Central Indiana Wilderness Club

**Beginners Backpacking Information**

Founded in 1982, CIWC has more than 150 members. We are not-for-profit volunteer club organized for the purpose of providing affordable wilderness adventures. Each year CIWC conducts about 15-20 trips, ranging in length from 1-10 days, to destinations as diverse as southern Indiana, the Colorado Rockies, the Appalachian Trail and the Canadian Wilderness. We have trips for beginners as well as those with lots of outdoor experience. On a club trip you will have the opportunity to explore new places while you are making new friends. Our trips are small, averaging about 6-8 people per trip; and our members vary widely in age, experience and ability.

Our activities have included:

* Backpacking
* Bicycling
* Camping
* Canoeing / kayaking
* Cross country skiing
* Dog Sledding
* Hiking
* Rafting
* Spelunking
* Snowshoeing

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| Central Indiana Wilderness Club    Find us at:  Website: www.ciwclub.org  Email: ciwcinfo@gmail.com  Facebook: <https://www.facebook.com/CIWClub>  Meetup: https://www.meetup.com/CIWCLUB-ORG/ |

*South Entrance*

***South Entrance***

**HOW TO CHOOSE A BACKPACK**

Your backpack will be one of the most important pieces of gear you take on a backpacking trip. It will carry everything you need to be self-sustainable in the wilderness. You are essentially carrying your home on your back! So, you want not only something that can carry your gear but also something that will be comfortable.

We will look at the basics of backpacks and how to choose one that will fit your needs.

**External or Internal Frame?**

External frame packs have a supporting frame (usually aluminum) on the outside of the pack. They are useful for supporting heavy loads but do not conform to your body shape and tend to shift around if you are hiking on unpredictable terrain. With the advent of lighter and more comfortable *internal* frame packs (and the lighter gear to go in them) they are almost obsolete in today’s market. You can find used externals for sale internet sites like Ebay.

Internal frames are the dominant model on the market today. They have their support system on the inside of the pack rather than the outside. Rather than an aluminum frame they have plastic stays, making them much lighter. Some have additional support rods on the outside. Their narrower profile and flexible internal frame make them conform more to your back, keeping the weight closer to your center of gravity.

**Pack Size**

In general, smaller and lighter is better. Don’t carry a heavier pack than is necessary. Consider the type of backpacking you will be doing (terrain, length/distance, season, etc.).

**Ultralight Packs**

Designed to maximize performance with minimum weight. These packs are made of very lightweight material (usually ripstop nylon). Another way they minimize weight is by reducing the size of the internal frame. Some ultralight packs are even frameless. So these packs are not designed to support heavy loads. Suitable for most 3-season trips. Essential for long distance, multi-day backpacking where weight minimization is critical.

**Multiday Packs**

Suitable for trips ranging 2-4 days where a heavier load is needed. These types of packs range from 40-75 liters for men and 40-65 for women. Sturdier material and internal frame designed to support more weight. If you do a range of trips but don’t want to buy different packs this is a good middle-of-the line option.

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**Torso length**

Packs will be sized not only for internal capacity but also for torso length. Your height has little to do with what size pack you need; it’s your torso length that matters. If your pack is too long, it will sag, throw off your center of gravity and pull on your shoulders. If your pack is to short, it won’t support your lower back. Some packs have fixed back panels and some are adjustable. Adjustable is recommended so you can get a customized fit. See the section on “Fitting your Backpack” to learn how to measure torso length. There are videos on YouTube that show how to measure your torso.

**Load support**

A pack with good support should hug the contour of your back so that you are carrying the weight close to your center of gravity. Internal frame packs accomplish this with the flexible internal stays. Ultralight packs sacrifice some support for weight reduction. Since hips are the upper body’s best load-bearing area, most of the pack weight should be carried on your hips. So, choose a snug fitting hip belt with ample padding. Also choose a pack that properly fits the length of your back.

**Considerations:**

Ultimately, the type of pack you need depends on how much (or how little) gear you have. If you already own your own gear you can just get a pack that fits what you have. Learn what your “essential” gear items are. As you gain experience, you will learn how to evaluate your gear and cut weight and size of items. If you have old gear work on updating to lighter/more space efficient gear. Also, get rid of items you don’t use.

**Try it out!**

Go to a reputable store and plan to spend 1-2 hours looking at different packs. A good store should have an associate who you can help you choose the right type of pack and get you fitted. Weigh your gear beforehand and make a list to take with you. Also be prepared to discuss what types of trips you will typically be doing.

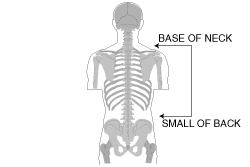
**Fitting Your Backpack**

Your height has little bearing on what size pack you should wear; it's your torso length that matters.

* If the pack is too long, it will sag onto your rear end
* If it's too short, it won't support your lower back

Determining your proper pack size

* To determine your torso length, measure from the seventh vertebra (the bony protrusion at the base of your neck between your shoulders) to the small of your back (level with your hipbones)
  + For torso length less than 18" (45 cm.), your suspension size will likely be Small
  + For torso length between 18" and 20" (45-50 cm.), your suspension size will likely be Medium
  + Torso length over 21" (52.5 cm.), your suspension size will likely be Large



Determining your hip belt size

* The hip belt should cup your hips and when cinched tightly, the pads should not touch
  + Women with straight or narrow hips may prefer a standard hip belt
  + Women (and men) with more curve to their hips should choose a women's-specific model
  + Shoulder straps should anchor to the backpack just below the seventh vertebra and the crest of your shoulders. They should wrap comfortably, yet securely, around the shoulders and should be at least 5" below the armpit.

**HOW TO LOAD A BACKPACK**

# Article from REI.com (http://www.rei.com/expertadvice/articles/loading+backpack.html)

Even the best backpack on the market, fit to perfection and packed well under its maximum weight capacity, can be uncomfortable if it’s not loaded properly. By following a few simple rules, you can vastly improve the comfort of your pack. This article will show you how.

## Basic Packing Strategies

While internal-frame packs dominate the backpack market today, most of the strategies described here apply to any pack wearer.

