

The Lightweight Backpacker

Ten Essentials plus Four

Backpacking ten essentials: the first ten items in this list are the selections of essential backpacking gear which *The Mountaineers* refer to as The Ten Essentials and promote as critical and essential items which belong in your pack as insurance against the unexpected. Although you may not use all the backpacking ten essentials every day, they can be life savers in an emergency.

Also, if you shop with prudence, these essential gear items can be lightweight, as well.

As a supplement to the ten essentials, weI have added four additional backpacking essential gear items which are pretty important to our health and welfare in the wilds, as well as suggest some small, lightweight, purchase options for many of the "essentials".

The most important essential, however, is not on the list-- "**Common Sense**". Having the right gear is one thing, knowing how and when to use it is quite another. Most often, it's not a person's equipment that saves their bacon. It's their experience, know-how, and good judgment.

Conversely, it is generally inexperience and lack of good judgment that gets people into trouble. Not only must we have the proper equipment -- including the ten essentials plus four -- and know how to use them, but we must also cultivate knowledge and wisdom related to the backcountry activities that we engage in--thru self-study, courses, and leveraging off the experiences of others.

1. Map

2. Compass

3. Flashlight / Headlamp

4. Extra Food

5. Extra Clothes

6. Sunglasses

7. First-Aid Kit

8. Pocket Knife

9. Waterproof Matches

10. Firestarter

11. Water / Filter / Bottles

12. Whistle

13. Insect Repellents or Clothing

14. Sunburn Preventatives

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Ten Essentials plus Four

1. Map:

Always carry a detailed map of the area you will be visiting. If alpine scrambling or otherwise navigating cross-country consider the 7.5 minute USGS maps--they reveal considerable detail. For traveling on trails, the 15 minute series Green Trails is a good choice, among others. The point is to carry a map appropriate for the area you will be in and the activity you will be undertaking--and know how to use it !

2. Compass:

Carry a compass, at all times, in the backcountry--and know how to use it ! Some features to look for:

- 0 to 360 degrees, preferably, in 2 degree increments;
- liquid filled, which protects the magnetic needle and its jeweled bearing and minimizes fluctuation;
- a base plate--3" to 4", in length-- which can be used as a straight-edge for taking map bearings and determining distances on maps;
- an adjustable declination to account for the difference between Magnetic North and True North. The compass responds to Magnetic North, whereas, maps are based upon True North. Therefore, the compass needs to be adjusted to compensate. An adjustable declination feature lets you turn a small screw to "permanently" adjust declination to match the geographic area you will be in, so that you don't need to calculate your bearing each time.
- a fold-out mirror for sightings. The mirror allows for more accurate readings because you can position the mirror such that the mirror and the distant objective are both visible at the same time.
- a clinometer is useful for measuring vertical angles and, thus, measures slope steepness. This feature is helpful in determining avalanche potentials, and for determining position on a map.

The following compasses are lightweight and would be the minimum you would want to carry. They probably would suffice as an emergency gear item while backpacking entirely on trails.

- Suunto A10; weighs 1 oz, 0 to 360 degrees in 2 degree increments; liquid-filled with straight-edge.
- Silva Polaris; (same weight and features as Suunto A10).

For serious backcountry travel where map and compass will be used for navigation, the following compasses are recommended:

- Suunto MC-2G Navigator; weighs 2.6 oz, has all the features itemized above, plus luminous bezel and markings.
 - Silva Ranger; weighs 3 oz; (same features as Suunto MC-2G Navigator, only without the luminous bezel).
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Ten Essentials plus Four

3. Flashlight / Headlamp:

Flashlights and/or Headlamps are important even on day trips. You never know when you might need to spend the night or make that last mile or so after sunset. Here's some features to look for:

- lights which are water resistant--they function reliably in all weather. Look for rubberized bulb housing and battery compartments, or at least adequate rubber gaskets.
- lights which come with extra bulbs stored inside their housing.
- lights which have rotating head or body as the on/off mechanism. Avoid lights with on/off switches which can accidentally be turned-on as it is jostled about in your pack.
- lights which come with or will accept bright beam bulbs such as xenon, krypton, or halogen. Also, always carry several spare bulbs--they are light.

It's a good idea to carry a small lightweight hand-held light in addition to a headlamp. In the hand held light use a regular bulb which requires less battery juice than the bright-beam bulbs. Use this light for simple around the camp chores, to conserve batteries. In the headlamp, use a halogen (or other bright-beam bulb) and use this light when you are path finding or otherwise require a bright beam.

