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IGNITED CHURCH

SURVIVING THE TIMES

QUICK GUIDE TO SURVIVAL

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FORWARD

Our website: www.ignitedchurchlife.com

"Everything we do, we do by faith, no fear, no panic"!

Psalm 91

Verse 1. He that dwelleth in the secret place of the most High shall abide under the shadow of the Almighty.

Verse 2. I will say of the LORD, He is my refuge and my fortress: my God; in him will I trust.

Verse 3. Surely he shall deliver thee from the snare of the fowler, and from the noisome pestilence.

Verse 4. He shall cover thee with his feathers, and under his wings shalt thou trust: his truth shall be thy shield and buckler.

Verse 5. Thou shalt not be afraid for the terror by night; nor for the arrow that flieth by day;

Verse 6. Nor for the pestilence that walketh in darkness; nor for the destruction that wasteth at noonday.

Verse 7. A thousand shall fall at thy side, and ten thousand at thy right hand; but it shall not come nigh thee.

Verse 8. Only with thine eyes shalt thou behold and see the reward of the wicked.

Verse 9. Because thou hast made the LORD, which is my refuge, even the most High, thy habitation;

Verse 10. There shall no evil befall thee, neither shall any plague come nigh thy dwelling.

Verse 11. For he shall give his angels charge over thee, to keep thee in all thy ways.

Verse 12.They shall bear thee up in their hands, lest thou dash thy foot against a stone.

Verse 13. Thou shalt tread upon the lion and adder: the young lion and the dragon shalt thou trample under feet.

Verse 14. Because he hath set his love upon me, therefore will I deliver him: I will set him on high, because he hath known my name.

Verse 15. He shall call upon me, and I will answer him: I will be with him in trouble; I will deliver him, and honour him.

Verse 16. With long life will I satisfy him, and shew him my salvation.

Philippians 4:13 I can do all things through Christ which strengtheneth me.

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FOOD AND GOODS

Portions - plan on 1/2 cup per person per item per meal with only 3 items per meal.
Always buy the cheapest brands or store brand, avoid cans as much as possible unless they are small such as tuna or sardines.
Practice Now on eating small amounts per meal unless you are planning on being very active.
Walk Daily – the further distance your practice the better and alternate terrain types.
Hydration – ensure your intake is always maxed.
RULE: 10 days without food, 3 without water.
Practice to Fast at least one meal.

THE BELOW LIST IS JUST THE ESSENTIAL NEEDS

FLOUR
- WHEAT
-CORN
-WHITE

SEASONING
*-SALT
KOSHER
TABLE
*BLACK PEPPER
CAYANNE
GINGER
*GARLIC
NUTMEG
CINNAMON
VANILLA
YEAST
CHILI POWDER

***BROTH**
-BEEF
-CHICKEN

***WATER**
Bottled

BEVERAGES
COFFEE
*TEA
COCOA

BAKING
SODA
POWDER
OIL
LARD
OLIVE OIL
COCOA

***FRUIT DRY**
-APPLES
-PEARS
-PLUMS
-RAISINS
-BANANA
-PEACHES

BEANS
*-PINTO
-SPLIT PEA
-KIDNEY
NAVY

GRAINS
OATMEAL
GRITS
*RICE
-WHITE
-YELLOW
*NUTS

MEATS
CHICKEN
BEEF
PORK
*TUNA
*SARDINES
*BEEF JERKY

***SEEDS**
CORN
BEANS
PEPPERS
CUCUMBERS
MELON
BEETS
RADISHES
ONIONS

Remember: All you really need is the bare essentials. If you have a desire for treats, lean to make them with what you have, but don't take away from the meal portions.

SURVIVAL ITEMS

These are only the essential items need and can be easily packed for movement.

*TOILET PAPER
*RAGS
*SOAP
-BAR – no perfumed soap.
-POWDER
BLEACH - Powder
*SLEEPING BAGS
*SHEETS – Dark Colors
*TENT Camouflage – Light Weight easy to erect.
*BLANKETS - No Bright Colors
*Blue Jeans or any kind of work pants – cotton always dark colors
*Socks
Rifle
Pistol
Knives - Survival 8" + Blade with Saw tooth spine
*Batteries - Only what you need
*Flashlights
*Fishing line- You can make your own pole
*Hooks
Compass
*Matches/Lighter
*Liquid Hand Sanitizer – this is handy because it is flammable
*TOWELS - Green or brown
Books, *Bible, Non Fiction, Educational
BACK PACK - with support
*Paper (Pocket size notepad)
*Pencil
*Rope – nylon dark color
*Tape – dark color duct tape
Binoculars
Chemical Lights – the shorter the time duration the better
Axe or Hatchet
Spade/Short Handle Shovel
Sewing kit

Weapons you carry at all times along with compass and maps, pencil and paper

Practice doing without certain items and activities, TV, Internet, Games, cell phones.

FIRST AID

You can pick up a good First Aid kit, but most have very little so you will need to add the following items:

Calamine Lotion
Aspirin
Vitamins
Alergy Medicine
Ace bandage wrap
Needle
Thread
4”X 4” Gauze
4”X 4” Plastic Strips
Small Roll of Saran Wrap
Small Zip Lock Bags
Roll Gauze
2”x 36” strips of cloth (6)
Tongue Depressors
Q-Tips
Cotton Balls
Snake Bite Kit
Peroxide
Rubbing Alcohol or Alcohol Pads
Tweezers
Scissors
Learn to perform CPR

Bugging Out

1. **Ensure you have a state map and maps of adjoining states. If you can get a hold of a forestry map, all the better, it will show terrain features you can use.**
2. **Pre-select alternate locations for rally points for friends and family that you trust. Stay out of cities and if you must enter a small town be courteous when meeting anyone.**
3. **Ensure you make a packing list for your Back Pack, designate who carries what items, but remember you may get separated.**
4. **Alternate Transportation - realize that you may have to go off road.**
5. **Communication - CB Radios, Walky Talky, cell phones could be a hazard to your location.**
6. **Stay in low lying areas, avoid hill tops unless needed for orientation or look out. Cross open areas at night or stay very low, stay off roads- walk parallel to them.**
7. **NO NIGHT FIRES!!!**
8. **NO SMOKING – smoke carries in the wind and can be seen at night.**
9. **Voices always low and develop and practice hand signals.**
10. **Passwords, never use the same one or familiar phrases, Example: SIGN: SHOEBOX / COUNTERSIGN: CANTELOPE**
11. **TIME: Use different time zone references, select a designated time either a few hours ahead or behind and stick to this time zone reference.**
12. **BACK PACK ITEMS: THE ITEMS WITH AN ASTERICK (*) SHOULD BE INCLUDED IN YOUR BACK PACK remember pack tight and waterproof.**
13. **Carry nothing that rattles or makes noise.**
14. **Poles: when walking into the woods cut a pole to the height of each person and as you walk, the pole should be out in front of you. You will avoid a lot of spider webs and the length should be the distance you stay away from snakes, helps you over streams and makes an easy gurney when used with one blanket.**
15. **Bury all garbage and select one area for human waste, dig a hole and cover before leaving.**

Women - **No Cosmetics**! Unless it is camo face paint.
Skin So Soft as Bug Repellant and odorless lotions

Survival Foods: Pick up a Natural foods book or Survival book on what you can and cannot eat in nature.

EDIBILITY OF PLANTS

Plants are valuable sources of food because they are widely available, easily procured, and, in the proper combinations, can meet all your nutritional needs.

WARNING

The critical factor in using plants for food is to avoid accidental poisoning. Eat only those plants you can positively identify and you know are safe to eat.

Absolutely identify plants before using them as food. Poison hemlock has killed people who mistook it for its relatives, wild carrots and wild parsnips.

At times you may find yourself in a situation for which you could not plan. In this instance you may not have had the chance to learn the plant life of the region in which you must survive. In this case you can use the **Universal Edibility Test** to determine which plants you can eat and those to avoid.

It is important to be able to recognize both cultivated and wild edible plants in a survival situation. Most of the information in this chapter is directed towards identifying wild plants because information relating to cultivated plants is more readily available.

Remember the following when collecting wild plants for food:

- Plants growing near homes and occupied buildings or along roadsides may have been sprayed with pesticides. Wash them thoroughly. In more highly developed countries with many automobiles, avoid roadside plants, if possible, due to contamination from exhaust emissions.
- Plants growing in contaminated water or in water containing *Giardia lamblia* and other parasites are contaminated themselves. Boil or disinfect them.
- Some plants develop extremely dangerous fungal toxins. To lessen the chance of accidental poisoning, do not eat any fruit that is starting to spoil or showing signs of mildew or fungus.
- Plants of the same species may differ in their toxic or subtoxic compounds content because of genetic or environmental factors. One example of this is the foliage of the common chokecherry. Some chokecherry plants have high concentrations of deadly cyanide compounds while others have low concentrations or none. Horses have died from eating wilted wild cherry leaves. Avoid any weed, leaves, or seeds with an almond-like scent, a characteristic of the cyanide compounds.
- Some people are more susceptible to gastric distress (from plants) than others. If you are sensitive in this way, avoid unknown wild plants. If you are extremely sensitive to poison

ivy, avoid products from this family, including any parts from sumacs, mangoes, and cashews.