### How to Get Organized

* If possible, lay out all your gear on a tarp beforehand. This makes you more aware of where things get packed plus it can help you to remember missing items.
* Stuff your sleeping bag into the bottom of your pack's main compartment first. Squeeze in any additional lightweight items you won't need until bedtime (e.g., pillowcase, sleeping shirt, but nothing aromatic).
* Cluster related small items (e.g., utensils and kitchen items) in color-coded stuff sacks to help you find them easily.
* Don't waste empty space. For example, put a small item of clothing inside your cooking pots. Fill up your bear canister.
* Split up the weight of large communal items (e.g., tent) with others in your group if desired.
* Keep often-used items where you can easily get to them. This includes your map, compass, GPS, sunscreen, sunglasses, headlamp, bug spray, first-aid kit, snacks, rain gear and packcover.
* Tighten all compression straps to limit any load-shifting.

## backpacker_cartoon_drawingMaximum Pack Weight

As a general rule, the weight of your loaded pack shouldn’t exceed 25% to 30% of your ideal body weight. Some experienced backpackers may be able to carry more, while novices should generally start with less.

The quality and fit of your pack influence the amount you are able to carry. A pack that does not effectively transfer weight to your hipbelt due to poor fit or design puts more weight on your shoulders (this is often the case with kids’ school packs). With these packs, the maximum amount of weight you carry should be reduced to 15% or less of your body weight.

Another general rule: The heavier a pack is when empty, the more weight it is designed to carry.

*Contributor: Brian Lambert Fisher, REI Asheville, N.C., sales specialist and outdoor-education instructor.*

**GEAR ESSENTIALS: WATER TREATMENT**

**The Ten Essentials – gear checklist**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **The 10 Essentials** | | |  |  | □ Hiking poles | |  |
| **□ Rain gear & extra clothing** | | |  |  | □ Pot scrubber | |  |
| **□ Drinking water (and way to purify)** | | | |  | □ Garbage bags | |  |
| **□ Knife or multi-tool** | | |  |  | □ Zip-top baggies | |  |
| **□ Food** |  |  |  |  | □ Water filter | |  |
| **□ First-aid kit** | |  |  |  | □ Water purification tablets/drops | | |
| **□ Matches (in waterproof container) or flint** | | | | | □ Water bottle | |  |
| **□ Map** |  |  |  |  | □ Duct tape | |  |
| **□ Compass/GPS** | |  |  |  | □ 50 ft. rope | |  |
| **□ Headlamp (w/ extra batteries)** | | | |  | □ Bear bag | |  |
| **□ Sunscreen** | |  |  |  |  |  |  |
| **Clothing** | |  |  |  | **Personal items** | |  |
| □ Quick-drying pants/shorts | | |  |  | □ Toothpaste | |  |
| □ Quick-drying shirts | |  |  |  | □ Toothbrush | |  |
| □ | long sleeve | |  |  | □ Toilet paper | |  |
| □ | short sleeve | |  |  | □ Small towel | |  |
| □ fleece or wool vest/jacket | | |  |  | □ Hairbrush | |  |
| □ Wicking long underwear | | |  |  | □ Lip balm | |  |
| □ Quick-drying underwear | | |  |  | □ Insect repellent | |  |
| □ Swimsuit | |  |  |  | □ Trowel |  |  |
| **Outerwear** | |  |  |  | □ Wet-wipes (individually packaged) | | |
| □ Rainwear | |  |  |  | □ Personal medications | | |
| □ | jacket |  |  |  | □ Other personal toiletry items | | |
| □ | pants |  |  |  |  |  |  |
| □ Fleece/wool hat | |  |  |  | **Extra** |  |  |
| □ Fleece/wool gloves | |  |  |  | □ Binoculars | |  |
| □ Waterproof overmitts | | |  |  | □ Camera |  |  |
| **Footwear** | |  |  |  | □ Notebook & pencil | |  |
| □ Wool socks | |  |  |  | □ Watch |  |  |
| □ Synthetic liner socks | | |  |  | □ Repair kit | |  |
| □ Extra laces | |  |  |  | □ Money |  |  |
| □ Gaiters |  |  |  |  | □ Photo I.D. | |  |
|  |  |  |  |  | □ Permits |  |  |
| **Misc. gear** | |  |  |  | □ Fishing gear & license | | |
| □ Backpack | |  |  |  | □ Book or travel game | | |
| □ Tent |  |  |  |  |  |  |  |
| □ Rain cover | |  |  |  |  |  |  |
| □ Stove + extra fuel | |  |  | □ Cook set | |  |  |
| □ funnel |  |  |  | □ Dishes |  |  |  |
| □ Sleeping bag (w/ compression sack) | | | | □ Spork |  |  |  |
| □ Waterproof stuff sacks | | |  | □ Drinking cup | |  |  |
| □ Sleeping pad | |  |  | □ Pot grabber | |  |  |
| □ Sitting pad | |  |  | □ Biodegradable soap | | |  |

**Water Purification in the Field**

While water sources in most campgrounds and parks are usually safe (do check though), you should never trust natural water sources. A natural water source is any that does not come from a municipal water treatment plant. Natural water should always be treated with an approved method no matter how clean it may look. Remember, you have no way of knowing what is *upstream* from the water you are drinking! When in doubt – treat it. Always try to consult local park rangers, clubs, authorities, etc. at the location where you will be hiking. They may be aware of something that you, or even guidebooks, are not.

**Gray water**: Water from a natural source that has not been treated. You can wash dishes with gray water so long as you RINSE with treated water.

**Clean water**: Water from a natural source that has been treated.

Be careful not to let clean water come in contact with any gray water or any surface that has been in contact with gray water. Keep grey water and clean water containers separate and clearly marked. Even if you dry a gray water container it is still contaminated.

**Methods:**

**Boiling:**

Boiling is the most thorough and fool-proof method of killing bacteria, parasites and viruses. Collect water in a gray water container. Strain out sediment with a bandana or coffee filter if necessary. Bring to a ROLLING boil for at least 2-5 minutes. At higher altitudes, increase time. If you add any water to the pot be sure to boil for another 2-5 minutes.

Disadvantages of boiling are that it requires fuel and does not remove sediment (hot muddy water anyone?).