Suggestions for a small, lightweight, high-quality hand held light:

- [Photon Micro Light](#); (the one I use), weighs 7 grams, (click the link to read the review and/or purchase one).
- Mini-Maglite AA; (2 AA batteries) weighs 4 oz., twist top on/off, comes with extra bulb.
- Princeton Tec LED; 4 AAA batteries, weighs 2.5 oz, 3 LED bulbs.

Suggestions for a small, lightweight, high-quality headlamp:

- Petzl Zipka; (3 AAA batteries) weighs 2.2 oz, built-in retractable head strap. Strong beam from 3 LED bulbs.
- Black Diamond ION; (1 6 volt battery - included) weighs 1.1 oz, uses 2 LED bulbs.

4. Extra Food:

Whenever you go out, even for a day trip, bring extra food in case you are delayed by emergencies, foul weather, or just get lost. The mountaineers suggest a one-day supply. At the very least, bring one good meal more than what you need. The food should require little or no cooking. If your extra food will require cooking, make sure you also carry extra fuel for your stove.

The Lightweight Backpacker

Ten Essentials plus Four

5. Extra Clothing:

In addition to the basic layers you would normally take on an outing, bring extra clothing which would get you through an unplanned bivouac through the worst conditions you might come up against. Extra clothing means a little extra beyond what you would normally carry, just in case of emergencies.

In addition to the extra clothes, carry an emergency shelter such as a waterproofed tube tent or mylar Space Bag (or blanket). The Space Bag only weighs about 2.5 ounces but will completely encase you and keep you warm and dry. Another option is a VBL (vapor barrier liner) like the [Western Mountaineering "Hot-Sac" VBL](#). The VBL can be used on a regular basis to add warmth to your sleeping bag as well as serve as an emergency shelter. It's a little heavier than the Space bag – approx. 6.5 ounces.

6. Sunglasses:

Your eyes can experience damage from the intensity of mountain skies, ultraviolet rays, and light reflecting off of snow. As elevation increases so does the intensity of ultraviolet rays. Adequate eye protection is a must!

Bolle' makes a lightweight pair of glasses with a virtually indestructible polycarbonate lens. They are optically correct and have emerald green lens for true color. They are rated 100 % UV protection. Cost is about US \$40.00.

For traveling on snow, get a pair of glacier glasses with side shields which reduce reflective light reaching the eyes. Good, quality glacier glasses typically cost in the \$50 to \$150 range. Nikon makes some nice ones with polycarbonate lens. They are very lightweight, cost is about \$110.

There are many other brands of sunglasses and glacier glasses which are less expensive and provide adequate protection. Shop around, but be careful. Try to stay with reputable brand names. Your eyes will know damage, long before you feel discomfort.

From: lsk3

Date: 5/11/98

Subject: Sunglasses

Just a bit of trivia for you. When Reinhold Messner climbed Everest solo, he abandoned his pack for the last leg of the descent. He did, however, make sure he took along TWO pairs of sunglasses. Makes sense - you won't get home if you're blind.

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Ten Essentials plus Four

7. First-Aid Kit:

Carry first-aid supplies for minor injuries. In particular, carry plenty of adhesive band-aids and sterilized bandages, because they can't be easily improvised in the woods. What to carry ? A good book to reference is "Mountaineering First Aid" 3rd edition, by Lentz, Macdonald, and Carline, published by The Mountaineers.

This booklet was used as a text when I took the Mountaineers' MOFA (Mountaineering Oriented First Aid) course. I use it now to refresh my memory. It is easy reading, small (5 1/4 x 8 1/2 inches), brief (95 pages) and inexpensive (\$8.95). It identifies what items to carry, as well as what to do in emergency situations.

Once you are familiar with the supplies you need, you can purchase a kit or make your own. If you purchase one, you'll most likely need to add to it (items like CPR mask, rubber gloves, etc.) since most commercially prepared kits are inadequate.

Also, If you spend any time in the backcountry, it would be a good idea to enroll in a mountaineering first aid course.

8. Pocket Knife & Tools:

Your basic backpacking tool kit. A good example of a single piece of gear which has multiple uses. For example, a Wenger "Master" Swiss Army Knife has a locking blade; "slip-joint" pliers/wire crimper/wire cutters; springless self-sharpening scissors; wood saw; nail file/cleaner; corkscrew; awl/reamer; can opener; cap lifter; tweezers; and toothpick--all at a weight of about 6 ounces. Swiss-Army knives are available with more and less features.

At a minimum, knives are useful for first aid, food preparation, cutting moleskin strips, cutting rope and making repairs. However, scrutinize your needs before you go out and buy a honker like the Victorinox Swiss Champ which has many tools you probably don't need and weighs 1/2 pound ! If you don't actually use a feature, then you probably don't need to be carrying it around.