- Some edible wild plants, such as acorns and water lily rhizomes, are bitter. These bitter substances, usually tannin compounds, make them unpalatable. Boiling them in several changes of water will usually remove these bitter properties.
- Many valuable wild plants have high concentrations of oxalate compounds, also known as oxalic acid. Oxalates produce a sharp burning sensation in your mouth and throat and damage the kidneys. Baking, roasting, or drying usually destroys these oxalate crystals. The corm (bulb) of the jack-in-the-pulpit is known as the "Indian turnip," but you can eat it only after removing these crystals by slow baking or by drying.

WARNING

Do not eat mushrooms in a survival situation! The only way to tell if a mushroom is edible is by positive identification. There is no room for experimentation. Symptoms of the most dangerous mushrooms affecting the central nervous system may show up after several days have passed when it is too late to reverse their effects.

Plant Identification

You identify plants, other than by memorizing particular varieties through familiarity, by using such factors as leaf shape and margin, leaf arrangements, and root structure.

The basic leaf margins (Figure 9-1) are toothed, lobed, and toothless or smooth.

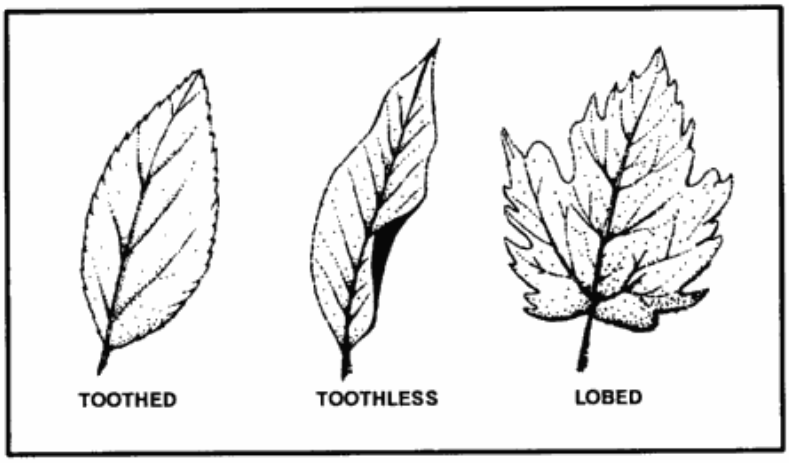

Figure 9-1. Leaf margins.

These leaves may be lance-shaped, elliptical, egg-shaped, oblong, wedge-shaped, triangular, long-pointed, or top-shaped (Figure 9-2).

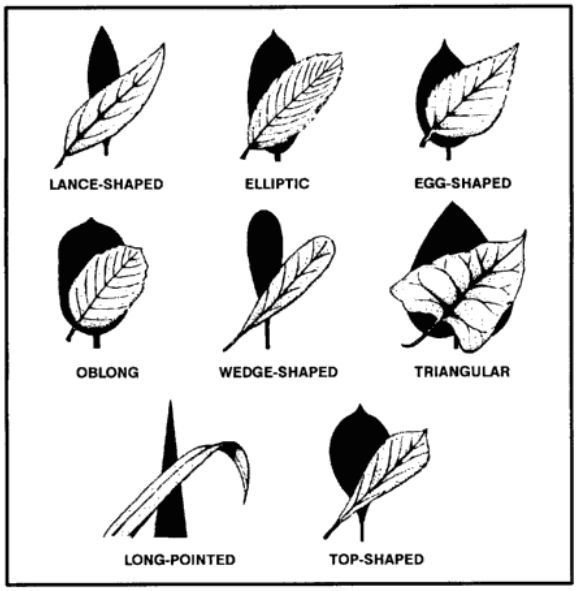

Figure 9-2. Leaf shapes.

The basic types of leaf arrangements (Figure 9-3) are opposite, alternate, compound, simple, and basal rosette.

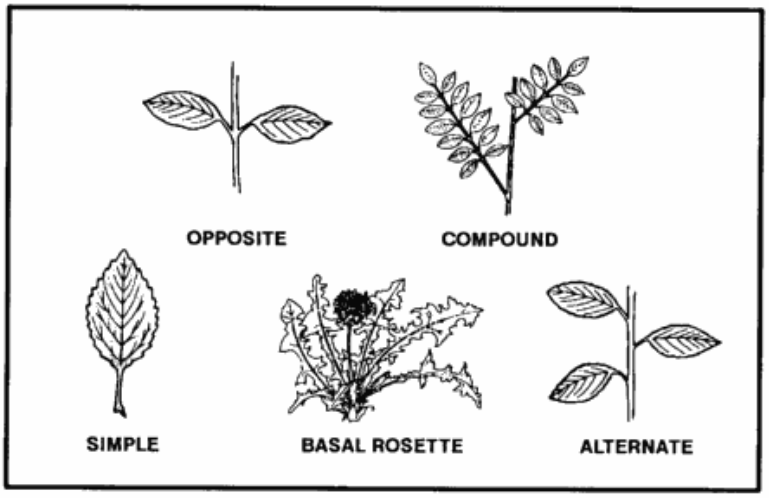

Figure 9-3. Leaf arrangements.

The basic types of root structures (Figure 9-4) are the bulb, clove, taproot, tuber, rhizome, corm, and crown. Bulbs are familiar to us as onions and, when sliced in half, will show concentric rings. Cloves are those bulblike structures that remind us of garlic and will separate into small pieces when broken apart. This characteristic separates wild onions from wild garlic. Taproots resemble carrots and may be single-rooted or branched, but usually only one plant stalk arises from each root. Tubers are like potatoes and daylilies and you will find these structures either on strings or in clusters underneath the parent plants. Rhizomes are large creeping rootstock or underground stems and many plants arise from the "eyes" of these roots. Corms are similar to bulbs but are solid when cut rather than possessing rings. A crown is the type of root structure found on plants such as asparagus and looks much like a mophead under the soil's surface.

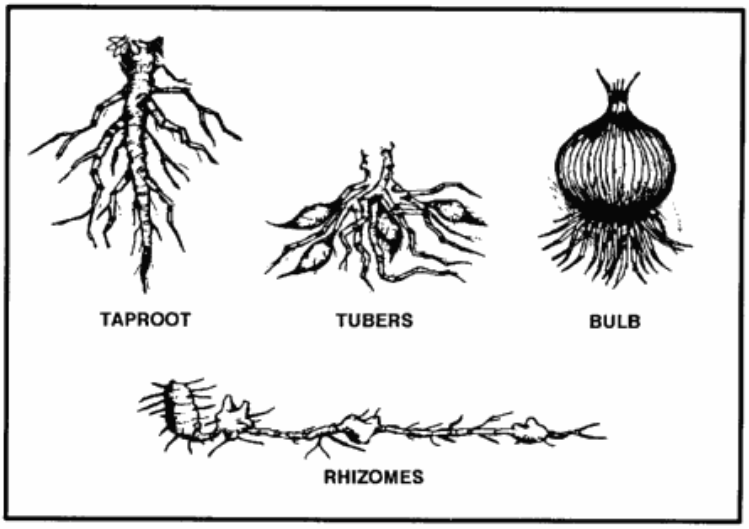

Figure 9-4. Root structures.

Learn as much as possible about plants you intend to use for food and their unique characteristics. Some plants have both edible and poisonous parts. Many are edible only at certain times of the year. Others may have poisonous relatives that look very similar to the ones you can eat or use for medicine.

Universal Edibility Test

There are many plants throughout the world. Tasting or swallowing even a small portion of some can cause severe discomfort, extreme internal disorders, and even death. Therefore, if you have the slightest doubt about a plant's edibility, apply the Universal Edibility Test (Figure 9-5) before eating any portion of it.