**Filtering**:

Many small hand-pump filters are available for backcountry use. They contain paper or ceramic cartridges and take out parasites and bacteria. Many viruses are too small to be filtered out so check with local authorities and carry chemical treatment drops if necessary.

Choose a filter of 0.2 microns or less. Paper filters must be changed periodically and can clog in the field. Ceramic filters last longer and can be cleaned in the field. Take steps to prevent ceramic filters from freezing as they could crack and allow unfiltered water to pass through.

To prevent filters from clogging, try to choose a location that has clean, moving water. A coffee filter fitted over the end of the intake hose will filter out sediment and extend the life of the filter.

Beware of cross contamination of clean and dirty hoses. Always store the clean water hose separately from the intake hose and don’t allow the dirty hose to come in contact with clean water.

Because filters remove sediment, many hikers prefer them over chemical treatments.

Downsides of filtering are that the filters must be replaced periodically and can sometimes fail in the field. They also tend to be tiring to operate. When relying on a mechanical method of water treatment, always carry a backup method such as chemical drops.

**Chemical treatment**:

Chemical treatment has come a long way since the days of iodine tablets, which have a taste akin to the contents of a medicine cabinet! Now Aqua Mira is the water treatment method of choice for many lightweight hikers. Aqua Mira contains Chlorine-dioxide, a chemical similar to what municipal water treatment plants use but it has virtually no taste. In most cases it is very effective against parasites, bacteria and viruses. Aqua Miras biggest advantage is that it is super lightweight and simple to use. Follow the directions to mix drops from the two small bottles. Then add the chemical to your gray water and wait 30 minutes. It does not remove sediment though so strain through a bandana or coffee filter if you’re adverse to crunchy water.

Note: While Aqua Mira kills *most* organisms it won’t kill *everything* so check with local authorities where you are going to make sure it is safe to use. In Isle Royale National Park, for instance, there is a species of tapeworm that can only be removed by filtration.

**Steripen**

The latest addition to the lineup of water treatment devices. Steripen is a small battery operated wand that kills parasites, bacteria and viruses using ultraviolet light. Collect your gray water, turn the wand on and stir it in the gray water for a short period of time. It alerts you when the water is safety decontaminated. These devices have some reliability issues and don’t work well (or at all) if the water is murky so always carry a backup method, such as chemical treatment drops, as well as extra batteries. It is also important to remember that the Steripen only treats water it comes in direct contact with. It won’t treat water droplets on the threads of your water bottle for instance.

**Safety note:**

These treatment methods are designed to kill or remove biological organisms. There is no method that will remove toxins such as heavy metals, chemicals or biological toxins. Be particularly careful in areas with old mines, manufacturing sites or heavy agriculture. Some biological organisms (algaes) can also produce toxins that can be dangerous if consumed. As always, check with locals to learn about potential dangers.

**GEAR ESSENTIALS: STOVES**

**How to Choose a Backpacking Stove**

# (Article taken from http://www.rei.com/expertadvice/articles/backpacking+stove.html#Comparing\_Stove\_Specifications)

## Canister Stoves

Canister stoves are the easiest to use. They run on pre-pressurized gas canisters (usually isobutane or butane/propane). You simply attach the stove to the threaded fuel canister, turn the gas knob and light it with a match or, on many models, the push of the Piezo igniter button. The canister self-seals when the stove is detached, eliminating the possibility of fuel spills.

The biggest drawback is that canisters de-pressurize in the cold (between 20° and 32°F) leading to weak or no flame. Normal pressure resumes when the canister temperature is increased.

Tip: In cold weather, keep the canister warm by putting it in your sleeping bag at night or hiking with it in your jacket pocket.

Canister stove pros:

* Easy to use.
* Compact and lightweight.
* Good flame control.
* No spilled fuel.
* Burns clean; less soot on cookware.
* Instant maximum heat output.
* No priming required.

Canister stove cons:

* Fuel is more expensive.
* Some people report poor cold-weather performance.
* Reduced heat output over time (as fuel is used, pressure decreases).
* Difficult to tell how much fuel is remaining.
* Hard to find canister fuel outside the U.S.

Other considerations:

* Warning: For stoves that attach directly to the canister, a windscreen must not be used because it traps excessive heat. This creates the potential of fuel exploding.
* Stabilizers, sold separately, can be attached to the bottom of fuel canisters. These provide a wider base to reduce the chance of tipping over and spilling your dinner on the ground.

### Integrated Stove Systems (Canister)

One popular option for the canister-stove shopper is an integrated stove system such as the Jetboil series. With this approach, the stove is paired with a cooking pot (and optional accessories) designed to work specifically with that stove.

Here's how these compare with traditional canister stoves:

Pros:

* Faster boil times.
* Improved fuel efficiency.
* Increased wind protection.
* Cookware decision already made.

Cons:

* Less versatility.
* More expensive.

## Liquid-fuel Stoves

Liquid-fuel stoves are the most economical long-term choice and perform best in cold temperatures. They most commonly run (in the U.S.) on white gas using a refillable fuel bottle that is manually pressurized with a fuel pump. These stoves need to be primed, a process that preheats the fuel line enabling the stove to convert the liquid fuel into a vapor.

A popular liquid-fuel stove variation for world travelers is a multi-fuel stove, discussed below.

Liquid-fuel stove pros:

* Excellent cold-weather performance.
* Fuel is inexpensive (making it good for larger groups).
* Take only the amount of fuel that you need.
* No canister to discard.

Liquid-fuel stove cons:

* Most require priming to operate.
* Usually a higher initial cost.
* Higher likelihood of fuel spills.
* Generally heavier.
* Requires separate purchase of fuel bottle.

### Multifuel Stoves (Liquid-fuel)

These are liquid-fuel stoves that can accommodate various fuels including some or all of the following: white gas, unleaded auto gasoline, kerosene, jet fuel and diesel. These stoves can cost a bit more and require more maintenance but the added fuel versatility makes them a great choice for international travelers.

## Alternative-fuel Stoves

### Alcohol Stoves

These stoves have few or no moving parts to worry about, weigh very little, are cheap and burn silently. They do not burn as hot so it takes longer to boil water and requires more fuel. Fuel can be hard to find outside the U.S. These stoves are good for someone that enjoys peace and quiet and a slow pace to their backpacking trips.

