. The other requirement is sufficient, trained, adult leadership. The Advisors of the Troop 4 Backpack Program have completed Outings Leader training offered by the High Adventure Team of the San Gabriel Valley Council and may also have completed Basic and Advanced Backpacking training, Desert Awareness, Winter Awareness, Rock Climbing training, Wilderness Aid, as well as Red Cross First Aid and Adult and Child CPR.

Introduction

Thank you for your interest in the T4 Backpacking Program! On page 1 of The Boy Scout Handbook, Scouts are told, "Scouting promises you the great outdoors. As a Scout, you can learn how to camp and hike without leaving a trace and how to take care of the land." We hope to teach you and your sons that and more when they participate in the Troop 4 Backpacking Program. Hikes in local mountains and longer-length stays in the Sierras and other locations will help deliver the promise of Scouting.

When we use the term "Scouts" in this pamphlet we most often mean "Scouts and Adults". This document is meant for Scouts AND Adults that are interested in the Troop 4 Backpacking Program. Parents of our Scouts are encouraged to participate in our program when space is available. There will be additional information on this in upcoming sections.

We will present much of the material in this pamphlet in meetings and outdoor training settings. It is hoped that Scouts and parents will also sit down with this and study it together to pick up as much information as possible before your first outing.

The Backpack Outing

Troop 4 schedules a backpack outing approximately once per month. These range from short (under 15 miles) overnight trips and 3-day/2-night trips to long-term backpack trips to the Sierras or Philmont Scout Ranch (10 days on the trail – 50-80 miles).

We concentrate our weekend backpack trips in the San Gabriel or San Bernardino Mountains. We center these on the San Gabriel Trails and San Bernardino Trails Weekend Backpack Awards and annually award backpack medals to participants on these outings.

In the Appendix you'll find a sample trail map and trail profiles. That map and profiles were created for the Santa Anita Canyon segment of the San Gabriel Trails hikes for our January 2003 backpack trip. It is representative of the maps that are given to each participant on every hike. This hike, in the Lower San Gabriel Mountains, is lower in elevation than most hikes, but had a significant elevation loss and gain (over 3,500 feet of gain). An average backpack trip may climb as much as 3000 feet in elevation on a (one-night) weekend and hike 12 or more miles. Complete itineraries are given well in advance of the departure date for an outing.

Pre-Hike Shakedown Meetings

Prior to most backpack trip you can expect that there will be a shakedown meeting where we will discuss the particulars of a trip, inspect a Scout's gear that will be packed for the trip, and finalize transportation and crew gear issues. It is important/mandatory to attend these meetings. Each participant on a hike is a valuable part of the crew, and all persons should carry that responsibility with them.

Leave No Trace

We teach and subscribe to the principles of the Leave No Trace Outdoor Ethic. They are:

1. Plan ahead and prepare
2. Travel and camp on durable surfaces
3. Dispose of Waste Properly
4. Leave What You Find
5. Minimize Campfire Impacts
6. Respect Wildlife
7. Be Considerate of Other Visitors

All participants in the program are expected to learn and practice the principles. You will find the T4 Leave No Trace flyer in the Appendix of this document, and references to Leave No Trace throughout. For additional information on Leave No Trace, go to www.lnt.org on the web.

Minimum Requirements

Scouts. A Scout must have completed 1 year of Boy Scouting and should also have proven his hiking ability on at least 2 5-mile day hikes. Other requirements may be in effect for particular hikes based on difficulty.

Adults. Adults are welcome to participate in our backpacking program. If you are planning on attending more than two backpacking outings with us, we will ask that you:

- o Earn your Red Cross First Aid and Adult & Child CPR certificates at the next available opportunity;
- o Take the Youth Protection training course at the next available opportunity;
- o Purchase an annual "Adventure Pass" for the Angeles National Forest (in case you are one of our designated drivers for a trip);
- o Obtain a Fire Permit from the Forest Service (No tests or training required; it takes 5 minutes and must be done in person at the Forest Service offices on Baldwin just south of the 210 Freeway);
- o Have your physician complete a Class 3 Medical Form (available on the Troop 4 website);
- o Begin to work on additional leadership training such as Outings Leader and Basic Backpacking (offered by the San Gabriel Valley Council and other Council's High Adventure Teams).

Physical Fitness and Medical Considerations

Backpacking is a physically demanding activity. We often hike at altitudes over 7000' in hot and dry conditions. We may gain and lose more than 2000' in elevation in a normal trip. All of the backpack trips will not be suitable for all Scouts; 1st-year backpackers will have fewer backpack outings to choose from than will 3rd and 4th-year backpackers. As your son grows stronger and becomes more experienced, more hikes will be available.

Consent Forms

Attached to each backpack flyer (printed or electronic versions) is a Parental Consent form for the individual outing. If your Scout will be attending without a parent or guardian, we will need to have a signed consent/permission form prior to attending the outing. A Class 1 Medical Form on file with the troop will be sufficient for this requirement.

Advancement

We will normally not schedule Scout advancement activities during backpack outings. These types of tasks are more suited to other Troop 4 outings such as base camps and Troop meetings. Backpacking trips do, however, present a good opportunity to complete a number of advancement and merit badge requirements -- cooking, orienteering, lashing and knots, and many others. If a scout wishes to have activities on a backpack qualify for rank advancement or merit badge work, the scout should make arrangements with one of the Adult Advisors prior to the backpack. Scouts shouldn't carry a Scout handbook on outings, but the Adult Advisors are usually available after the outings at the Troop meetings to verify and/or sign-off on rank requirements.

Merit badges

By virtue of the activities undertaken, a Scout that is involved in the backpack program is working on the Camping, Backpacking, and Hiking merit badges. It would be helpful for a Scout to pick up the merit badge pamphlets for those badges early in his involvement in the program so that he can become familiar with the requirements.