1	Test only one part of a potential food plant at a time.
2	Separate the plant into its basic components – leaves, stems, roots, buds, and flowers.
3	Smell the food for strong or acid odors. Remember, smell alone does not indicate a plant is edible or inedible.
4	Do not eat for 8 hours before starting the test.
5	During the 8 hours you abstain from eating, test for contact poisoning by placing a piece of the plant part you are testing on the inside of your elbow or wrist. Usually 15 minutes is enough time to allow for a reaction.
6	During the test period, take nothing by mouth except purified water and the plant part you are testing.
7	Select a small portion of a single part and prepare it the way you plan to eat it.
8	Before placing the prepared plant part in your mouth, touch a small portion (a pinch) to the outer surface of your lip to test for burning or itching.
9	If after 3 minutes there is no reaction on your lip, place the plant part on your tongue, holding it there for 15 minutes.
10	If there is no reaction, thoroughly chew a pinch and hold it in your mouth for 15 minutes. **Do not swallow.**
11	If no burning, itching, numbing, stinging, or other irritation occurs during the 15 minutes, swallow the food.
12	Wait 8 hours. If any ill effects occur during this period, induce vomiting and drink a lot of water.
13	If no ill effects occur, eat 0.25 cup of the same plant part prepared the same way. Wait another 8 hours. If no ill effects occur, the plant part as prepared is safe for eating.

CAUTION

Test all parts of the plant for edibility, as some plants have both edible and inedible parts. Do not assume that a part that proved edible when cooked is also edible when raw. Test the part raw to ensure edibility before eating raw. The same part or plant may produce varying reactions in different individuals.

Figure 9-5. Universal Edibility Test.

Before testing a plant for edibility, make sure there are enough plants to make the testing worth your time and effort. Each part of a plant (roots, leaves, flowers, and so on) requires more than 24 hours to test. Do not waste time testing a plant that is not relatively abundant in the area.

Remember, eating large portions of plant food on an empty stomach may cause diarrhea, nausea, or cramps. Two good examples of this are such familiar foods as green apples and wild onions. Even after testing plant food and finding it safe, eat it in moderation.

You can see from the steps and time involved in testing for edibility just how important it is to be able to identify edible plants.

To avoid potentially poisonous plants, stay away from any wild or unknown plants that have--

- Milky or discolored sap.
- Beans, bulbs, or seeds inside pods.
- Bitter or soapy taste.
- Spines, fine hairs, or thorns.
- Dill, carrot, parsnip, or parsleylike foliage.
- "Almond" scent in woody parts and leaves.
- Grain heads with pink, purplish, or black spurs.
- Three-leaved growth pattern.

Using the above criteria as eliminators when choosing plants for the Universal Edibility Test will cause you to avoid some edible plants. More important, these criteria will often help you avoid plants that are potentially toxic to eat or touch.

An entire encyclopedia of edible wild plants could be written, but space limits the number of plants presented here. Learn as much as possible about the plant life of the areas where you train regularly and where you expect to be traveling or working. Listed below and later in this chapter are some of the most common edible and medicinal plants. Detailed descriptions and photographs of these and other common plants are at Appendix B.

TEMPERATE ZONE FOOD PLANTS	
Amaranth (*Amaranthus retroflexus* and other species)	Oaks (*Quercus* species)
Arrowroot (*Sagittaria* species)	Persimmon *(Diospyros virginiana)*
Asparagus *(Asparagus officinalis)*	Plantain (*Plantago* species)
Beechnut (*Fagus* species)	Pokeweed *(Phytolacca americana)*
Blackberries (*Rubus* species)	Prickly pear cactus (*Opuntia* species)
Blueberries (*Vaccinium* species)	Purslane *(Portulaca oleracea)*
Burdock *(Arctium lappa)*	Sassafras *(Sassafras albidum)*
Cattail (*Typha* species)	Sheep sorrel *(Rumex acetosella)*
Chestnut (*Castanea* species)	Strawberries (*Fragaria* species)
Chicory *(Cichorium intybus)*	Thistle (*Cirsium* species)
Chufa *(Cyperus esculentus)*	Water lily and lotus (*Nuphar, Nelumbo,* and other species)
Dandelion *(Taraxacum officinale)*	Wild onion and garlic (*Allium* species)
Daylily *(Hemerocallis fulva)*	Wild rose (*Rosa* species)
Nettle (*Urtica* species)	Wood sorrel (*Oxalis* species)

TROPICAL ZONE FOOD PLANTS

- Bamboo (*Bambusa* and other species)
- Bananas (*Musa* species)
- Breadfruit *(Artocarpus incisa)*
- Cashew nut *(Anacardium occidental)*
- Coconut *(Cocos nucifera)*
- Mango *(Mangifera indica)*
- Palms (various species)
- Papaya (*Carica* species)
- Sugarcane *(Saccharum officinarum)*
- Taro (*Colocasia* species)

DESERT ZONE FOOD PLANTS

- Acacia *(Acacia farnesiana)*
- Agave (*Agave* species)
- Cactus (various species)
- Date palm *(Phoenix dactylifera)*
- Desert amaranth *(Amaranths palmeri)*

Seaweeds

One plant you should never overlook is seaweed. It is a form of marine algae found on or near ocean shores. There are also some edible freshwater varieties. Seaweed is a valuable source of iodine, other minerals, and vitamin C. Large quantities of seaweed in an unaccustomed stomach can produce a severe laxative effect.

When gathering seaweeds for food, find living plants attached to rocks or floating free. Seaweed washed onshore any length of time may be spoiled or decayed. You can dry freshly harvested seaweeds for later use.

Its preparation for eating depends on the type of seaweed. You can dry thin and tender varieties in the sun or over a fire until crisp. Crush and add these to soups or broths. Boil thick, leathery seaweeds for a short time to soften them. Eat them as a vegetable or with other foods. You can eat some varieties raw after testing for edibility.

SEAWEEDS

Dulse (Rhodymenia palmata)
Green seaweed (Ulva lactuca)
Irish moss (Chondrus crispus)
Kelp (Alaria esculenta)
Laver (Porphyra species)
Mojaban (Sargassum fulvellum)
Sugar wrack (Laminaria saccharina)

Preparation of Plant Food

Although some plants or plant parts are edible raw, you must cook others to be edible or palatable. Edible means that a plant or food will provide you with necessary nutrients, while palatable means that it actually is pleasing to eat. Many wild plants are edible but barely palatable. It is a good idea to learn to identify, prepare, and eat wild foods.

Methods used to improve the taste of plant food include soaking, boiling, cooking, or leaching. Leaching is done by crushing the food (for example, acorns), placing it in a strainer, and pouring boiling water through it or immersing it in running water.

Boil leaves, stems, and buds until tender, changing the water, if necessary, to remove any bitterness.

Boil, bake, or roast tubers and roots. Drying helps to remove caustic oxalates from some roots like those in the *Arum* family.

Leach acorns in water, if necessary, to remove the bitterness. Some nuts, such as chestnuts, are good raw, but taste better roasted.

You can eat many grains and seeds raw until they mature. When hard or dry, you may have to boil or grind them into meal or flour.

The sap from many trees, such as maples, birches, walnuts, and sycamores, contains sugar. You may boil these saps down to a syrup for sweetening. It takes about 35 liters of maple sap to make one liter of maple syrup!

Weather 101 - Cloud Formations

You wouldn't leave the dock without first checking the local weather forecast. You can get weather information from TV, radio, your VHF radio and on the Internet (see Safety Links above). While on the water, your VHF radio is the best source for weather warnings. Even so, at certain times of the year weather can change rapidly and you should continually keep a "weather eye" out, especially to the west, in order to foresee changes which might be impending.

Clouds are a tool you can use to predict or forecast weather. The type of cloud and direction of movement can warn you of weather changes that are imminent. Clouds are categorized by the altitude at which they appear and the shape that they take.

(This is not an in-depth study of clouds, but an attempt to simplify the subject for use by recreational boaters.)

Cloud Group	Cloud Height	Cloud Types
High Clouds = **Cirrus**	Above 18,000 feet	Cirrus Cirrostratus Cirrocumulus
Middle Clouds = **Alto**	6,500 feet to 18,000 feet	Altostratus Altocumulus
Low Clouds = **Stratus**	Up to 6,500 feet	Stratus Stratocumulus Nimbostratus
Clouds with vertical growth		Cumulus Cumulonimbus

It is helpful to remember the following definitions of cloud shapes:

	**Cumulus** meaning "heap, a pile, an accumulation"
	**Stratus** meaning "spread out, flatten, cover with a layer"

	**Nimbus** meaning "rainy cloud"

Variations of cloud types are created by combining the cloud's shape/description with the altitudinal names as a prefix or suffix.

Cirros (high) or **Cirro** can be used with **cumulus** (heap) to indicate a **cirrocumulus** or high, lumpy cloud. Cirrocumulus clouds, sometime called "mackerel skies", can indicate the approach of a hurricane in the tropics. It can also be used with **stratus** (flat, layered) as in **cirrostratus** to indicate a high, flat or layered cloud. **High clouds exist above 18,000 feet and are cirrus clouds**

Alto can also be used with **cumulus** and **stratus** to indicate **altocumulus** and **altostratus** which are middle altitude lumpy clouds and middle altitude layered clouds respectively.

