



Gear Essentials

Backpack		Shelter		Clothing	
Capacity (Liters)	Day Hiking: 20-35L Overnight: 30-50L Multi-day: 50-80L+	Tent Types	Freestanding, semi-freestanding, tarp tents, bivy sacks.	Layering System	Base layer (moisture-wicking), mid-layer (insulation), outer layer (waterproof/windproof).
Features	Adjustable torso length, hip belt, sternum strap, multiple compartments/pockets, rain cover compatibility.	Seasonality	3-season (spring, summer, fall), 4-season (winter).	Materials	Synthetic (polyester, nylon), wool (merino), down.
Fit	Proper fit is crucial. Visit a gear shop for professional fitting.	Weight & Packability	Balance weight with weather protection and durability.	Essential Items	Hiking boots, socks (wool or synthetic), hat, gloves, rain gear, sun protection (sunglasses, sunscreen, hat).
Weight	Consider the pack's empty weight. Lighter is better, but durability matters.	Features	Waterproof/resistant fabric, bathtub floor, good ventilation, easy setup.	Moisture Management	Avoid cotton. Choose fabrics that wick away sweat.
Organization	Choose a backpack with enough pockets and compartments to keep your gear organized and easily accessible.	Sleeping Bag	Temperature rating should match expected conditions. Consider fill type (down or synthetic).	Footwear	Hiking boots or trail runners, depending on terrain and personal preference. Ensure proper break-in before your trip.
		Sleeping Pad	Provides insulation from the ground. Types: foam, inflatable, self-inflating.		

Navigation & Safety

Navigation		First Aid & Emergency		Wildlife Safety	
Map & Compass	Essential for off-trail navigation. Learn how to use them <i>before</i> your trip.	First Aid Kit	Include essentials like bandages, antiseptic wipes, pain relievers, blister treatment, and any personal medications.	Bear Safety	Store food properly (bear canister or hang), make noise while hiking, carry bear spray (know how to use it).
GPS Device/Smartphone	Useful for tracking progress and marking waypoints. Carry extra batteries or a power bank. Download offline maps.	Emergency Communication	Satellite communicator (e.g., Garmin inReach, SPOT), whistle, signal mirror. Cell phones may not have service in remote areas.	Other Wildlife	Be aware of other potential wildlife encounters (e.g., snakes, mountain lions). Maintain a safe distance and never feed animals.
Route Planning	Study the trail map, identify landmarks, and estimate hiking time.	Emergency Shelter	Bivy sack, emergency blanket, or tarp.	Food Storage	Use bear-resistant containers or hang food at least 10 feet off the ground and 4 feet from the tree trunk.
Altitude Awareness	Be aware of elevation gain and potential altitude sickness. Ascend gradually and stay hydrated.	Leave No Trace	Pack out all trash, minimize campfire impacts, stay on trails, and respect wildlife.	Avoid Encounters	Hike during daylight hours, stay on marked trails, and make noise to alert wildlife of your presence.
Weather Forecast	Check the weather forecast before you go and be prepared for changing conditions.	Know Your Limits	Don't push yourself beyond your physical capabilities. Turn back if necessary.		
		Inform Someone	Tell someone your hiking plans, including your route and expected return time.		

Camp Setup & Skills

Campsite Selection

Location	Flat, sheltered from wind, near a water source (but not too close), away from trails and animal paths.
Leave No Trace	Camp on durable surfaces, minimize site alterations, and pack out all trash.
Water Source	Choose a site that is a reasonable distance to a water source. Always purify water before drinking.
Safety	Avoid camping under dead trees or branches. Be aware of potential hazards like rockfalls or flooding.
Sun Exposure	Consider the amount of sun exposure at the campsite, especially in hot weather.

Fire Starting

Essentials	Firestarter (lighter, matches, ferro rod), tinder (dry leaves, twigs, cotton balls with petroleum jelly), kindling (small sticks), fuel (larger logs).
Technique	Build a small tinder nest, add kindling gradually, and then add fuel logs.
Safety	Clear a 10-foot radius around the fire, never leave a fire unattended, and extinguish it completely before leaving.
Alternatives	Consider using a camp stove for cooking to minimize fire impact and fuel consumption.
Regulations	Check local fire restrictions before building a fire.

Water Purification

Methods	Boiling (1 minute at sea level, add time for elevation), filtration (water filter), chemical treatment (iodine tablets, chlorine dioxide).
Filtration	Use a water filter to remove sediment and microorganisms. Choose a filter with a pore size of 0.2 microns or smaller.
Chemical Treatment	Use iodine tablets or chlorine dioxide to kill bacteria and viruses. Follow the manufacturer's instructions for dosage and contact time.
Pre-Filtering	Pre-filter water through a cloth or coffee filter to remove sediment before purification.
Storage	Store purified water in a clean container.

Wilderness Survival

Shelter Building

Lean-to	Simple and quick shelter using a slanted roof against a tree or support.
Debris Hut	Insulated shelter made from piled-up leaves and branches.
Snow Cave	Effective shelter in snowy environments, providing insulation from cold and wind.
Location	Choose a sheltered location away from hazards like falling rocks or trees.
Insulation	Insulate the shelter with natural materials like leaves, pine needles, or moss.
Size	Build the shelter just large enough to accommodate your body to conserve heat.

Finding Water

Rainwater	Collect rainwater using a tarp or container.
Dew Collection	Absorb dew with a cloth and wring it out into a container.
Streams & Springs	Locate streams and springs by following drainage patterns or animal trails.
Plant Transpiration	Cover leafy branches with a plastic bag to collect transpired water.
Snow & Ice	Melt snow and ice for drinking water (requires fuel).
Purification	Always purify water before drinking to remove contaminants and pathogens.

Signaling for Help

Fire Signals	Build a smoky fire during the day and a bright fire at night.
Mirror Signals	Reflect sunlight with a mirror to signal aircraft or distant rescuers.
Whistle	Use a whistle to create a loud, distinct sound (three blasts is an international distress signal).
Ground Signals	Create large ground signals using rocks, branches, or fabric.
Signal Fire Location	Build signal fires in open areas where they can be easily seen from a distance.
Signal Patterns	Use the international distress signal (three of anything: fires, whistles, flashes).