9. Waterproof Matches:

Carry matches which have been waterproofed or wind and waterproofed, or else carry extra strike-anywhere matches--along with something to strike them on-- in a waterproof container. Keep these matches separate from your regular match or butane lighter supply. Keep them available for emergency situations. There are many commercially prepared waterproof/windproof matches available, e.g., "Hurricane" and "Cyclone" brands of wind & waterproof matches and Coghlan's waterproof safety matches.

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Ten Essentials plus Four

10. Firestarter:

Fire starters are useful for quickly starting a fire, especially in emergency situations. They are also useful for igniting wet wood. There are several commercial fire starters available: magnesium blocks w/striking flint; chemically-treated fire sticks, etc.

In addition, numerous home-made fire starters work just fine: plumber's candles (wax); compressed balls of dryer lint mixed with or covered with melted paraffin; small strips of waxed cardboard (from old produce boxes); small flammable containers--individual egg-carton cups filled with mixtures of wood shavings, wax, & lint; etc.

11. Water / Filter / Bottles:

Carry plenty of fresh water. If you are familiar with the area in which you are traveling, and can be sure that water sources are available, carry enough water to get you there.

If you aren't bringing your water from home or a public source, treat the water you draw from the backcountry, regardless of the source. These days, everything is suspect.

Use water filter, purifier, chemical tablets, or boiling to treat the water before consuming.

For transporting inside your pack, use lightweight water bottles, such as Nalgene 16 oz and 32 oz lexan polycarbonate or high-density polyethylene wide-mouth bottles. Some folks use other containers such as old plastic pop bottles. That's okay too. Be careful they don't crack and/or leak, though.

12. Whistle:

For emergencies: when you're lost, someone else is lost, or you're hurt and need help, etc.

Caution: Metal whistles, with a pea, can be a problem in the mountains. Your "pea" can freeze up, and what happens when you put your lips on frozen metal ?

A better choice would be a pealess plastic whistle like the Fox 40. It is ultra-light and very shrill. Cost about \$6.00. REI sells them.

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Ten Essentials plus Four

13. Insect clothing or repellents:

I don't know about you, but summer really "bugs" me. Three ways to deal with the biting flies, mosquitoes, knats, etc. are to (1) let them eat you (2) use repellents or (3) wear clothing. Since the first option doesn't cut it, there are numerous commercial repellents on the market. Most of them are DEET based. REI Jungle Juice works okay but the stuff gets everything oily. There are many good creams but they need to be reapplied more frequently. There are extended duration DEET products which do not soak into the skin as fast and provide up to 12 hours of protection--such as 3M Ultrathon (now only available as "Hourguard 12" thru Amway).

I've found, recently, that the bugs seem to be getting immune to the juice, so I've been wearing an ultra-lightweight bug-netting jacket and pants. This has been successful, except when I bend over and expose my lower back where the jacket rides up. If you go this way, make sure the garments are very baggy. Many bugs have long stingers that easily penetrate tight fitting netting.

14. Sunburn preventatives:

Remember, the higher the elevation, the greater the intensity of the sun. Although each of us has a different capacity -- a.k.a. different pigmentation -- for withstanding the sun's onslaught, the message is the same--the penalty for underestimating your need for protection is severe.

In sunny conditions, wear light-colored clothing and cover exposed skin, at least, with SPF rated sunscreen appropriate for you, at least 15. Wear coverings over the neck and ears. OR (Outdoor Research) and other manufacturers make baseball-style caps with skirts which cover the neck and ears. Carry an SPF-rated lip-balm, as well, and reapply frequently.

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Backpacking Equipment Checklist