Nimbo or **nimbus** might be used with **cumulus** or **stratus** to indicate a cloud formation that is producing precipitation. These clouds could be either **cumulonimbus** which would be a lumpy, vertically-rising rain cloud or **nimbostratus** which would be a sheet or flat-looking rain cloud.

If you have a barometer check it every two to three hours. A rapid drop in pressure means a storm is approaching

If you still can't remember all of the cloud names and formations, you can always watch the clouds for two specific weather situations that indicate a high probability of a storm:

1. A "lowering ceiling": This means that the height of cloud formations continues to get lower and lower, usually caused by a warm front. As the ceiling lowers you will see clouds in the following order:

- Cirrus
- Cirrostratus
- Altostratus
- Stratus
- Nimbostratus - storm clouds!

2. On the other hand, watch for cumulus (puffy) clouds that start to rapidly develop vertically to become cumulonimbus thunderstorm clouds. On hot and humid days, these storms occur over water as the radiant heat from the land absorbs moisture from nearby water and rises to produce thunderheads. These storms can also indicate a cold front and may be preceded by squall lines, a row of black storm clouds. Wind shifts unpredictably and accelerates dramatically. Lightning can occur for miles in front of a storm and after the storm appears to have passed.

Other things to look for that indicate an approaching weather change:

- Weather changes generally come from the west so scan the sky with your weather eye, especially to the west. A sudden drop in temperature and change in the wind (increasing winds and/or seas) often means that a storm is near.

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LAND NAVIGATION

Knowledge of land navigation skills is important for travelers in the backcountry. Being able to find your way in the outdoors is often very useful to prevent oneself from becoming lost in unfamiliar areas. When hiking or backpacking the skills used in land navigation are essential when heading off of marked trails and into the backcountry. For the most successful outdoor experiences all backwoods navigators should know how to properly use land navigation techniques. Also all backcountry travelers should practice Leave No Trace and low-impact hiking techniques.

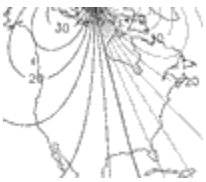
The Primary Components of Land Navigation that Hikers Should Know How to Correctly Use are:

- **Use a compass**
- **Adjust for declination**
- **Use a topographical map**
- **Pace distances**
- **Follow a bearing**

The Compass

The compass is a very important tool for navigating in the backcountry. Anyone wishing to venture into the backcountry should have a compass and know how to correctly use it. A compass will allow you to determine direction, take bearings, plot your route of travel on a map, sight on landmarks for straight-line traveling, and to detour in the right direction when going around obstacles. Unfortunately there are many misconceptions about compasses. Contrary to many peoples belief the compass does not point to true north. True north is when the compass points directly towards the North Pole. The needle of the compass actually aligns itself to the magnetic field of the earth, which is an area south of the North Pole. The direction that the compass needle points is called magnetic or compass north. The more you know about how a compass works the more you will be able to trust your compass to guide you.

Declination



The earth's magnetic field varies depending on the location as well as changing over time. In the United States the variation between true north and magnetic north can be more than 20 degrees. This difference between the two norths is called declination. The only place where magnetic north is the same as true north is along the agonic line. Declination is 0 degrees alongside the agonic line. Other lines called isogonic lines denote the value of the variations of declination east or west of the agonic line. In 1999 the agonic line ran from the western edge of the Upper Peninsula of Michigan to the south western tip of Florida. When using a compass west of the agonic line, the needle points in a direction that is east of true north. This is called easterly declination. When using a compass east of the agonic line, the needle points in a direction that is west of true north. This is called westerly declination.

Adjusting for Declination

Many people do not know how to properly adjust for declination. Adjusting for declination is important for accuracy in route finding. To have your map and compass speaking the same language, north on your compass must equal true north on your map. To make them equal you need to either add or subtract the declination. Whether you add or subtract depends on if you have an easterly or westerly declination. It also depends on if are converting a map bearing to a compass bearing or converting a compass bearing to a map bearing.

If you were in an area with a 10 degree west declination it would be very desirable to adjust for declination. To orient a map and compass to true north declination needs to be compensated for. To orient to true north first set the direction of travel arrow on one of the north/south grid lines of your map. Then move the map and compass together and orient to north. Map and compass are now oriented to magnetic north at 0 or 360 degrees. To orient map and compass to true north you need to add a westerly declination (west is best) or subtract an easterly declination (east is least).

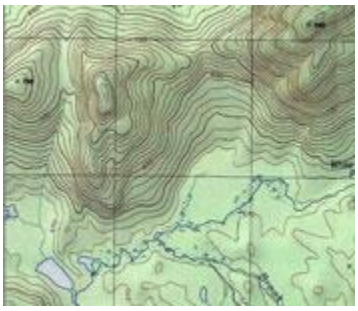
With a 10 degree west declination, to get true north you will add 10 degrees. Set the compass at 10 degrees, keep the direction of travel arrow on the grid, and then orient for north again. Map and compass are now facing the direction of true north. When plotting a course on your map that you will follow on the ground with your compass, you will need to convert the map bearing to a compass bearing. If your map is oriented to magnetic north, or if you got your bearing from a protractor, then you need to adjust for declination. The west is best, east is least rule applies here. A 10 degree west declination will change a 60 degree map bearing into a 70 degree compass bearing. You will use the compass bearing to get you headed in the right direction from point A to point B.

If your map is oriented to true north, then when you use your compass to take a bearing from your map, it would already be adjusted for. It would read 70 degrees which is the direction that you want to travel on the ground. A compass oriented to true north in an area with a 10 degree west declination would have a due east bearing of 100 degrees.

If you are converting a magnetic bearing to a map bearing then the west is best, east is least rule does not apply if your map is oriented to true north. If your map is oriented to magnetic north then a map bearing is the same as a compass bearing. To follow the bearing on the ground it only needs to be properly adjusted for declination. If you're in an area with a 10 degree west declination and your map is oriented to true north, a compass bearing of 10 degrees is 0 degrees on the map. You will subtract a westerly declination. It is the opposite of converting a map bearing to a compass bearing. A 280 degree magnetic bearing will be 270 degrees (due west) on a map oriented to true north with a 10 degree west declination. A 70 degree compass bearing is a 60 degree bearing on the map.

There is a simple way to to illustrate why you need to subtract the 10 degree west declination to get the right map bearing. Orient your map and compass to true north for a 10 degree west declination. Your compass should be set to 10 degrees, the direction of travel arrow should be on the north/south grid line, and the needle should be oriented to north. Now set the compass to 70 degrees and count how many degrees there are between 10 degrees and 70 degrees. It is fairly easy to see that there are 60 degrees. This is why you need to subtract a westerly declination or add an easterly declination when converting a magnetic bearing to a map bearing.

Using Topographical Maps



All backcountry navigators should know how to use and interpret topographical maps. Being able to interpret topographical maps will help you in choosing the best route with the least resistance and will also help you to avoid natural barriers like swamps or terrain that is too steep.

Topographical maps are a pictorial representation of what an area looks like on the ground. The features of the land are represented on the maps by symbols, colors, and lines. They show us distance, direction, and details like landmarks, land boundaries, latitude and longitude lines, and they also show us changes in the level of the land. The changes in the level of the land are indicated by contour lines.

You should always check the date on your map before you adjust your bearings for declination. If your map is old enough you may need to compensate for more declination than the map says. Mooers (1972), says there is an 'annual westward change of 7 minutes' of the earth's magnetic field. The agonic and isogonic lines are slowly moving westward. For example, a 22 year old map of an area in Michigan that reads a declination of 3 degrees west, would now have a declination of 5 degrees and 34 minutes west. The formula for this example is: 22 yrs. x 7 minutes = 154 minutes. 154 minutes/ 60 minutes per degree = 2.56 degrees. 2 degrees + (.56 deg. x 60 min/deg. =33.6 minutes). The new value is 2 degrees and 34 minutes + 3 degrees which = 5 degrees and 34 minutes west.

If the declination that you are working with is a westerly declination then the new value will be a higher one (add the change), if it is an easterly declination the new value will be lower (subtract the change), or if your declination was 1 degree east you may now have a westerly declination. So depending on how old your map is and your location, declination can really be an important factor when using your compass.

Topographical maps come in different scales that show different amounts of detail. The map scales that are most commonly used are 1:62,500 maps (15 minute maps). The distance scale on 1:62,500 maps is 1 inch on the map = 1 mile on land. 1:24,000 maps (7.5 minute maps) are often used and show even more detail. Their scale is 1 inch = 2,000 feet.