Backpacking Awards

As mentioned, we work towards the completion of the San Gabriel and San Bernardino Trails Weekend Backpack Awards in our program. These two awards each consist of 8 segments (weekend hikes) and require 6 hours of trail or conservation work to earn the medal for the award.

Other awards and recognitions include:

- **7-League Boot Award** – Backpack miles hiked, 100, 200, 300, miles etc.
- **Mini-Peak Bagger award** – Total of 8 mini-peaks and 6 hours of trail work to earn
- **Peak Bagger Award** – 5 peaks and 6 hours of trail work to earn (Advanced)
- **Sierra Backpacker Award** – Backpacking in the Sierras
- **Mt. Baden-Powell Award** – hiking to the top of Mt. Baden-Powell (near Wrightwood)
- **Puddle Duck Award** – Backpacking in the rain

There are many, many other awards that are available in the High Adventure program, and there will be many opportunities to earn them.

Crew Makeup

Our backpack outings are comprised of Scouts and Adults with no more than 12 participants in each CREW on any hike. We will normally not have more than 12 persons at any campground overnight on hikes. In some cases, 2 crews will hike the same trail from different directions and the Adults will trade car keys when they meet in the middle.

We will limit the amount of Adults on backpack trips to 4 per crew. This allows more Scouts to participate in the program and still ensures a high level of supervision.

There are several important crew positions in a backpacking crew. The Scouts will take on these positions on a per hike basis. They are:

- **Crew Leader** – The appointed leader of this hike, the Scout in charge will help with camp setup, work assignments, appointment of other positions, etc.
- **Navigator** – This person hikes first in the line and should be able to read a map and compass and navigate the trail from start to finish.
- **Chaplain** – Leads the crew in prayer before mealtime and acts as the leader for the Scout's Own service.

We expect each Scout and Adult to actively participate and contribute to the crew while on backpack trips. This cannot be stressed enough. In a crew of 12, each person must do their share of the chores to equalize the burden. There won't be any exceptions to this.

Costs

There are two types of costs associated with the Backpacking Program, 1) for clothing and gear necessary to the nature of the program, and 2) for the outing itself.

The current cost for local backpacking trips is \$5.00 per person per day (1 overnight = 3 meals, lunch, dinner, breakfast = \$5). The cost for Sierra and other backpack trips is based on total cost divided by participants. Extra costs beyond food might include wilderness permit fees, gas reimbursement to the drivers, food stops along the way, and the like. A typical cost for a Sierra trip might be \$60 to \$70 per person, inclusive of the backpacking food costs. Clothing and equipment will be covered in other sections.

Food

We provide 3 meals for a normal weekend backpack outing (Saturday lunch and dinner and Sunday breakfast). These meals are primarily a no-cook lunch, a cooked dinner, and a dry (no-cook) breakfast. We prepare from a varied menu of foods for our outings. A sample menu might include:

Lunch –

- Salami
- Pepperoni
- Cheese
- Ritz crackers
- Fruit rollups

Dinner –

- Soup bases, Broccoli w/cheese and Vegetable for instance
- Dehydrated meat, ground beef, turkey or chicken
- Mixed vegetables
- Crystal Light
- Instant pudding

Breakfast –

- Dry cereal (assorted)
- Power Bars
- Beef jerky
- Fruit rollups

We tailor our menus to a Scout's (or Adult's) medical or dietary needs (diabetes, for instance) wherever possible, but "I don't eat peas" is not an excuse. We don't cook really exotic foods – we stick to basics – so we encourage Scouts to eat what we've packed in, and strongly *discourage* Scouts bringing any extra food beyond the typical trail mix and the like. In backpacking, we **MUST** carry out all of our trash and uneaten food. At mealtime, we must finish all of the food that was prepared in order to keep from A. carrying it out when we leave, and B. attracting bears and other "critters" – see the section on "Bear Safety and Bear Bags" below.

Mountain Manners & Attitude

Mountain manners and good behavior are vital to the backpacking program, and a lot of it is for safety's sake. Mountain manners must be learned. Some behavior that may be acceptable or tolerated in an urban setting is unacceptable in the wilderness. We will inform and instruct our participants in good manners and behavior, and reserve the right to deny participation for willful or deliberate violations and misbehavior.

Your good attitude is one that has equal parts of good citizenship, participation, enthusiasm, and maturity. Our program is dependant on Scouts working as a team with all of the crewmembers having equal status; "Lone Wolves" are more of a hindrance than help. The Crew Leader appointed by the Lead Advisor is the acknowledged leader and will make fair work assignments to all Scouts and Adults in a Crew.

If your son attends a backpack outing it is because he wants to be here. The Backpacking Program is completely voluntary to Scouts in Troop 4. If he comes out once and doesn't feel that it is for him, or for him right now, that will be fine. He'll be welcomed back when he decides to rejoin us.

Personal Hygiene & Water Safety

This section is one of the most important in this pamphlet, and also the most sensitive. There will likely be no toilets where we hike. That said, we should give you a little information on how you'll take care of "your business" while out in the woods.

First things first – Don't pee on trees or plants. The salt will attract small animals who will chew and gnaw causing damage to the bark and plants.

Here is a section quoted verbatim from the Leave No Trace Ethic:

- 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.

We carry a "fanny pack" in each crew on backpack trips. In the fanny pack is:

- A trowel (to dig the cathole)
- A roll of toilet paper

It is the Scouts responsibility to let the crew know if there's very little or no toilet paper in the fanny pack. A prepared Scout will likely have brought a 1/2 roll of toilet paper from home as well.

WASH YOUR HANDS WHEN FINISHED. We carry Camp Suds in the kitchen cleanup bag. It is VERY concentrated, only 2 small drops are necessary, and is biodegradable if rinsed into the soil. Ask for the soap if you need it. It's not necessary to bring your own soap; there is ample Camp Suds for everyone on each trip.