**GEAR ESSENTIALS: CLOTHING**

In the wilderness, clothing is more than just something you wear; it protects you from the elements and keeps you comfortable. The clothing you take with you is all you have to keep you warm, dry, cool, etc. so your clothing gear is as important as your tent or sleeping bag gear.

**Fabric:**

Any clothing you wear should be synthetic fiber or wool, **never** **ever** cotton. Synthetic fibers, such as polyester, are “moisture wicking,” which means that they pull moisture and sweat away from your skin and allow it to evaporate. Wicking fabric also dries quickly. Cotton holds onto moisture and dries slowly. When moisture is held against your skin it pulls body heat away. Moisture also increases friction between your skin and clothing, which can lead to rashes and blisters. Synthetic and wool also retain insulating properties when wet.

**Price:**

Technical clothing can be very expensive, but if you are a savvy shopper and willing to shop around you can find good deals. Check the sportswear sections of places like Wal-Mart and look for clearance sales at sporting goods stores. You can sometimes find fleeces and wicking shirts at thrift stores.

**Layering:**

It’s not how heavy your clothing is that will keep you comfortable, but how you layer them. Air is one of the best natural insulators there is. Several thin layers of clothing trap more air than 1 or 2 heavy pieces of clothing. You can add or remove layers throughout the day to adjust your comfort level. There is no rule for how many layers you need; it just depends on weather and your personal comfort needs.

**Layer 1: Outerwear**

Almost anywhere you go backpacking, you can encounter wind, rain or snow. An outer shell is your first line of defense against the worst that nature can throw at you. For wet conditions, a waterproof rain shell will be needed. The price of technical rain jackets is ghastly, to say the least, but you will usually get what you pay for so it’s worth shelling out a few extra bucks for a good model. Good quality rain jackets are super lightweight and pack down to almost nothing when stashed in your pack. Thanks to breathable fabric technology, rain shells these days can be relatively waterproof (as opposed to water resistant) without making you feel like you’re sealed in a plastic bag.

Choose pants that are lightweight and breathable fabric. Some cheaper rain pants are laminated on the inside; avoid these as they will only make you sweat and defeat the purpose.

**Layer 2: Insulation**

This is what keeps your body heat in. Your clothing needs to keep you warm if it gets wet because no rain jacket is completely waterproof!

An insulating layer should be something that has loft to it. Air trapped in your clothing is what insulates your body heat, not the fabric itself. Synthetic fleece, Primaloft and wool are the best choices because they retain their loft even when wet. They are also durable and breathable. In cold weather you can add a light down jacket or vest. Fleece pants are nice to have to put on once you get to camp.

**Layer 3: Mid-Layer(s)**

Choosing to wear a mid-layer depends on the weather. The purpose of a mid-layer is to add an extra layer of protection between your body and the elements. A mid-layer is a good choice in very cold weather or in weather that is too warm for a fleece but cool enough that you need a little bit more than a base layer. It can also be nice to have an extra layer to put on once you are sitting around in camp and cooling down. Usually, a synthetic long sleeve shirt is enough. Be sure that it is moisture wicking.

**Layer 4: Base Layer**

These are the layers that come in contact with your skin. Here is where moisture management is most critical. The base layer pulls sweat and moisture away from your skin and allows it to evaporate. Base layers are usually lightweight and thin and don’t have much insulating power by themselves. As with your other clothing, the base layers should always be synthetic or wool material, never cotton; if it gets wet it won’t pull away body heat as cotton would. Some fancier models have anti-microbial properties to reduce sweat odors. Base layer consists of your undershirt, but also your underwear and socks. Most hikers wear wool socks, sometimes with a thin liner sock to add additional wicking. Never ever wear cotton socks.

**Pants:**

Like the other clothing we have discussed, your pants should also be synthetic material. The wilderness is no place for cotton blue jeans. Most hiking pants are lightweight polyester material. In colder weather you may need something heavier. Beyond material, the style of pant you choose is a matter

of personal comfort and style.

**GEAR ESSENTIALS: TENTS**

Article credit: Rei.com (http://www.rei.com/expertadvice/articles/backpacking+tent.html)

Protection from weather and bugs. A comfortable place to tell stories or watch the stars. These are all good reasons to carry a tent when you head into the backcountry. So which tent is right for you? Your choices boil down to finding the right balance of weight versus comfort and convenience for your tastes.

## What's Your Backpacking Style?

For backpacking, you want to keep tent weight low as possible while retaining an acceptable level of comfort and safety. Of course, individual views on comfort and weight can vary greatly. So REI divides core gear (tent, bag and pack) into four general categories. Decide which one best matches your backcountry style.

* Minimalist: Reducing weight overrides all other considerations, including comfort, durability and convenience. Period.
* Ultralight: You want to keep your pack weight low, just not as extreme as a minimalist. You're willing to give up some comfort in order to reduce your pack weight.
* Lightweight: You'd like to hit that sweet spot that balances light weight, comfort and convenience. For tents, "comfort" is defined as having livable space, sufficient length and interior pockets.
* Deluxe: You're a "maximalist" explorer who puts a priority on comfort and convenience, not ounce counting.

## Types of Tents

Once you've identified your style, find a tent category that suits the type of backpacking trips you usually take.

**Three-season tents**: The most popular choice, these are made for the relatively temperate conditions of spring, summer and fall.

PROS: Protects you from wind, rain and bugs; offers ventilation and stargazing; lightweight.

CONS: Not intended for heavy snow loads.

**Four-season tents**: These are weatherproof for mountaineering and winter camping. Rounded edges and one or two additional poles help withstand heavy snow and high winds. Rounded dome designs eliminate flat roof spaces where snow can collect.

PROS: Best for snowy, harsh conditions.

CONS: Heavier; ventilation can be an issue in warm, humid climates.

**Convertible tents**: These are 4-season models which can be converted into 3-season tents. This is usually accomplished by removing pole sections and/or zipping off a roof panel.

PROS: A good choice for year-round adventurers who want only one tent.