Backcountry travelers should be aware of the error factor in map distance. Maps basically measure the distance between 2 points 'as the crow flies'. This differs from the actual distance on the ground unless the land is totally flat. An extreme example of this is the case of a mountain peak. The measured map distance is 1 mile to the top. But with the 60 degree slope of the mountain, the ascent route is twice as long as the portrayed map distance according to Mooers (1972). It is actually 1 mile longer than the distance read off the map. So be aware that the distance measured by maps don't take into account a longer ground distance. Generally if you

calculate a hike of six miles, you should figure in map distance error and obstacles, and, as Brown (1980) states, 'be prepared to actually cover about 8 miles'.

Pacing Distances and Determining your Pace

A cross-country navigator needs to know how to pace distances. Pacing distances is important when you need to travel a specified distance cross-country to reach your destination. We measure distances so that we know where we are, where we've been, and how much farther we have to go before we reach our target.

Paces vary between individuals and with different types of terrain that is traveled. Pacing uses a natural stride for traveling that is equal to 2 steps. To determine or "calibrate" your pace, you first need to accurately measure out a course that you will travel over several times. You will use the number of paces that it took you to travel the course to figure out how many feet your pace is. A course 200 feet in length is a good distance to pace.

Start with your right foot and count every time your left foot hits the ground as 1 pace. To figure out how many feet are in your pace, divide the length of your course by how many paces it took you to travel it. For example: 200 feet/40 paces = a 5 foot pace.

You can use your pace to keep track of your distance while navigating in the woods. A person with a 5 foot pace will have 528 paces in 1/2 mile. Be aware that your pace will vary with the terrain. You will have the least amount of paces on flat ground. Your paces will be longer going downhill and shorter going uphill. It is desirable that you measure your pace for different kinds of terrain. You will probably use your pacing skills mostly when backpacking in areas that have regulations requiring you to choose a backcountry campsite a certain distance (200 - 300 feet) away from trails, water, or historical sites, etc.

When you know your pace, you can take a bearing from your map, set your compass, and head toward your destination. One thing you'll want to do is turn your map (orient it) so that it coincides with the ground in front of you, so that your destination is in the right place. Your map may be sideways or upside down but you still will be able to orient it with your compass. Once you have your map, compass, and pacing skills you could test your skills by setting up a compass course.

Following a Bearing

While following a bearing and pacing toward your goal, you will want to stay on course and maintain as much of a straight line as possible. To stay on track you need to know where you are, where you've been, and of course where you're going. It is beneficial to develop a sense of direction when in the woods. You should always be aware of where you are on the map. Regularly check your position. Carry a note pad with you so that you can record your bearings and paces. It may be useful for you to make a pre-trip sketch of your route. You can roughly sketch out landmarks, distances, and bearings. You don't have to adjust for declination on your pre-trip sketch. Remember, when taking a true bearing from a map all that is needed is the angle

between true north and the objective. It is not necessary to consider magnetic declination' (Mooers,1972).

One way to keep as much of a straight line as possible, is to sight on some distant landmark in line with your desired bearing, and then to travel to it. This will keep you from drifting off course. Studies have shown that 'man has a natural tendency to circle' (Rutstrum, 1967). The most accurate type of compass is one that has a mirror sight. This kind of compass allows you to sight on distant objects and look at your compass at the same time. When sighting be sure to sight with your dominant eye to avoid errors.

Navigators should be aware that the compass can also be affected by the presence of steel, iron, electrical lines, and mineral deposits. The needle will tend toward magnetic north but will register the direction of the strongest magnetic influence wherever it may be. So when using a compass, be aware of things that could give you a faulty reading and lead you off course, and try to stay away from them.

Another method you can use to get to where you are going is called over sighting or following what Rutstrum (1967) calls an 'intentional deviation course'. The compass is not 100% accurate. There is a slight margin of error. Let's say that you were headed due north to get to a small waterfall that you want to see. The river is 1 mile ahead of you and is flowing east to west. So the whole river is north of you. From where you are located your map bearing tells you that the waterfall is at 0 degrees; due north of you. You travel due north for 1 mile, but while you are traveling you somehow stray off course slightly. So you reach the river but you have not reached the falls, and you can't hear them either. Now you have to decide which way to follow the river to get to your objective.

To avoid having to guess which direction to take to get to your destination, you can intentionally over sight your target. You can take a bearing, let's say, 20 degrees east of your destination. Then when you reach the river you will know that you have to follow it west to reach the waterfall. With following an intentional deviation course you can be sure of which direction to travel when reaching the river.

An understanding of land navigation skills is very important for outdoor enthusiasts who wish to explore and travel through the backcountry. We need them to determine direction, interpret maps of the area where our adventure will take place, plot routes on a map and correctly follow them on the ground, and we need them to determine the distance of our journey. As responsible backcountry travelers we need to be sure to practice Leave No Trace hiking techniques Knowing all these backcountry navigation skills will make excursions into the backcountry safer and more satisfying experiences.

9-5. FIELD-EXPEDIENT METHODS

When a compass is not available, different techniques should be used to determine the four cardinal directions.

a. **Shadow-Tip Method.**

(1) This simple and accurate method of finding direction by the sun consists of four basic steps (Figure 9-7).

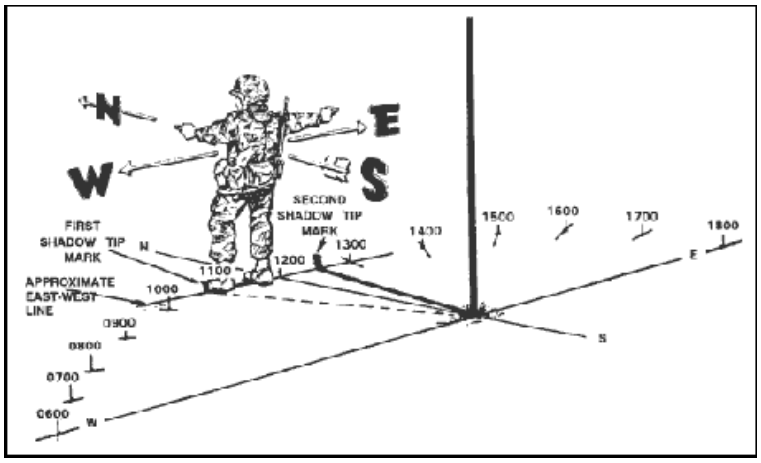


Figure 9-7. Determining directions and time by shadow.

Step 1. Place a stick or branch into the ground at a level spot where a distinctive shadow will be cast. Mark the shadow tip with a stone, twig, or other means. This first shadow mark is always the west direction.

Step 2. Wait 10 to 15 minutes until the shadow tip moves a few inches. Mark the new position of the shadow tip in the same way as the first.

Step 3. Draw a straight line through the two marks to obtain an approximate east-west line.

Step 4. Standing with the first mark (west) to your left, the other directions are simple; north is to the front, east is to the right, and south is behind you.

(2) A line drawn perpendicular to the east-west line at any point is the approximate north-south line. If you are uncertain which direction is east and which is west, observe this simple rule--the first shadow-tip mark is always in the west direction, everywhere on earth.

(3) The shadow-tip method can also be used as a shadow clock to find the approximate time of day (Figure 9-7).

(a) To find the time of day, move the stick to the intersection of the east-west line and the north-south line, and set it vertically in the ground. The west part of the east-west line indicates 0600 hours, and the east part is 1800 hours, anywhere on earth, because the basic rule always applies.

(b) The north-south line now becomes the noon line. The shadow of the stick is an hour hand in the shadow clock, and with it you can estimate the time using the noon line and the 6 o'clock line as your guides. Depending on your location and the season, the shadow may move either clockwise or counterclockwise, but this does not alter your manner of reading the shadow clock.

(c) The shadow clock is not a timepiece in the ordinary sense. It makes every day 12 unequal hours long, and always reads 0600 hours at sunrise and 1800 hours at sunset. The shadow clock time is closest to conventional clock time at midday, but the spacing of the other hours compared to conventional time varies somewhat with the locality and the date. However, it does provide a satisfactory means of telling time in the absence of properly set watches.

(d) The shadow-tip system is not intended for use in polar regions, which the Department of Defense defines as being above 60° latitude in either hemisphere. Distressed persons in these areas are advised to stay in one place so that search/rescue teams may easily find them. The presence and location of all aircraft and ground parties in polar regions are reported to and checked regularly by governmental or other agencies, and any need for help becomes quickly known.

b. **Watch Method.**

(1) A watch can be used to determine the approximate true north and true south. In the north temperate zone only, the hour hand is pointed toward the sun. A south line can be found midway between the hour hand and 1200 hours, standard time. If on daylight saving time, the north-south line is found between the hour hand and 1300 hours. If there is any doubt as to which end of the line is north, remember that the sun is in the east before noon and in the west after noon.