Water Safety

We consider that all of the water sources that we will encounter on our trips will be contaminated with Giardia, Cryptosporidium, and/or other not-nice bugs. It is IMPERATIVE that Scouts and Adults not drink any water, or get any water on or around their mouths, unless it has been filtered and/or purified.

We use water filters (Scouts and Adults will be trained in their use and cleaning) to filter all water before it is used for drinking, cooking, or washing. From time to time, and where necessary, we also may treat water with a Betadine solution for additional purification. Please let us know if you or your son has a thyroid condition that might preclude our use of Betadine or tincture of iodine.

We've chosen not to delve deeply into the mechanics and scientific findings of water filtering/purification in this document. Those interested should ask for details at an appropriate time. The URL for the High Altitude Medicine website, where much of our knowledge on iodine treatment was garnered, is listed in the Appendix.

Bear Safety and Bear Bags

We hike in “bear country” most of the time. It is VERY IMPORTANT that a Scout learns to respect bears and do everything possible to minimize contact with bears. We have had bears in our camps on occasion, but no one has ever had a dangerous altercation with a bear on a Troop 4 outing.

We have several unbreakable rules to help with this:

- NO Food in tents – EVER
- No loose food in packs – carry your trail food in a small nylon sack
- Never put food in sleeping bag sack
- No food or “smellables” in packs overnight
- Do not spill food on the ground or on clothing
- All smellables go into the bear bag or canisters at night and when not in camp
- Never mix powdered drink mix in Nalgene drinking bottles

A bear will be attracted to a campsite where food is being prepared. Due to this, we cook at least 100 feet (where possible) from the location of our tents. Because bears may be attracted, it is now important to keep that attraction central to the food preparation location and not in the area where the crew is tented.

Packs will be located away from the tents, and left open during the night, weather permitting. If there are any residual food smells in the pack, the bear can easily determine that there is no loose food to find or eat in the pack without destroying the pack in the process.

We use nylon sacks for our bear bags and for transporting the crew food for a backpack trip. These are hung near our campsite at night and at any other time that we are not preparing food or in close proximity.

Smellables

Smellables are anything that a bear might be attracted to as a food source. They are obviously food items, but also can consist of:

- Sun block
- Duct tape
- Deodorant (leave it home)
- Bug repellent
- Chapstick
- Camera film (the emulsion is made from rendered cow bones)
- Soap

We suggest that Scouts prepare their “smellables” in a nylon stuff sack (NOT their sleeping bag stuff sack!) to keep loose food away from the inside of their pack, and so that it doesn’t get mixed up when put into the bear bags.

We often use a “Wait a Minute” bag, as in “Wait a minute, I have one more thing to put in the bear bag”... We’ll teach the Scouts the techniques for this bag during the training sessions.

Bugs

Bugs are normally only a nuisance. There is rarely a long-term problem with a Deer Fly bite or mosquito sting. If you or your son has a known allergy to bee, wasp, or other insect bites or stings, please let us know by adding that information to his medical form.

Ticks, though, are bugs of a different color. They are common in the San Gabriel Mountains, and you should be aware of some of the problems with tick bites. Deer ticks are known to carry Lyme disease, and while this is rare in California it is still cause for concern. Doctors differ in their treatment of tick bites – one doctor may prescribe preventative medication for persons frequenting tick areas while another may want to administer an antibiotic for tick bite victims. You should consult your physician or medical plan and find out which method they would use. We will encourage Scouts to check for ticks during and after backpack trips, and will encourage parents to be alert for this as well.

We recommend that Scouts have a mosquito head net (usually weighs an ounce or so) for those times when we expect heavy mosquito conditions. The best mosquito repellent is a high concentration DEET (some small children have reactions to this). You should check with the Advisors as to what would be best for you and your son.

Snakes

There are rattlesnakes in many of the areas where we hike, and we encounter rattlesnakes on almost every outing we take in the Spring and Summer. Rattlesnakes do not hunt animals the size of Scouts – they are afraid of things that large. They will however, attack if provoked. An important job of the Navigator on a hike is to keep his eyes open to the possibility of snakes on the trail or just off the side in range of the rest of the crew. Although we have encountered snakes on many occasions, and have never had a snakebite to a crewmember.

Lost

Our backpacking crews hike as a crew. While hiking, if the crew spreads out so far that the front of the line (we hike in single file) cannot see the rear hikers, the Navigator at the front of the line will stop and wait for the rest of the crew to catch up.

A Scout (or Adult) will NEVER go off on their own except to perform personal hygiene tasks, and then only if at least one other person (preferably an Adult Advisor) knows approximately where they are. If a Scout needs to leave the trail while hiking, the entire crew stops, the Scout drops his pack right where he leaves the trail, and the crew will wait for his return at that spot, or slightly farther up the trail.

Pack Weight

The generally accepted rule of thumb for pack weight is 20-25% of body weight. While this is appropriate for “normal”-sized and aged people, it presents difficulty when young, and usually small, Scouts begin backpacking. The following chart shows our problem:

Timmy Scout	90 lbs	Cum. Weight	% Body Weight
Empty pack	5 lbs	5	6%
Water	10 lbs	15	17%
Crew Gear/food	3.5 lbs	18.5	21%
Sleeping Bag	4 lbs	22.5	25%

“Timmy” hasn’t even packed his ½ of the tent, 10 Essentials, extra clothing, or trail food yet. These items will have to be packed as well, so **YOUNGER OR SMALLER SCOUTS SHOULD BE ABLE TO CARRY A PACK WEIGHING 25 TO 30 POUNDS, REGARDLESS OF BODY WEIGHT.** A good way to test your Scout is to pack a backpack with that much weight and walk with your Scout around your neighborhood, and include some uphill stretches. Realize that the trails we will hike on will have less stable and less secure footing than your neighborhood streets, so if your Scout is not able to carry this kind of weight around your home area for half a mile or mile, it will probably mean he’ll struggle a bit doing between 4 and 8 miles in a day on the trail.

