



# CHELAN COUNTY VOLUNTEER SEARCH & RESCUE

## Ten Essential Systems

1. Navigation (map & compass)
2. Sun protection (sunglasses & sunscreen)
3. Insulation (extra clothing)
4. Illumination (headlamp/flashlight)
5. First-aid supplies
6. Fire (waterproof matches/lighter/candle)
7. Repair kit and tools
8. Nutrition (extra food)
9. Hydration (extra water)
10. Emergency shelter (tent/plastic tube tent/garbage bag)

### 1. Navigation

Always carry a detailed topographic map of the area you are visiting, and place it in a protective case or plastic covering. Always carry a compass. Climbers may also choose to carry other navigational tools such as an altimeter or global positioning system (GPS) receiver; other aids include route markers, route descriptions, and other types of maps or photos.

### 2. Sun Protection

Carry and use sunglasses, sunscreen for the lips and skin, and clothing for sun protection.

### 3. Insulation (Extra Clothing)

How much extra clothing is necessary for an emergency? The garments used during the active portion of a climb and considered to be the basic climbing outfit include inner and outer socks, boots, underwear, pants, shirt, sweater or fleece jacket, hat, mittens or gloves, and raingear. The term “extra clothing” refers to additional layers that would be needed to survive the long, inactive hours of an unplanned bivouac.

### 4. Illumination

Even if the climbing party plans to return to their cars before dark, it is essential to carry a headlamp or flashlight, just in case. Batteries and bulbs do not last forever, so carry spares of both at all times.

## **5. First-Aid Supplies**

Carry and know how to use a first-aid kit, but do not let a first-aid kit give you a false sense of security. The best course of action is to always take the steps necessary to avoid injury or sickness in the first place. At a minimum, a first-aid kit should include gauze pads in various sizes, roller gauze, small adhesive bandages, butterfly bandages, triangular bandages, battle dressing (or Carlisle bandage), adhesive tape, scissors, cleansers or soap, latex gloves, and paper and pencil.

## **6. Fire**

Carry the means to start and sustain an emergency fire. Most climbers carry a butane lighter or two, instead of matches in a waterproof container. Either must be absolutely reliable. Fire starters are indispensable for igniting wet wood quickly to make an emergency campfire. Common fire starters include candles, chemical heat tabs, and canned heat. On a high-altitude snow or glacier climb where firewood is nonexistent, it is advisable to carry a stove as an additional emergency heat and water source.

## **7. Repair Kit and Tools**

Knives are so useful in first aid, food preparation, repairs, and climbing that every party member needs to carry one. Leashes to prevent loss are common. Other tools (pliers, screwdriver, awl, scissors) can be part of a knife or a pocket tool, or carried separately—perhaps even as part of a group kit. Other useful repair items are shoelaces, safety pins, needle and thread, wire, duct tape, nylon fabric repair tape, cable ties, plastic buckles, cordage, webbing, and parts for equipment such as tent, stove, crampons, snowshoes, and skis.

## **8. Nutrition (Extra Food)**

For shorter trips, a one-day supply of extra food is a reasonable emergency stockpile in case foul weather, faulty navigation, injury, or other reasons delay the planned return. An expedition or long trek may require more. The food should require no cooking, be easily digestible, and store well for long periods. A combination of jerky, nuts, candy, granola, and dried fruit works well. If a stove is carried, cocoa, dried soup, and tea can be added. There are many possibilities.

## **9. Hydration (Extra Water)**

Carry extra water and have the skills and tools required for obtaining and purifying additional water. Always carry at least one water bottle or collapsible water sack. Daily water consumption varies greatly. Two quarts (liters) daily is a reasonable minimum; in hot weather or at high altitudes, 6 quarts may not be enough. In dry environments, carry additional water. Plan for enough water to accommodate additional requirements due to heat, cold, altitude, exertion, or emergency.

## **10. Emergency Shelter**

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