(2) The watch may also be used to determine direction in the south temperate zone; however, the method is different. The 1200-hour dial is pointed toward the sun, and halfway between 1200 hours and the hour hand will be a north line. If on daylight saving time, the north line lies midway between the hour hand and 1300 hours (Figure 9-8).

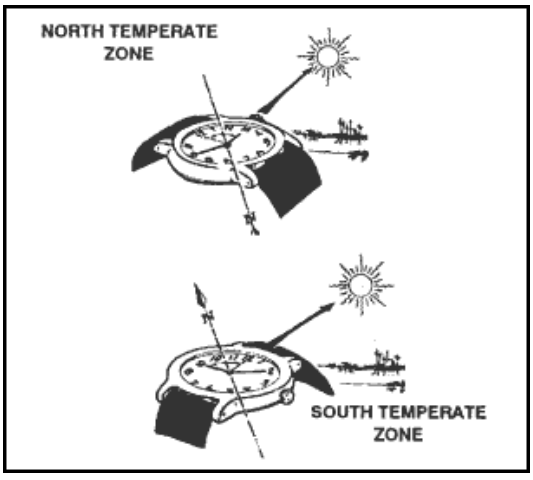


Figure 9-8. Determining direction by using a watch.

(3) The watch method can be in error, especially in the lower latitudes, and may cause *circling*. To avoid this, make a shadow clock and set your watch to the time indicated. After traveling for an hour, take another shadow-clock reading. Reset your watch if necessary.

c. **Star Method.**

(1) Less than 60 of approximately 5,000 stars visible to the eye are used by navigators. The stars seen as we look up at the sky at night are not evenly scattered across the whole sky. Instead they are in groups called constellations.

(2) The constellations that we see depends partly on where we are located on the earth, the time of the year, and the time of the night. The night changes with the seasons because of the journey of the earth around the sun, and it also changes from hour to hour because the turning of the earth makes some constellations seem to travel in a circle. But there is one star that is in almost exactly the same place in the sky all night long every night. It is the North Star, also known as the Polar Star or Polaris.

(3) The North Star is less than 1° off true north and does not move from its place because the axis of the earth is pointed toward it. The North Star is in the group of stars called the Little Dipper. It is the last star in the handle of the dipper. There are two stars in the Big Dipper, which are a big help when trying to find the North Star. They are called the Pointers, and an imaginary line drawn through them five times their distance points to the North Star. There are many stars brighter than the North Star, but none is more important because of its location. However, the North Star can only be seen in the northern hemisphere so it cannot serve as a guide south of the equator. The farther one goes north, the higher the North Star is in the sky, and above latitude 70°, it is too high in the sky to be useful (Figure 9-9).

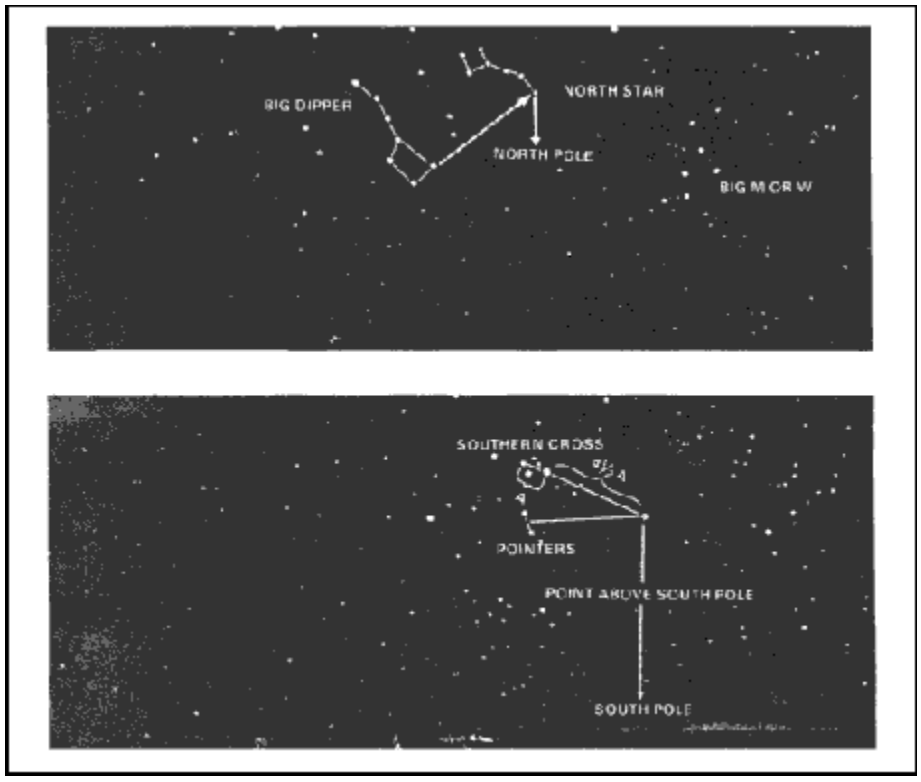


Figure 9-9. Determining direction by the North Star and Southern Cross.

(4) Depending on the star selected for navigation, azimuth checks are necessary. A star near the north horizon serves for about half an hour. When moving south, azimuth checks should be made every 15 minutes. When traveling east or west, the difficulty of staying on azimuth is

caused more by the likelihood of the star climbing too high in the sky or losing itself behind the western horizon than it is by the star changing direction angle. When this happens, it is necessary to change to another guide star. The Southern Cross is the main constellation used as a guide south of the equator, and the above general directions for using north and south stars are reversed. When navigating using the stars as guides, the user must know the different constellation shapes and their locations throughout the world (Figure 9-10.

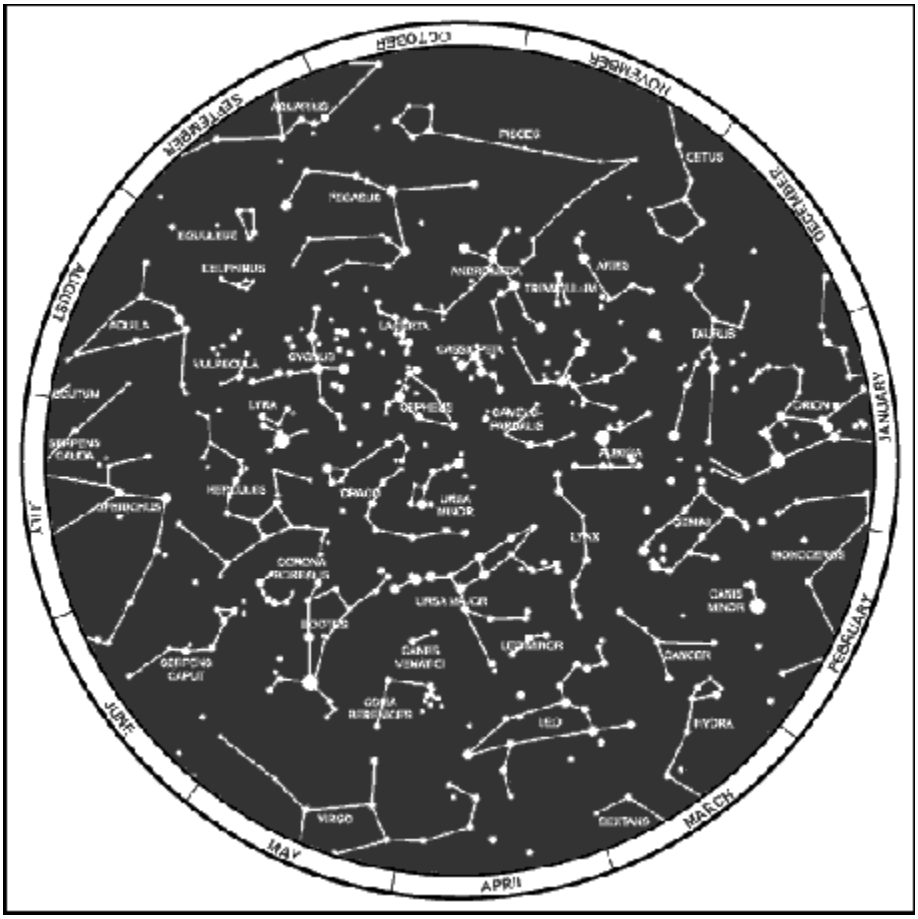


Figure 9-10. Constellations, northern hemisphere.

Night Navigation

Darkness presents its own characteristics for land navigation because of limited or no visibility.