It will be important for the new participants to understand that they must shoulder their part of the crew’s gear and food. It is also important that they work closely with the Adult Advisors and older Scouts to help them keep their pack weight to an absolute minimum until they have built up some experience.

Clothing

(see the Appendix for Buying Information)

Layering

Layering involves 3 essential layers, base, thermal, and protection. The base layer will be a synthetic fabric that wicks moisture away to the thermal layer keeping the skin warm & feeling dry. Commonly the base layer is a fabric like Coolmax, Dri-fit (Nike), Lifa (Helly Hansen), Capilene, etc.

The thermal layer is most commonly fleece since it provides good warmth and good moisture wicking properties. Some companies name their fleece, others don’t. Examples are Propile (Helly Hansen) and Polartec.

The protection layer is most commonly a waterproof/breathable fabric with Durable Water Repellent (DWR) finish. Waterproof breathable may sound like a contradiction in terms, but it is scientifically correct. It’s waterproof because the tiny pores in the fabric are so much smaller than water in its liquid form. While perspiration is water in its vapor form it is much smaller and can escape through the tiny pores. DWR finish helps the jacket shed water but will wear away with use. DWR finish can be restored by using Tectron (see below) or Revivex. Examples in this category are Gore-tex (generic DWR fabric), TH4 (Red Ledge), Hellytech (Helly Hansen), and Omnitex (Columbia).

It is far better to have multiple thin layers than one big, bulky jacket for warmth. Bulky jackets are hard to pack and take up a lot of room in a backpack. A backpacker would be much better off with a multi-layer system that might include a non-cotton t-shirt, long-sleeve polypropylene long underwear (tops and bottoms), a fleece pullover and a light wind or rain shell.

We strongly discourage blue jeans as hiking clothes, and for winter outings, backpackers will not be allowed to go if they are wearing cotton clothing of any kind. We also discourage any 100% cotton or cotton blend fabrics. The reason for this is that cotton, when wet, takes an extremely long time to dry, and also when wet, affords no warming ability to a Scout. Polyester will wick away moisture from the body, and air dry quickly.

We also recommend zip-off leg nylon pants. These can be a high-quality brand such as Ex-Officio, Royal Robbins, or REI, or a good quality that can come from a Target, Sears, or Kmart. Scouts will outgrow their hiking clothes, and it is unnecessary to spend a lot of money outfitting your son.

A good quality fleece pullover will provide good warmth and lightweight to a Scout or Adult. Most department stores have an adequate selection of fleece garments.

Though it usually does not rain on our backpacks (thanks to our glorious Southern California weather), raingear is still an important part of a Scout's personal gear. Though rain is normally not an issue, waterproof raingear can be used as an additional clothing layer for the times when the weather turns cold and/or windy. We prefer that a Scout have a light rain parka and rain pants (ponchos offer little protection from rain with wind, and cannot be used as a clothing layer). There are some inexpensive alternatives to a full waterproof rain suit. A WATER RESISTANT parka can be made WATER PROOF by applying Tectron Durable Water Repellent (available at REI, Sports Chalet and other sporting goods stores).

"Long underwear" made of lightweight synthetic fabric is a good choice to carry especially in the winter months. A fleece hat and fleece gloves are also good when the weather turns cold.

It is a good idea to pack clothing in gallon Zip-Loc bags in the event of rain or a fall in a river.

Footwear

Sturdy hiking boots are required for the backpacking program. A Scout will not be able to participate in tennis or athletic shoes. A good boot will be a combination of leather and Gore-Tex for a beginning/intermediate hiker. For long-term, heavier weight trips, a full leather boot will be preferred.

Once the factory waterproofing has worn off, boots should be regularly waterproofed with one of the aftermarket products available. A particularly good product is NikWax, a milky solution that provides excellent waterproofing to many types of boots. This can be found at REI or Sports Chalet.

One of the most important pieces of gear is a good pair of hiking socks (a Scout should have 2 pair). We also highly recommend purchasing the thin polypropylene liner socks. These liner socks wick away the moisture and keep blister-causing friction at a minimum.

Equipment

- **Backpack**

Initially, a backpack is better rented than purchased. The Scout's body is still growing, and The Sports Chalet in La Canada and Glendora has a large rental facility to rent backpacks.

There are two basic styles of backpacks, the External Frame and the Internal Frame. Internals feature a narrow, tower like profile and integrate their framework inside the pack, behind the shoulder harness. The frame usually consists of "stays", or flat bars, about an inch wide and 1/8-inch thick. Advantages to this design are Flexibility, Balance, Stability, Maneuverability, and Adjustability. Disadvantages: Hotter on the hiker, harder to pack correctly, Higher Cost (\$150 and up).

Externals connect a pack bag to a rigid frame made of aluminum tubing. Externals ruled the backcountry until internal-frame design was introduced in the late 1970s. The advantages of externals, Cooler to carry, Easier to pack, Heavy loads won't sag, Lower Cost (\$75 and up). The down side: Minimal agility for the hiker, more difficult to transport and store.

- **Water Bottle(s)**

Scouts should carry no less than 3 quarts of water from the trailhead of any hike. There will be some instances where the Advisors will recommend a larger quantity than this depending on the expected water situation for the hike. Scouts should NEVER bring drinks other than water on outings. Energy drinks like Gatorade or other sports drinks are bear bait.

The basic preferred water containers are Nalgene brand wide-mouth quart/liter bottles. The water filters that we use (MSR Miniworks) allow the bottle to be screwed on so that the clean filtered water cannot be contaminated during the process. At least one of these should be purchased and the Scout's name written on it with an indelible marker. Additional water carriers could be 1 or 2-liter soda bottles.