CONS: Heavier than a comparable 3-season model, even when in 3-season mode.

**Single-wall tents**: There are two types of single-wall tents. Tents for climbers seal up tight in cold, snowy weather and use vapor pressure to force condensation out. Models for minimalist backpackers use mesh sections and waterproof/breathable fabrics for ultralight, 3-season comfort.

PROS: Lighter than traditional double-wall tents.

CONS: Can be stuffy, especially in warm or humid conditions.

**Bivy sacks**: These offer a waterproof, breathable barrier for your sleeping bag. Some are basic sacks; others offer pole-supported head space with mesh bug netting.

PROS: Saves space and weight.

CONS: They can feel confining.

**Shelters**: These are simple rain tarps or bug netting made for minimalists.

PROS: Definitely the lightest, most compact option.

CONS: Tarps protect from rain only; netting stops bugs only.

**Floorless tents**: These simple abodes offer a convenient option for snow campers who don't need a floor or anyone who wants to save weight.

PROS: Light and compact.

CONS: For specialized use in relatively benign weather conditions only.

## Tent Size and Livability

### Sleeping Capacity Explained

Backpacking tents are categorized by size: Solo, 2-person, 3-person and there are even a few 4-person models. These are space-efficient designs that generally assume a tight fit. Note: REI's design standard for a 2-person tent means that it must fit two 72 x 20 sleeping pads side by side with no overlap.

### Over 6' Tall? Look at Floor Dimensions

Designed to be efficient, many backpacking tents are not long enough for folks taller than 6'0". Look at the "floor dimensions" spec and diagram (if available) to see if the length is sufficient for you. Keep in mind that tents often taper in the foot sections and walls angle in toward the ceiling. This impacts the actual amount of space inside a tent's walls.

### Mesh Improves Ventilation

Condensation from your breath can turn a poorly ventilated tent into a sauna, particularly in muggy climates. To combat this, tent designers use mesh doors, windows and roof panels to allow air to circulate. Sufficient tent-to-rainfly separation is also needed to remove damp air. Some tents include hooded rainfly vents to allow even more condensation to escape. Of course, in nice weather, you can take the rainfly off and sleep under the stars.

### The Advantages of Two Doors

Two doors make tent access for a pair of backpackers much easier. This feature is especially welcome for coming and going in bad weather, as one door will be more protected from the wind.

### Vestibules for Your Gear

A vestibule is typically an extension of the rainfly that creates a covered storage area for your muddy boots or dusty pack. Some tents have a pair of vestibules which add extra convenience. A few brands offer optional vestibules that create even more space than standard ones.

## Tent Weight

This is a prime consideration for most backpackers. When comparing models, keep in mind these definitions used by most manufacturers:

* Minimum weight: This is the total weight of the tent body, rainfly and poles only: the bare essentials. You will probably pack more tent-related gear (e.g., stakes, footprint) than just this, but use this spec when comparing tent weights.
* Packaged weight: This is the total weight of all tent components: body, rainfly, poles, stakes, stuff sack, pole sack, instructions and any other items a manufacturer ships with a tent.

One helpful way to think of weight is per person. A 2-person tent that weighs 4 lbs. 8 oz. equals just 2 lbs. 4 oz. per person. If both of you prefer the extra room of a 3-person tent weighing 5 lbs. 2 oz. you're looking at 2 lbs. 9 oz. per person. Is this trade-off worth it? Only you can decide.

## Setup Features

### Pole Sleeves vs. Pole Clips

Poles can be connected to the tent's canopy in several ways, via sleeves, clips or (more commonly) a combination of both.

* Pole sleeves help distribute force over a larger area and create less stress on the tent body fabric.
* Pole clips are easy to attach and usually allow a larger gap between the rainfly and tent body. This improves ventilation and minimizes condensation.

Pole hubs are a recent innovation that pre-connects two or more poles together for added strength, stability and faster setups. Typically used in conjunction with pole clips, hubs allow a simplified pole structure.

Rule of thumb: The fewer number of poles on a tent, the faster and easier it is to pitch.

### Freestanding or Not

Most tents are freestanding, meaning they (excluding the rainfly) do not require stakes to set up. The big advantage of this is that you can pick it up like a big beach ball and move it to a different location prior to staking. Non-freestanding tents may weigh a bit less, but must be staked down before setup.

### Fly/Footprint Option

Some tents are designed to allow ultralight "fastpacking" where the footprint and rainfly can be pitched together without the tent body. It's a good way to save weight, but you lose the bug protection of a tent body.

**GEAR ESSENTIALS: SLEEPING BAGS**

# Article credit: Rei.com (http://www.rei.com/expertadvice/articles/sleeping+bag+backpacking.html)

For a small amount of weight, a sleeping bag allows you to stay warm and comfortable despite the chill (or perhaps bitter cold) of a backcountry night.

## The 3 Key Factors

We're always happy to talk about sleeping bag construction and comfort features, but a bag purchase can really be boiled down to these 3 elements:

* Temperature rating: Choose a bag rated for the coldest temperature you expect to encounter. The rating is usually part of the product name, such as the Men's REI Lumen +25 bag (it's rated to a minimum temperature of +25°F). Thanks to the new EN standard, described below, this rating is a highly reliable and accurate measurement.
* Weight vs. roominess: When backpacking, you want to keep weight low without jeopardizing comfort or safety. For some backpackers, low weight overrides all other concerns (comfort, durability, convenience, price). For others, weight is less important than having a roomy bag for a good night's sleep. Most bags try to strike a balance between these extremes.
* Type of insulation: Your main purchasing decision is between the 2 types of fill: down and synthetic. Goose-down fills are very light, compressible, durable and breathable. While initially more expensive, they offer great value over the long run. Synthetic fills excel in damp, cold conditions and have less sticker shock up front. They are slightly heavier and less compressible than down, but do a great job of trapping body heat.

**What Temperature Rating Should I Choose?**

Sleeping bags that display EN ratings can be expected to provide comfort to the temperature stated on the bag, keeping in mind the variables described above.

For non-EN-rated bags, select a bag with a comfort rating that is a bit lower than the lowest temperature you expect to experience. For example, if near-freezing temperatures can be expected, then choose a 20°F bag instead of a 35°F bag.