Darkness presents its own characteristics for land navigation because of limited or no visibility. However, the techniques and principles are the same as those used for day navigation. The success in nighttime land navigation depends on rehearsals during the planning phase before the movement, such as detailed analysis of the map to determine the type of terrain in which the navigation is going to take place, and the predetermination of azimuths and distances. Night vision devices can greatly enhance night navigation.

a. The basic technique used for nighttime land navigation is dead reckoning with several compasses recommended. The point man is in front of the navigator but just a few steps away for

easy control of the azimuth. Smaller steps are taken during night navigation, so remember, the pace count is different. It is recommended that a pace count obtained by using a predetermined 100-meter pace course be used at night.

b. Navigation using the stars is recommended in some areas; however, a thorough knowledge of constellations and location of stars is needed. The four cardinal directions can also be obtained at night using the same technique described for the shadow-tip method-just use the moon instead of the sun. In this case, the moon must be bright enough to cast a shadow.

The Top 10 Edible Insects in North America

What are the top ten insects that are safe to eat in North America and that can usually be easily found? If there are hundreds and even thousands of edible insects to choose from across the entire continent, what are the top ten? I've chosen what I think are the top ten most easily recognized insects by Americans as well as common household names.

Crickets and Grasshoppers

Crickets and grasshoppers contain calcium as well as a high ratio of protein for their size (20.6 grams of protein for every 100 grams of insects). The legs and wings have no noticeable nutritional value to speak of and at the same time add an extra "crunch" to each bite -- because of that many people choose to simply pulloff the legs and wings before eating any. Eat them raw or cooked -- but like most insects they'll probably go down a lot easier when they've been cooked.

Locusts

Locusts are a term used to describe crickets and grasshoppers when they form swarms, meaning they travel in large numbers and have been known to devastate crops and terrorize farmers. In some parts of the world locusts are eaten as a staple -- in fact when these swarms take place people are known to sweep them up into bags for later consumption.

Caterpillars (moth / butterfly larvae)

Of all the edible insects, caterpillars surprised me the most. There's something about these hairy or hairless bugs that just doesn't seem that palatable, yet they're reported to be quiet healthy, containing high amounts of protein, very little fat, iron, plenty of B-vitamins like niacin and thiamine. Here's where the data seems to be incomplete or just not fully published on the subjects of caterpillars. Some are reported to be toxic but the sources I found failed to list just which ones were safe to eat and which ones aren't. Further down you'll read about tell tale signs that insects aren't good to eat from which ones that are (I'm talking about bright colors that usually signify a insect that is not safe to eat. I would suggest that you apply that to any caterpillar that you find -- whether it has "hair" or not.)

Ants

Ants are edible -- though not all ants are friendly. Some, like fire ants, can bite. If a lot of them get on you those bites can be painful. When it comes to ants, you just need a way to safely scoop them into a container (which means typically digging into an ant hill) and then a way to shake them free of any soil that is also scooped up. When you've figured out a way to separate them from the soil, boil them in a shallow pan. Boiling removes a vinegar taste they have when eaten raw. In an emergency situation who cares about taste however? Ants can be a quick source of food if you're running through the woods and don't have time to put a fire together and boil up a batch.

June Bugs

June Bugs are actually a common species of beetle. Some of the largest have been found living alive and well in populated cities like Santa Fe, Albuquerque, and strangely Denver, CO. I've seen plenty of these guys around in my day (usually the smaller ones) and they're reported to be edible -- even a tasty snack when grilled or cooked over a fire. Look for these bugs either on plants in the late evening hours or during the day look under plants and plant debris on the forest floor. They don't move very fast -- sometimes they don't seem to move at all -- and can be easy to catch.

Termites

At the same time pay close attention to any downed trees, decaying logs, and stumps that may contain termites. Like caterpillars and many other bugs, termites are also high in protein. Of course because they're small you'll have to eat quite few. When you're in the wilderness your best bet is to look for termites where they can be typically found -- damp, dead wood. For survivors in the wilderness, there is usually plenty of damp, dead wood to be found, particularly in forests and in coastal regions that receive a lot of rain.

Centipedes

How many times have you flipped over a log or large rock to see a centipede skitter away? One of the fastest meals when you're lost in a forest is going to be a centipede. While you're looking for termite logs and tree stumps keep an eye out for other outcroppings you'll likely find centipedes hiding under.

Centipedes are not to be confused with millipedes -- millipedes are smaller and have more legs while centipedes in general are larger -- centipedes have a lot of legs, just a lot less than a millipede. Millipedes are **poisonous** -- do not eat these guys. They emit a foul-smelling cyanide substance, the source of their poison. Be sure you know the difference between a centipede and a millipede. (Orkin calls them pests -- some people call them lunch.)

Centipedes can inflict damage as well, but that damage comes from it's pinchers when they bite. Like a scorpion's tail or a venomous snake's head though, a centipede's head (and pinchers) can be simply cut away and the rest of the insect eaten.

Mealworms

Hatched from eggs laid by darkling beetles, a common beetle in North America, mealworms are nutritious and a staple of primitive cultures. There are over 1400 species of darkling beetles in North America. When cooked they're said to be some pretty tasty insects -- a lot like roasted seeds or nuts. Here's a site that lays out instructions for raising a mealworm colony for the purpose of insect harvesting: Abigale's Edibles

Scorpions

You'll typically find scorpions in the southern desert areas of the United States though they are common in other parts of the world as well. You can raise scorpions for later harvesting or you can hunt for them outdoors by looking for small holes under rocks, trees, tree limbs, or other outcroppings in the soil. When you find scorpion holes it's not hard to catch them and skewer them -- though it will take a few containers such as glass bottles or plastic Tupperware ... heck, even small paper bags weighted down with a rock would work -- though you wouldn't want to be stung through the paper should the scorpion strike. With that in mind it would be best to have yourself a glass bottle to catch these guys in.

What you do is dig a second larger hole at the base of the first hole, and place your bottle in the hole for the scorpion to fall into when he exits his hole. If you place a number of bottles around the area where you find suspected scorpion holes you're likely to catch yourself a few. With a sharp stick you can poke right through its side; remove the scorpion from the bottle and pin it down; take a large knife and cut away it's tail; that's the part that will sting you and is venomous. Be sure to bury the stinger. No sense in getting stung because you got careless. Scorpions are said to be best eaten roasted over a fire or grilled in a pan, but they can also be eaten raw. These are a delicacy in many places and popular with a lot of people.

Bees / Wasps (wasp larvae)

Bees and wasps are a daily part of our life -- when the weather warms the windows and doors open and before you know it in flies an insect you'd rather not have around the house.

When it comes to survival, how do we find a bees nest or wasp nest that could be hundreds of yards from where that first bee or wasp is located?

David Cordon, author of *"The Eat a Bug Cookbook"*, reports that traditional wasp catchers in Japan would tie a long silk thread to a wasp they caught, then follow that wasp and the trailing thread to it's nest. Once at the nest they then used smoke to drive away the wasps so they could get to the edible larva within the nest.

My recommendation is if you're going to use that technique to look for edible wasp larvae, you should do this: Build a big fire and use a lot of smoke ... use more smoke than you think you need ... smoke those wasps out for a few hours if that's what it takes. No sense in rushing it and getting stung by a bunch of wasps because you didn't do a good job smoking them out of the nest. This is one of those things where you need to read between the lines.

David Cordon also gives a recipe for cooking honeybees -- adult honeybees. One way to find a honeybee nest could be the same exact way that the Japanese in past generations searched out wasp nests -- by catching a wasp and tying a long thread to it and simply following it. In America silk thread isn't as easy to come by as sewing thread may be. If you have sewing thread packed in your emergency kit then you have the means it seems to track down a honeybee nest. Of course another way is to comb the country side with a small group of people, making note on paper of the location of every wasp nest and honeybee nest you come across.

How do you tie a thread around a bee or wasp? Have fun with that one. The Japanese did it.

Signs that Insects Aren't Safe to Eat

Experts say that insects with bright colors like red, orange and yellow aren't safe to eat, though some edible insects are disguised by these colors as part of their natural markings. Due to the danger of eating poisonous insects, it's best to just swear off red, orange, and yellow bugs.

On the other hand black, brown, and green are typically colors of insects that are safe to eat.

If you detect a strong odor around an insect, that's also a sign that it's probably not a safe insect to eat.

Because of Pesticides Avoid Eating Insects from Urban Areas

Preparing Insects

Some insects may have snacked on something not very palatable to humans and now the remnants of that last meal reside inside them. This can make the insect a bit less tasty as well as possibly upset your stomach and possibly even cause sickness. There's a way around that though -- which is to round up insects and place them in a small cage and then feed them grain for a couple days. That's said to clear out the remnants of whatever they ate last and even improve their taste a notch.

In third world countries (and even some developed countries) insect harvesting is big business -- you'll find people in many market areas with large displays of edible insects

to buy in bulk, sometimes pre-cooked and on a stick or simply in a bag or box, ready to take home to the family to be cooked later that day or later that week.