Most hikers in the program own a larger collapsible bladder of either the CamelBak or Platypus brand. These containers have a long rubber tube and mouthpiece so that the hiker can drink while hiking. They range in size from 60 ounces to 100 ounces (most older Scouts and Adults use the 100 ounce size – Remember... 2.5 pounds per 32 ounces).

- **Sleeping Pad**

A sleeping pad is a necessity for backpacking. These range from the closed-cell foam Ridge-Rest (VERY light AND inexpensive) to the self-inflatable Therma-Rest (up to about \$60). Younger, lighter Scouts do well with the Ridge-Rest pad.

- **Sleeping Bag**

A good-quality sleeping bag is a necessity for Scouting in general. We recommend a synthetic filled mummy-style bag rated at 20 degrees. Colder bags (higher than 20 degrees) will not adequately keep a Scout warm. Warmer bags (10 degree, 0 degree, etc) are not necessary for the type of camping that we will normally be doing. Bags come in Regular and Long lengths and would likely have a life span of 5 or more years. You can probably safely purchase a Regular length bag at this time. In the event of colder weather, it is easy to increase the warmth of the camper by adding long underwear, additional layers of light clothing, and a fleece or woolen cap.

We DO NOT recommend down-filled sleeping bags. They will not dry out adequately to keep a Scout warm if dropped in the river or if a quart of water spills on it.

Synthetic fills –

The most popular synthetic material in use is Polarguard®. It is available in various grades:

Polarguard Delta: The newest entry to the market, lighter and more expensive than previous versions.

Polarguard 3D: This third-generation product features a finer filament, a softer feel, and greater compressibility. It's the leader of the synthetic pack.

Polarguard HV: HV refers to the "high void triangular" shape of the hollow core running through the filament. This is a second-generation product, and is a touch heavier than 3D.

You may also see bags containing Hollofil or Quallofil. Like original Polarguard, these are older-generation fills (not as light or compressible) are now found in budget-level bags.

A good bag will weigh less than 4 lbs and cost under \$100. Check with one of the Advisors, we can help you find and choose a good bag. ** As an example, in the REI Sale catalog for 10/5/01, a North Face Thunderhead +20 degree bag (Polarguard 3D) that weighs under 3lbs. was \$89.99.

- **Knife**

Knives have very little importance in our program. It's rare when we have a need for a knife. If a Scout wishes to bring one, it should be a small, folding blade model. Multi-use tools like Leatherman tools are heavier than necessary. **Scouts are not permitted to carry sheathed knives, and any folding knife with a blade longer than 2 or 3 inches is more than a Scout will ever need on one of our outings. Any misuse of or horseplay with knives will not be tolerated; at a minimum it will result in the knife being confiscated for the duration of the trip we are on, and may, in extreme cases, lead to expulsion or suspension from the program.**

- **Flashlight**

Of utmost importance is a flashlight with spare batteries and bulbs. A good, lightweight flashlight is the Mini-Mag AA-size flashlight. Many of the Scouts trade the different parts (in different colors) with other Scouts. Leave the 4-D cell flashlights at home.

- **10 Essentials**

A Scout's 10 Essentials are the most important parts of his personal gear. We have additional items that we strongly suggest, but the complete 10 Essentials (including sunglasses) will be expected on every trip. We will supply a topographic map for each participant on each hike.

Additional Resources

Clothing and gear

REI

214 N. Santa Anita Avenue
Arcadia, CA 91006
626-447-1062

www.rei.com www.rei-outlet.com

REI is a membership (not required) outdoor store. Members (\$35/one time fee) receive a 10% dividend on annual purchases. They sell most brands, and offer good values on REI-brand merchandise. The internet-only REI Outlet has “special deals”, usually closeouts and overstocks at good prices.

Sports Chalet

951 Foothill Blvd.
La Canada, CA 91011
818-790-9800

940 S. Grand Avenue
Glendora, CA 91740
626-335-3344

www.sportschalet.com

Sports Chalet has long been a favorite of outdoor enthusiasts. Their rental departments are a good place to start for beginning backpackers. Their house brand, Camp 7, is not promoted heavily, but Camp 7 products are of good quality and made in USA (at least they were 10 years ago).

Campmor

www.campmor.com

This is the largest of the discount camping stores. They offer mail/phone ordering and Internet orders. Their catalog and online store both leave a lot to be desired for completeness of information and a quality presentation. But... If you know what you're looking for, you might find the exact item a couple of dollars cheaper at Campmor. Troop 4 has begun to buy some of its camping gear at Campmor.

Gear Research

www.gearfinder.com

This is a great tool for researching a future gear purchase – just select the criteria for your search, and let Gear Finder hunt it down for you.

Backpacker Magazine Annual Gear Guide

This annual issue comes out in the Spring just in time for the “heavy” backpacking season. They will impartially review nearly all available gear in all categories and present it for your information. With Gear Finder, this makes shopping for backpacking gear extremely easy.

Manufacturer's websites

The North Face – Tents, clothing – www.thenorthface.com

Ex-Officio – Clothing – www.exofficio.com

MountainSmith – Packs – www.mountainsmith.com

Kelty – Tents, packs – www.kelty.com

Royal Robbins – Clothing – www.royalrobbins.com

Sierra Designs – Tents, clothing – www.sierradesigns.com

Gregory Mountaineering – Packs – www.gregorypacks.com

Lowe Alpine – Packs – www.lowealpine.com

Walrus – Tents – www.walrusgear.com

Mountain Safety Research – Filters, cooking gear, stoves –
www.mountainsafetyresearch.com

Cascade Designs – Hydration, sleeping pads – www.cascadedesigns.com

Camelbak – Hydration systems - www.camelbak.com

The Illustrated 10 Essentials Plus



Knives or multi-tools are handy for gear repair, food preparation, first aid, making kindling or other emergency needs. A basic knife should have at least one foldout blade. The more complex your needs, the more options you may want in your knife or tool. Remember, though, the more blades and tools, the heavier the knife.