Shelter & Sleeping		Packing	
<input type="checkbox"/> Tent, poles, stakes	<input type="checkbox"/> Sleeping bag	<input type="checkbox"/> Backpack	<input type="checkbox"/> Lash cord/straps
<input type="checkbox"/> Ground cloth	<input type="checkbox"/> Sleep bag liner	<input type="checkbox"/> Rain cover	<input type="checkbox"/> Garbage bags
<input type="checkbox"/> Tarp, poncho	<input type="checkbox"/> Sleeping pad	<input type="checkbox"/> Daypack, hipsac	<input type="checkbox"/> Ziploc Freezer bags
<input type="checkbox"/> Bivy sack	<input type="checkbox"/> Sit pad	<input type="checkbox"/> Stuff sacks	
Clothing			
<input type="checkbox"/> Boots, shoes	<input type="checkbox"/> Socks & xtras	<input type="checkbox"/> Liner socks,xtras	<input type="checkbox"/> GTX socks
<input type="checkbox"/> Low gaitors	<input type="checkbox"/> High gaitors	<input type="checkbox"/> Overboots	<input type="checkbox"/> Booties, mukluks
<input type="checkbox"/> Camp shoes	<input type="checkbox"/> Lightwt.underwear	<input type="checkbox"/> Midwt.underwear	<input type="checkbox"/> Exped.underwear
<input type="checkbox"/> Fleece liner gloves	<input type="checkbox"/> GTX gloves/mitts	<input type="checkbox"/> Baseball cap	<input type="checkbox"/> Windbloc cap
<input type="checkbox"/> Windbloc ear cover	<input type="checkbox"/> Windbloc balaclava	<input type="checkbox"/> Nylon wind vest	<input type="checkbox"/> Fleece/down vest
<input type="checkbox"/> Fleece/down jacket	<input type="checkbox"/> Long-sleeve shirt	<input type="checkbox"/> Fleece pants	<input type="checkbox"/> Down pants
<input type="checkbox"/> Rain poncho	<input type="checkbox"/> Wind/rain jacket	<input type="checkbox"/> Wind/rain pants	<input type="checkbox"/> Nylon windbreaker
<input type="checkbox"/> Hiking shorts	<input type="checkbox"/> Swimming shorts		
Cooking & Food		Essentials	
Cooking:	Food:	Navigation:	Other:
<input type="checkbox"/> Cook pot	<input type="checkbox"/> Tea,coffee,cocoa	<input type="checkbox"/> Compass	<input type="checkbox"/> First-Aid kit
<input type="checkbox"/> Utensils	<input type="checkbox"/> Electrolytes	<input type="checkbox"/> Maps	<input type="checkbox"/> Prescriptn medicine
<input type="checkbox"/> Insulated cup	<input type="checkbox"/> Breakfast	<input type="checkbox"/> Glasses/contacts	<input type="checkbox"/> Waterprf matches
<input type="checkbox"/> Stove & fuel	<input type="checkbox"/> Lunch/snacks	<input type="checkbox"/> Paper, pencil	<input type="checkbox"/> Firestarter
<input type="checkbox"/> Piezo igniter	<input type="checkbox"/> Dinners	<input type="checkbox"/> Headlamp	<input type="checkbox"/> Sun glasses/goggles
<input type="checkbox"/> Matches/lighter	<input type="checkbox"/> Condiments/herbs	<input type="checkbox"/> Small flashlight	<input type="checkbox"/> Sun block/lip balm
<input type="checkbox"/> Water filter	<input type="checkbox"/> Vitamins	<input type="checkbox"/> Extra batteries	<input type="checkbox"/> Bug protection

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<input type="checkbox"/> Iodine	<input type="checkbox"/> Emergency food	<input type="checkbox"/> GPS unit	<input type="checkbox"/> Space blanket/bag
<input type="checkbox"/> Water containers		<input type="checkbox"/> Altimeter	<input type="checkbox"/> Plastic whistle
<input type="checkbox"/> Water bottle jacket		<input type="checkbox"/> Guide book/notes	<input type="checkbox"/> Signal mirror
<input type="checkbox"/> Bear bag			<input type="checkbox"/> Knife
Snow & Ice	Miscellaneous		
<input type="checkbox"/> Ice Axe	<input type="checkbox"/> Duct Tape	<input type="checkbox"/> Pack towel	<input type="checkbox"/> Toothbrush/powdr
<input type="checkbox"/> Snow shoes	<input type="checkbox"/> Parachute cord	<input type="checkbox"/> Bandana	<input type="checkbox"/> Fishing Gear
<input type="checkbox"/> Snow poles	<input type="checkbox"/> Sewing kit	<input type="checkbox"/> SlingLight Chair	<input type="checkbox"/> Candle/oil lantern
<input type="checkbox"/> Crampons	<input type="checkbox"/> Repair kits	<input type="checkbox"/> Toilet paper	<input type="checkbox"/> Soap
<input type="checkbox"/> Snow shovel	<input type="checkbox"/> Rubber bands	<input type="checkbox"/> Reading material	<input type="checkbox"/> Cards, games
<input type="checkbox"/> Avalanche beacon	<input type="checkbox"/> Camera, film, tripod	<input type="checkbox"/> Binocs, monocular	<input type="checkbox"/> Walking stick
<input type="checkbox"/> Snow wands	<input type="checkbox"/> Clock, watch		<input type="checkbox"/> Hiking Poles
<input type="checkbox"/> Handwarmers			

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