Here's a general rule of thumb on how sleeping bags are categorized:

|  |  |
| --- | --- |
| **Bag Type** | **Temperature Rating (°F)** |
| Summer Season | +35° and higher |
| 3-Season Bag | +10° to +35° |
| Cold Weather | -10° to +10° |
| Winter/Extreme | -10° and lower |

## Insulation: Down or Synthetic?

### Down

Down is the fluffy plumage that forms the undercoat of geese and ducks. This natural fiber is an extraordinary insulator. Premium down usually comes from geese, as their plumes offer a higher fill power. Fill power (or loftiness) refers to the number of cubic inches 1 ounce of down will displace. The higher the down's fill power, the less down is needed to achieve a given temperature rating. For example, a +10°F bag using 800-fill-power down will weigh less than a +10°F bag using 600-fill-power down. Because high-fill-power down is less plentiful, it usually comes with a higher price tag.

Down loses its insulating properties when wet, so any high-quality down bag will use a shell fabric treated with a durable water repellent (DWR) finish. DWR allows water to bead up rather than soak through the fabric. In addition to DWR, a few specialty bags feature a waterproof/breathable coating so the bag can be used in wet climates.

### Synthetics

Synthetic insulators (usually a type of polyester) retain much of their warmth even when wet, so they are a good choice in damp climates. They are quick-drying, nonallergenic and (in high-end bags) almost as light as down bags. The downside is that a synthetic bag offers a little less warmth for its weight, plus its insulating power gets reduced each time it is stuffed into a stuff sack. There is a long list of competing brand names for synthetic insulations, which can make shopping confusing. A more relevant distinction is knowing whether a synthetic insulator is short-staple or a continuous filament.

Short-staple fills (e.g., PrimaLoft®) are the predominate choice. These feature short strands of fine-denier filaments that are densely packed to minimize heat loss. This makes these bags feel soft and flexible, much like a down bag, and allows for great compressibility. They are, however, a bit less durable.

Continuous-filament fills (e.g., Climashield®) use a thicker continuous filament that is lofty, strong and durable. They have a stiffer feel and are less compressible than short-staple bags.

**Which Insulation Is Right for You?**

Choose a down bag if you want superior warmth, compressibility and durability. Though initially more expensive, down's superior durability makes it a good value over the long haul. You might want to avoid down, however, if you camp mostly in damp, rainy climates.

Choose a synthetic bag if you want both good performance and a lower price tag. Short-staple synthetic bags offer excellent compressibility, while continuous-filament synthetic bags are lofty and more durable. Synthetic fills are usually the better choice for wet climates.

**HYGIENE**

MCHH00003_0000[1]

**You**

* Hands:
  + Carry a small bottle of hand sanitizer (unscented) and use it often, especially after going to the bathroom and before cooking or eating, to cut down on the chances of ingesting harmful pathogens via hand to mouth contact.
* Body:
  + Use hand-wipes or some biodegradable soap and a bucket of water (taken at least 200 feet from any water sources) to clean up occasionally. You’ll feel refreshed and your tent-mate will thank you! Don’t use deodorants or perfumes – the scent attracts animals.
  + Don’t sleep in the same clothes you hike in.
* Teeth:
  + Most drug stores sell travel sized toothbrushes, toothpaste tubes, and even miniature bottles of mouthwash and dental floss.
* Feet:
  + Rotate your socks daily. For long trips, carry 3 sets so you’ll always have a dry pair to change into in camp.
  + If you can, give your tootsies a soak in a creek at the end of the day to remove dirt, sweat and bacteria. Just be sure you are well away from where drinking water is being collected.

**Camp**

* Wash hands well before touching any food. Hand-wipes work well for this purpose or use a little biodegradable soap and water (again, disposed of well away from camp and water sources).
* Pack out all trash and food scraps.

**“That which cometh from thee”**

* Bathroom areas should be 200 feet from camp areas and any water sources (including swampy areas and dry creekbeds). Avoid areas where water might run off into nearby waterways (or your camp) during heavy rains.
* Bury poop in a cathole 6-8” deep, fill with dirt, compact, and cover with leaves.
* Wash those hands!
* Keep trowel clean and packed away from food

**MEAL PLANNING**

Backpacking Meals Hints and Tips

When planning a hike you need to take several things into consideration when planning your meals. Will this be a car/boat hike where you are able to take a cooler? Or a back country, backpacking hike. The climate, and the time of year are also important things to consider. And also, the preparation methods you will be using; Stoves, fuel, campfire.

When you can take a cooler with you, the possibilities are endless. I will be addressing mainly the back country meals that limit us to foods that need no refrigeration.

In planning these meals, first take a walk through your local grocery store. Look for items that say “just add water”. Examples – Instant potatoes hash browns, pancake and biscuit mixes. Even muffin mixes are good. If you do need milk and eggs, consider using powdered milk and eggs. Hint; measure out amounts beforehand and store in plastic bags to include with the meal.

Dehydrating meat- Hamburger is great to use. It can be added to almost any meal. You want to start with lean meat. 90/10 is a good ratio. Mix in ½ cup of bread crumbs per 1 pound of meat. Fry in skillet until done, breaking into smaller pieces. Blot excess moisture with paper towels, and then dehydrate till hard, about 6 hrs. 1 lb. of raw hamburger with bread crumbs equals about 2 cups dried. You can also dehydrate canned or packaged meat, and deli meat such as chicken, turkey, and ham.

Dehydrating vegetables - If using fresh or frozen, you will need to fully cook first. This cuts down cooking time when preparing meals. You can also dehydrate canned goods straight from the can or jar. Examples would be Soup beans, baked beans, green beans, corn, peas, and carrots. Even mixes like chili work well. Jars of spaghetti sauce, taco, and salsa require a Teflon sheet, or something with no perforations to pour it on to dry. When brittle, break into pieces and store in plastic bags. If you use pasta or noodles, be sure to use the thinnest you can buy. If you want to use thicker pasta, you can boil it first, and then dehydrate same as fresh vegetables.

Breads- tortillas, pita pocket breads, and thin bagels are great to take along. You can also use the “just add water biscuits, and muffin mixes. Add water, and mix in pouch. Drop by teaspoon into a hot greased skillet. Flatten with spatula, flip, and enjoy.