First Aid Kit - Pre-assembled first-aid kits take the guesswork out of building a kit on your own, although most people "personalize" such kits to suit individual needs. Any kit should include moleskin (for blisters), adhesive bandages of various sizes, several gauze pads, adhesive tape, disinfecting ointment, over-the-counter pain medication – only with parental knowledge, pen and paper.



Extra clothing - Conditions can abruptly turn wet, windy or frigid in the backcountry. It's important to carry an additional layer (or two) of clothing in your pack. If you're lost, extra clothing may get you through the night. A wool or fleece cap weighs little and is a fine heat-retainer on cold nights. Extra socks are a true blessing if your original pair become soaked. Depending on the conditions, consider carrying a fleece jacket or pile sweater, a waterproof shell or even a compressible parka. Cotton items, which become useless when wet, make poor backup items

Rain Gear – Ponchos won't make the grade. A good set of raingear, pants and parka, is the best. Water RESISTANT can be made water PROOF with Tectron spray (Sports Chalet). Sierra Designs makes inexpensive water PROOF rain gear.



Water Bottle – At least one of a Scout's bottles should be a wide-mouth Nalgene. There are several styles including the new colored bottles. At least 3 quarts of water should be packed for each hike.

Flashlight - A good light source is invaluable in the backcountry. It's smart to carry replacement bulbs and batteries, even a backup lamp or flashlight. Headlamps allow you to keep your hands free during any activity and are usually a backpacker's first choice for a light source. Keep your light in an easily accessible section of your pack; check it once in a while to see if it has become inadvertently switched on.



Trail Food - Always pack extra trail food. It can be no-cook items: extra energy bars, nuts, dried fruits and jerky. The process of digesting food helps keep your body warm, so on a cold night it's smart to munch some food before bunking down—but never leave animal-attracting leftovers in your tent.

Matches headed into the backcountry should be the waterproof variety, or they should be stored in a waterproof container. Take plenty and make an extra effort to keep them dry. It is also acceptable to bring a butane lighter.



Sunscreen – We've found that the non-scented 30 SPF REI brand is the all-around best. Buy the sunscreen and find a VERY small bottle to put in your Essentials sack. Sunscreen over 30 SPF is over rated and isn't helpful.

Sunglasses - Indispensable. Yet protection is so simple: Put on a pair of protective glasses when spending large amounts of time outdoors, particularly above tree line, to reduce your exposure to UV light. Your goal: Select lenses that absorb 97-100% of UVA and UVB radiation. Wraparound lenses keep light from entering the corners of your eyes and are great choices for the high country.



Map & Compass - It's easy to get disoriented in the backcountry. A compass, combined with map-reading skills, can help you stay on course. Maps are provided to all participants on outings.

Whistle – Find a small plastic whistle (metal will freeze in the winter) and stick it in your sack.



Mirror/Signal Mirror – Don't leave home without it. A blank CD-ROM disk makes an excellent signal mirror.

50 feet 1/8" cord – Clothesline, tent stakeouts, tying that last thing on your pack, nothing beats 1/8" cord. Scouts should have a good piece of line in their packs.



The Illustrated Buying Assistant



Internal frame packs are relatively new on the market, and are having great success winning converts. Internals hug the body more tightly, but are generally hotter while hiking. They're also more difficult to pack because of the lack of individual compartments to store gear. They are also more expensive than externals.

External frame packs have been the choice for many years, and continue to be at least as popular as internal frames. The lesser expensive of the two, a good pack can be purchased for about \$100 that will last for many, many years. When it's time, let us help you begin your choice for the right pack.



Sleeping bags should be SYNTHETIC-filled bags only, please. Down bags will not dry if dropped in the river, leaving us with a cold camper. 20 degree rating, and under 4 lbs are what you're looking for. The cost for a good bag can be under \$100 and it's not necessary to spend more than \$150.

Sleeping pads - Closed-cell foam pads like the Ridge-Rest are inexpensive and great for young, light hikers. Heavier hikers (and Adults!) will appreciate the comfort of the more-expensive inflatable Thermo-rest pads.



Hiking Boots - Beginning hikers can use a lighter Gore-tex/leather shoe. Moderate and advanced hikers will enjoy more support, and the ability to carry heavier loads, with a leather boot with steel last. Most new boots require very little break-in, but be cautioned against a brand-new boot on a long hike. Don't try to buy boots online. Seek help at a reputable store like REI or Sports Chalet. You only have 2 feet - Be nice to them.

Sandals - Open-toed sandals are necessary for hikes involving stream crossings. They are, however, somewhat dangerous for around-camp footwear (and forbidden at some BSA High Adventure camps. Better are the newer moccasin-style shoes with lug tread for after-hiking footwear.



Hiking socks with light polypropylene liners are the best choice for foot care on the trail. Make sure your feet feel right with the combination of boots and socks that you choose.

Light raingear that is waterproof is best. Water RESISTANT can be made waterPROOF by spraying with easily obtainable solutions. Ask us what would be best for your situation. Don't select a poncho – these won't protect the lower legs from wind-driven rain.



Some Frequently-Asked Questions About Trail Safety:

- Q. Are you able to get in touch with the Forest Service, rangers or emergency services by radio or cell phone when you are on backpacks?**
- A.** The general answer to this is no, we are not, but this is not a cause for alarm or concern. At least one (normally more) of the adults will usually have a cell phone along, but frankly, there are very limited locations in the places where we backpack that cell phones will work. Normally, we are lucky if we have cell coverage at the locations where we leave the cars, and often don't even have that luxury. It is rare when we can actually use a cell phone from the trail. We also do not carry the types of radios that are, or can be, tuned into the frequencies used by the Forest Services, emergency services or law enforcement. These radios are expensive and heavy, and the need for them is normally going to be slight. We do carry several "family band" radios on each crew. These have roughly a two-mile radius and can communicate to another radio on the same band. This is the one way we can be contacted if someone is within two miles and hills, etc. don't block the signal. For your information, if it is ever helpful, we will normally have our radios set on channel 4 (for "Troop 4", easy to remember). Sometimes, when there is too much "chatter" on channel 4, we will switch to one of the "privacy codes" under channel 4. So, if you ever do need to try to reach us in an emergency, a family band radio tuned to channel 4, or one of the sub-channels, is the best way.
- Q. How will we know where you'll be?**
- A.** We will always circulate a handout on each backpack, which will describe the route we will be taking. This handout will always also be available on the Troop 4 website (www.troop4.net), through the link for the particular backpack on the website calendar. Under normal circumstances, there will also always be a downloadable map that can be printed out that will have our route traced on it, with other pertinent information. If it ever became necessary, you could follow that route and find us, or give it to the Forest Service or other emergency services. Only under extraordinary circumstances would we ever vary significantly from the route we have put on the map that we have posted to the website.
- Q. What do we do if you're late? When should we begin to worry?**
- A.** We normally give an approximate time when we'll be returning, and we always call ahead via cell phone once we are on the road and within cell range. Having said that, there are all kinds of reasons why we might be late – possibly several hours late – that would be no cause for alarm. Remember, backpacking is not like getting in your car, getting on the freeway, and being able to predict reasonably certainly when you'll get to your destination. We are on foot, carrying weight, and have scouts (and adults!) of all sizes and strength and ability. If we have a big uphill stretch on the last day, we might move more slowly than anticipated. Generally speaking, if you haven't heard from us by sundown on the day we said we were going to return, then it's probably worth making a few calls or looking into the matter. Even still, remember that there are 4 adults and 8 scouts in a typical crew, and we have shelter, sleeping bags, some amount of extra food, water (and filters to

get more clean water), so even in the extraordinary circumstance where we had to spend an extra night unplanned, we're pretty well-equipped to handle it. After all, we're Boy Scouts and scouters!

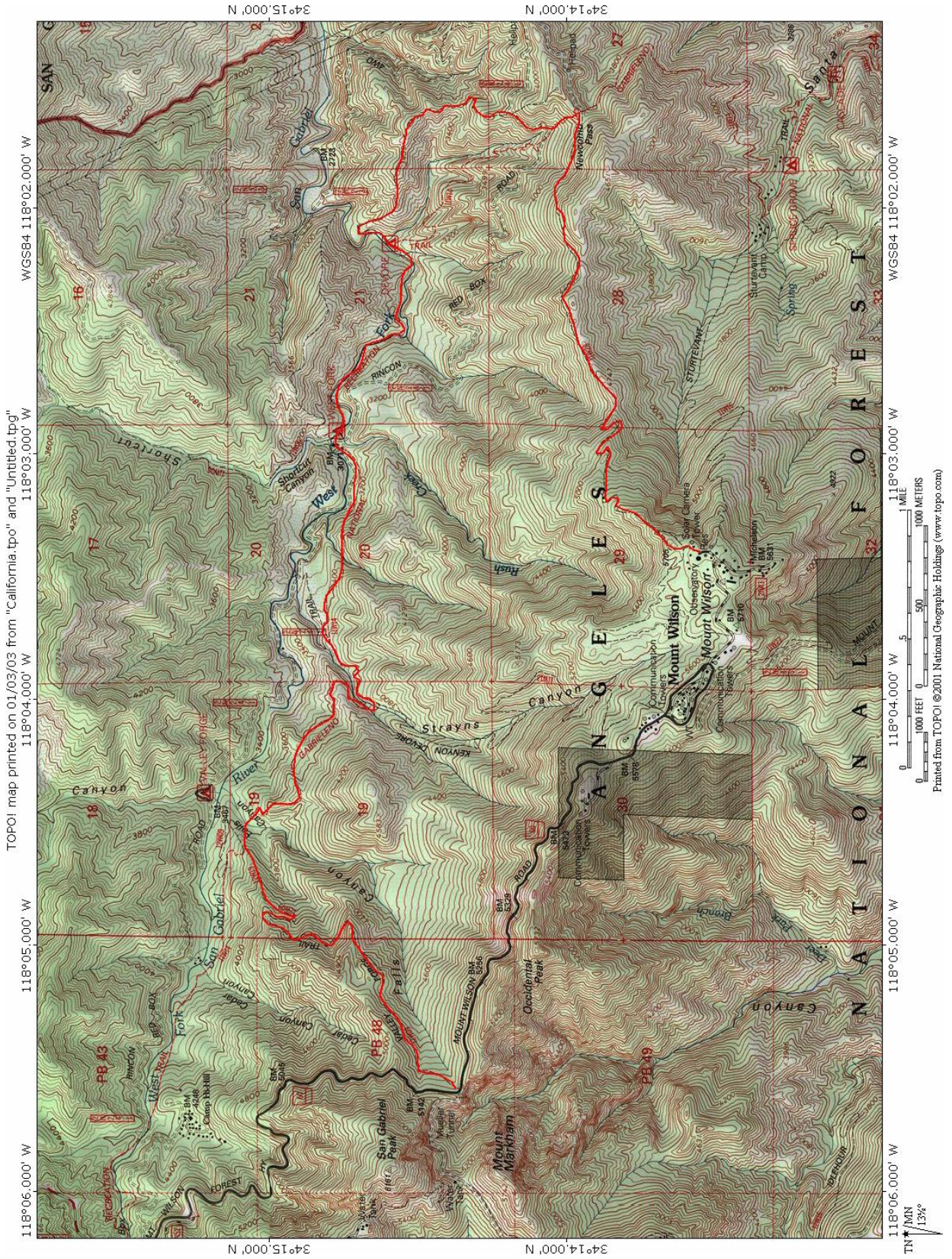
Q. How would you handle an emergency on the trail?