Smaller “to go” items are very handy. Things such as peanut butter, salsa, and fruits are available in individual containers Applesauce and pudding now come in squeezable packets. Certain cheeses also do well hiking. Velveeta cheese is one. Hint; Use a piece of dental floss to cut it with.

For extra things to add flavor to meals, check out Butter Buds, onion flakes, and premixed spices. A can of oil spray is bulky, but very handy to have in cooking.

These are just a few of the hints that I have for you. For more on dehydrating ideas, check out “backpacking chef.com”. Glenn McAllister is the “Guru” of backpacking meals. Along with his website, he also has a book available called “Recipes for Adventure” I hope that this has helped you in some way. Next time you walk into a grocery store, look closely at items and think, “How can I take this with me on a hike?”

Happy cooking!

**Considerations & Tips for Outdoor Cooking**

Caloric Consumption: A day spent carrying a heavy backpack several miles over varied terrain, or paddling & portaging in the hot sun are not days to diet. "Bonking" is what Tour de France riders call running out of energy, and this is not the condition you want to find yourself in while out in the wilderness. The old Boy Scout motto applies here: "Always Be Prepared". For particularly strenuous outings count on burning twice the calories you would consume on a normal day back home.

Meal Options: The best backpacking/paddle trip foods are shelf stable, light weight, packable (i.e. crushable), easy & quick to prepare, good sources of carbs & protein, and require minimal cleanup. Commercial backpacking meals and many grocery store items meet these requirements.

**Commercial Backpacking Meals** (Mountain House, Alpine Air, Backpacker’s Pantry):

* Pros: ultra-simple - just add boiling water & wait, eat out of the bag and carry out the trash – no clean-up, some taste great!
* Cons: For long trips and/or for large groups these will be considerably more expensive, and some don’t taste so great. Be wary of #servings – a hungry backpacker may easily down a meal indicating 2 servings.

**Grocery Store Items** (powdered soups, sauce mixes, pasta, couscous, oatmeal, instant potatoes, dehydrated vegetables, instant rice, foil-pouch meat & fish, stuffing mix, Lipton’s noodles, various box dinners, vacuum-pack meats, hard cheeses, bagels, tortillas):

**Grocery Store Items (cont.):**

* Tips: Look for food items that require less rather than more cooking time to help keep fuel use down. Examples would be instant rice vs regular rice, and couscous vs pasta. Consolidate all pre-measured items for a particular meal into minimal packaging (i.e. Ziploc bags) prior to departure and label with the meal/day (i.e. dinner/Sunday). Include directions for prep on bag or on piece of paper inside of bag. Discard all boxes, wrappers, and additional packaging whenever possible prior to departure. If you only need 2 cups rice, don’t take the entire box/bag. This helps reduce weight & bulk of the food and remember, any packaging and extra food you carry in must be carried out.

Examples of Longtime Standard Backpacking Fare:

**Snack Ideas:**

* beef jerky, dried fruit, bars (multitude available), peanut or almond M&Ms, Snickers
* GORP (good ol raisins and peanuts) is the traditional backpacker snack food of choice, and for good reason. GORP can provide more than 160 calories per oz of packable weight. Making it up yourself back home is easy and fun. The traditional base consists of equal parts peanuts & raisins but just about any combination of nut & dried fruit will work, and the addition of something sweet & chocolaty makes it even better.

**Breakfast ideas:**

* instant oatmeal, Pop-Tarts, breakfast bars, dried fruit, cold cereal/granola – measure individual portions into zip-bag and add 1/3 cup powdered milk – at camp add about ½ cup water, mix & eat
* If you are up for cooking breakfast: Bisquick pancakes, scrambled eggs, cooked oatmeal

**Lunch Ideas:**

* cheese (string cheese or other individual serving varieties; for bigger chunks choose hard, dry cheeses that hold up better such as Parmesan, Cheddar, Swiss, Asiago), summer sausage & crackers, beef jerky, foil-pack meat & fish (wide variety available), bagels, tortillas, pitas, small containers of peanut butter
* if you will be firing stoves at lunch – powdered soup mix, ramen noodles

**Dinner Ideas:**

* Lipton Noodles & Sauce or other box dinners (mix in foil-pack chicken for great meal - serve w/pita bread), instant powdered soups (mix in ham chunks or summer sausage), ramen (add foil-pack chicken or nuts for protein), grilled bagel sandwiches
* prepare stew or chili at home & freeze solid in Ziploc bag

**Other things to consider:**

* Hot drinks are a must in cold weather but should be carried even during the Summer months: tea bags, hot chocolate packs, hot cider mix, coffee.
* Condiments: salt & pepper, grated Parmesan cheese, sugar, creamer, olive oil, powdered milk, powdered drink mix (Crystal Light, Gatorade).

**Clean Up in the Woods**: Always pack a small plastic container of camp soap, hand sanitizer, small scrubbie and dish towel in with the cooking equipment for doing dishes.

* Encourage everyone to eat ALL of the food that has been prepared. If you are not completely successful at this, scrape all leftover food into a Ziploc and carry it out. Do not bury food waste.
* Three pot system: You will essentially need three pots of warm water to do dishes. To the first pot you will add soap so the water need not be boiled or purified, just nice and warm. The second and third pots used as rinse water however must be “clean water” and should be chemically treated before warming, or boiled.
* Tip: The rinsing can be reduced to a single step by using a clean cup to scoop a small amount of rinse water out and pour it over the soapy item to rinse.

**Backpacking Recipes**

**Backpacking recipes sources**

Wild Backpacker

<http://www.wildbackpacker.com/backpacking-food/recipes/>

Backpacking Chef

<http://www.backpackingchef.com/backpacking-recipes.html>

Backpacker Magazine

<http://www.backpacker.com/article/topic/?action=custom&bp=topic_article&tag=recipes>

# Trail Cooking <http://www.trailcooking.com/>

# SAFETY & PREPAREDNESS

**At home planning:**

* Select a trail that matches your conditioning, the amount of time you have and the type of terrain you enjoy.
* Check the weather forecast and plan clothing accordingly.
* Check with rangers and outfitters to learn about trail conditions, safety issues, wildlife problems, etc.
* Let someone know where you are going and when you will return. If possible, file a travel plan with local ranger station as well.
* Locate on a map possible emergency exits routes.
* Hike with a buddy if possible. If hiking alone choose trails frequented by other hikers in case you run into trouble.
* Learn how to use a map and compass.
* Do physical conditioning. Start with easy trails early in the season.