A. We carry with us fairly complete trail first aid kits and snake bite kits, which would cover most of our emergencies (we rarely even have to dispense a band aid, usually). If we had one member of the crew who was moving more slowly due to an injury, or needed assistance to travel, we would probably split the crew into two units, with adults and scouts in each unit, and send one group on ahead, both to contact parents and to obtain other emergency or transportation services, if needed. That group would normally exit the forest at about the time we estimated, while the other group would lag behind. It would be an extraordinary circumstance that some calamity would befall the whole crew and injure or incapacitate everyone, so if ever the entire crew is late coming out, it would normally mean that we were just moving slowly for some reason that doesn't necessitate splitting the crew, or that we became temporarily confused as to our location (we never get "lost", you see!).

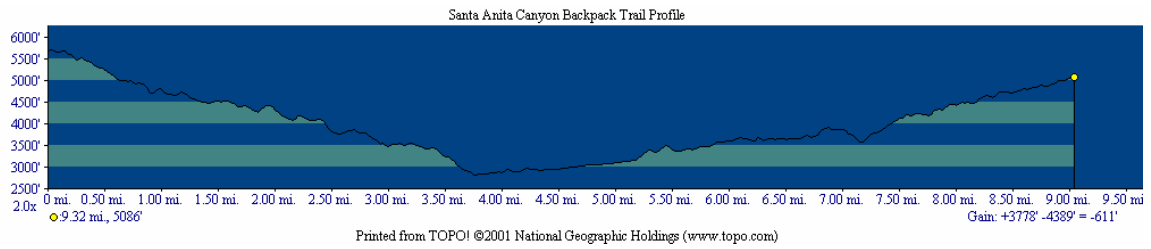
Q. Well, seriously, what if you did get lost? Do you carry GPS devices to aid in navigation?

A. It's really very difficult to get lost where we backpack. We almost always hike on established trail systems that are easy to follow, marked on the maps we carry, and with a lot of directional signage. In most cases, at least one member of the crew has been on the trail at least once before. Only rarely do we "bushwhack" and go cross-country, off the established trails. As far as GPS devices, the Troop does not own any, and we actually want to teach the Scouts to navigate primarily using map and compass, and observing terrain details to pinpoint locations on the maps we carry. Relying too much on technology can be a problem when the technology ceases to function, as GPS devices do when they get wet, get dropped, or the batteries run low. Having said that, some of the Scouts and scouters have, or have access to, GPS devices, and they are welcome on the trail as additional aids to navigate and confirm our location and progress.

A Typical Map from a Troop 4 Backpack, Santa Anita Canyon (January 2003):



A Trail Profile from the same backpack:





Principles of Leave No Trace

The LNT Principles of outdoor ethics form the framework of LNT's message:

1. Plan ahead and prepare
2. Travel and camp on durable surfaces
3. Dispose of Waste Properly
4. Leave What You Find
5. Minimize Campfire Impacts
6. Respect Wildlife
7. Be Considerate of Other Visitors

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. Split larger parties into groups of 4-6.
- Repackage food to minimize waste.
- Use a map and compass to eliminate the use of marking paint, rock cairns or flagging.

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.

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.

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.

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.

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.
- **Be Considerate of Other Visitors**
- 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.

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BSA Troop 4 Backpacking Gear Checklist

Hiking Essentials

- Pack - *when fully loaded should be only 20% to 25% of body weight*
- Hiking boots - *well broken in*
- Topographic map of area
- Compass
- Personal first aid kit with moleskin and personal medicines
- Flashlight with extra batteries and bulbs
- Whistle - *for signaling*
- Drinking water - *1 qt. min.*
- Pocket knife
- Matches - *waterproof*
- Rain poncho
- Sun protection - *sunscreen, hat, polarized sunglasses*
- Trail food for quick energy
- Hiking clothes - *see below*

Hiking and Camping Clothing

Select items to fit the trip and weather conditions

- Wicking long underwear top and bottoms
- Long-sleeved wicking or pile shirt
- Pile jacket or wool sweater
- Pile or wool pants
- Quick-drying pants/shorts
- Quick-drying swimsuit
- Sun hat - *with brim*
- Bandana
- Pile or wool hat
- Pile or wool gloves/mittens
- Waterproof jacket and pants - *or poncho*
- Heavy or midweight wool or synthetic-fiber socks - *2 pair*
- Wicking liner socks - *2 pair*
- Camp shoes or sandals

Personal Camping Gear

- Sleeping bag in waterproof stuff sack
- Thermal sleeping pad
- Cup, plate, spoon
- Mosquito repellent
- Camera with film
- Lip balm
- Toilet paper
- Toothbrush and toothpaste
- Small bath towel
- Comb
- Other personal toiletry items
- Paper and pencil
- Paperback book
- Scout Handbook
- Money

Patrol Gear

- Tent with ground cloth
- Rain Fly
- Food
- Stove and fuel
- Cook set
- Water bottles
- Water filter and/or water-purification tablets
- Liquid bio-degradable soap and pot scrubber
- Garbage bags
- Extra plastic bags
- 100 foot accessory cord
- Backpacker's trowel
- Patrol first aid kit

Leader's Responsibility

- BSA Tour permit
- Consent to treat forms for each Scout
- Leave trip itinerary with emergency contact person
- California campfire permit
- Wilderness permit - *if required*