**On the Trail:**

* Dress in layers and pack rain gear
* Don’t wear cotton, which holds moisture and pulls heat away from your body.
* Carry a first-aid kit.
* Carry a compass and topographic map and know how to use them.
* Pay attention to landmarks on the trail, and check your map occasionally to see how the trail looks when you are heading the other direction.
* Don’t get separated from your partner/group. Re-group at trail junctions.
* Carry a whistle. Three blasts is the universal sign for help.
* Stay hydrated. Keep electrolytes balanced by eating salty snacks.
* Don’t drink untreated water from creeks, ponds, etc.
* Be aware of surroundings and potential dangers
* If lost, stay put if you can or move to an area nearby where you can be more easily seen. Make clear signals to help search & rescue personnel find you.

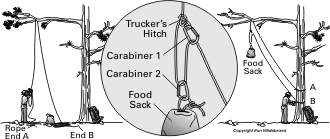
PROTECTING FOOD FROM CRITTERS

“Bear bagging” is something of a general term used for hanging your food. There are lots of other animals (raccoons, opossums, mice, chipmunks, skunks, etc.) that will go after human food. In some cases you may be camped in locations where there are no bears, but still need to hang your food at night. The best thing to do is talk with local rangers about what the “critter” population is and what precautions you will need to take.

#### Marrison Haul System

#### This simple but effective mechanical advantage hauling system was developed by Chris Marrison for the Outdoor Action Program. It's particularly helpful when you have heavy food loads. Bears are very intelligent and some bears are smart enough to know that by cutting the diagonal rope to the tree, they can bring down the food bag.

1. Find a tree with a live branch. The branch should be at least 15 feet (5 meters) from the ground with no object below the branch that could support a bear’s weight. The point at which you will toss the rope over the branch should be at least 10 feet (3 meters) from the tree. The branch should be a least 4 inches in diameter (10 centimeters) at the tree and at least 1 inch in diameter (3 centimeters) at the rope point.
2. Throw the rope over the branch. Test the branch to make sure it is strong enough to hold the weight (don't be standing directly underneath when you test). Make a Truckers Hitch about 6 feet (2 meters) from the ground and clip carabiner 1 into the bight.
3. Feed the running end of Rope End B through Carabiner 2 and then through Carabiner 1.
4. Pull the end of the Rope End A to move Carabiner 1 as close to the tree branch as possible. Tie off Rope End A to the tree.
5. Attach the food bag to Carabiner 2 and haul the bag as high up as possible. Tie off Rope End B.
6. To retrieve the bag, untie Rope End B and lower the bag to the ground.



(Article taken from: http://www.princeton.edu/~oa/training/bearbag.shtml)

### A Better Way: The PCT Method

A system that combines the "bear" essentials for hanging a bear bag using the PCT method: here, an ultralight 600 ci food storage sack made with noseeum mesh and sub-one-ounce silicone coated nylon (lined with an odor proof zip closure bag) and a rock sack of the same material, combined with 40 feet of Spectra rope, and a micro wiregate carabiner can weigh as little as three ounces.  
(Photo: Bozeman Mountain Works UrsaLite Bear Bag Hanging System)

Affectionately known by the lightweight hiking underground as the "PCT Method" (presumably because it was first used by long distance hikers on the Pacific Crest Trail), a bear bag hanging method exists that is lighter, requires less rope, offers the benefits of counterbalancing, is easier to set up, and offers simple and quick hanging and retrieval of your food.

You can make your own system quite easily by assembling the following components:

* Food storage bag
* 40 feet of hanging rope
* Keychain carabiner
* Small stuff sack for a rock ("rock sack")
* Pencil-sized twig about 4-6 inches long.

Using 1.4-oz silicone-coated nylon waterproof stuff sacks for the rock sack and food storage bag, 1/8" parachute cord for the hanging rope, and a two-inch carabiner from Wal-Mart, you can achieve a system weight of about five or six ounces.

The system is used as follows:

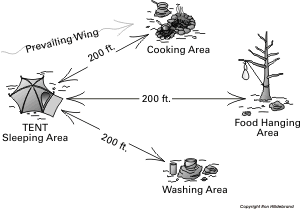
1. Tie one end of the rope to the drawcord of the rock sack.
2. Tie a loop (e.g., bowline) into the other end of the rope and clip the carabiner through it.
3. Insert a rock into the rock sack, cinch it closed, and throw it over a branch that is 15-20 feet high.
4. Remove the rock from the rock sack.
5. Attach the food sack drawcord to the carabiner.
6. Clip the rock sack end of the rope through the carabiner so that it can run freely.
7. Pull the rock sack end of the rope until the food bag is at the height of the branch.
8. Take the twig and reach as far as possible up the rock sack end of the rope (for the average man, this is about six feet) and tie a clove hitch around the twig.
9. Let the rock sack end of the rope go, until the twig catches on the carabiner and keeps the food sack in place, at least 10 feet above the ground.

This system leaves extra rope hanging freely below the food bag, and unlike conventional hanging systems where the spare end of the rope is tied to a tree trunk, eliminates the possibility of an animal untying or chewing the rope in efforts to bring the food bag down.



**Bear-proofing Your Camp**

The goal of bear-proofing your camp is to minimize odors that might attract bears, and to set up safe storage areas for food and garbage that are out of reach of bears and are away from your sleeping area. The best way to do this is to start with a camp set up that facilitates these goals. In his book Safe Travel in Bear Country, Gary Brown describes a basic camp set up where the sleeping area is upwind of the kitchen and food storage area and at least 300 feet (100 meters) apart (see Figure 6.26).



### (articles taken from: <http://www.backpackinglight.com/cgi-bin/backpackinglight/bear_bag_hanging_technique.html>)