I have to say that the long term success of raising insects for sale in foreign marketplaces really sets an example for ways to cope and adapt in times of food shortages. After all the data is in, raising insects through farming and harvesting can be a way to survive and come out ahead in a widespread disaster.

Bug Survival

If you find a bug that looks safe to eat but you're not sure if it actually is safe to eat, consider doing a test where you cut off a small part of the insect -- cook it if you can just to be on the safe side, removing any possible bacteria the bug may have picked up somewhere in its travels -- and then eat that small portion of bug that you've cut away. Wait a couple hours. If everything seems ok eat a bigger portion. Wait a few more hours. If you're still fine that bug is probably safe to eat.

Read more at http://secretsofsurvival.com/survival/top-10-edible-insects

Amateur Radio Call-sign Lookups

Lookup Callsign	Search Callsigns by Last Name	Retrieve Callsigns by Zip / Postal Code
Callsign:	Last Name:	Zip / Postal Code:
Lookup	Search	Retrieve

You can pull down Amateur Radio Information on this web site along with Emergency Frequencies.

WRITE DOWN THE ONES YOU NEED.

RadioReference.com

Morse code alphabet:

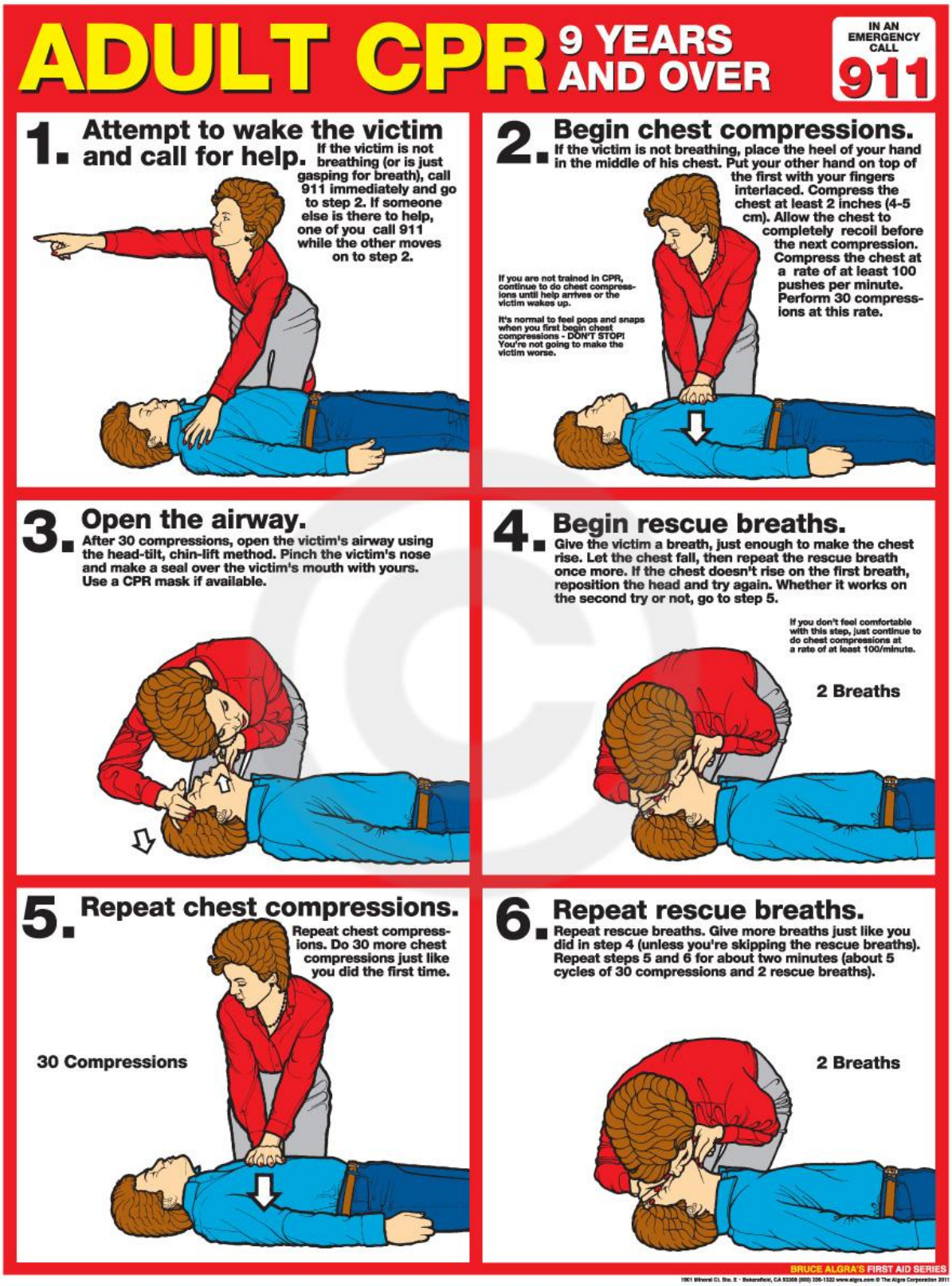
A: .-
B: -...
C: -.-.
D: -..
E: .
F: ..-.
G: --.
H: ....
I: ..
J: .---

K: -.-
L: .-..
M: --
N: -.
O: ---
P: .--.
Q: --.-
R: .-.
S: ...
T: -

U: ..-
V: ...-
W: .--
X: -..-
Y: -.--
Z: --..

CUT THESE OUT – TAPE AROUND BATTERIES INSIDE FLASHLIGHT TO KEEP DRY – YOU CAN USE YOUR FLASHLIGHT TO SEND THE CODE.

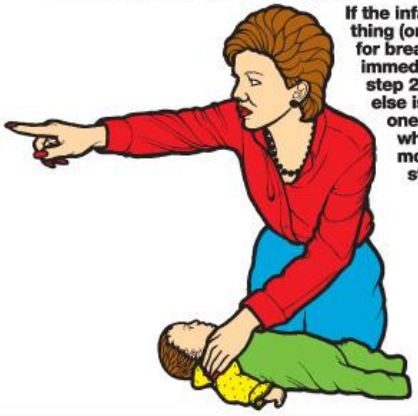
FIRST AID


ADULT CPR
9 YEARS AND OVER
IN AN EMERGENCY CALL 911
1. Attempt to wake the victim and call for help.
If the victim is not breathing (or is just gasping for breath), call 911 immediately and go to step 2. If someone else is there to help, one of you call 911 while the other moves on to step 2.
2. Begin chest compressions.
If the victim is not breathing, place the heel of your hand in the middle of his chest. Put your other hand on top of the first with your fingers interlaced. Compress the chest at least 2 inches (4-5 cm). Allow the chest to completely recoil before the next compression. Compress the chest at a rate of at least 100 pushes per minute. Perform 30 compressions at this rate.
If you are not trained in CPR, continue to do chest compressions until help arrives or the victim wakes up.
It's normal to feel pops and snaps when you first begin chest compressions - DON'T STOP! You're not going to make the victim worse.
3. Open the airway.
After 30 compressions, open the victim's airway using the head-tilt, chin-lift method. Pinch the victim's nose and make a seal over the victim's mouth with yours. Use a CPR mask if available.
4. Begin rescue breaths.
Give the victim a breath, just enough to make the chest rise. Let the chest fall, then repeat the rescue breath once more. If the chest doesn't rise on the first breath, reposition the head and try again. Whether it works on the second try or not, go to step 5.
If you don't feel comfortable with this step, just continue to do chest compressions at a rate of at least 100/minute.
2 Breaths
5. Repeat chest compressions.
Repeat chest compressions. Do 30 more chest compressions just like you did the first time.
30 Compressions
6. Repeat rescue breaths.
Repeat rescue breaths. Give more breaths just like you did in step 4 (unless you're skipping the rescue breaths). Repeat steps 5 and 6 for about two minutes (about 5 cycles of 30 compressions and 2 rescue breaths).
2 Breaths
BRUCE ALGRA'S FIRST AID SERIES

INFANT CPR UNDER 1 YEAR

IN AN EMERGENCY CALL 911

1. Attempt to wake the infant and call for help.



If the infant is not breathing (or is just gasping for breath), call 911 immediately and go to step 2. If someone else is there to help, one of you call 911 while the other moves on to step 2.

2. Begin chest compressions.

If the infant is not breathing, place three fingers on the center of the chest below the infant's nipples. Push straight down on the chest at least 1 - 1 1/2 inches (3-4 cm) or a third of the child's body. Allow the chest to completely recoil before the next compression. Compress the chest at a rate of at least 100 pushes per minute. Perform 30 compressions at this rate.

If you are not trained in CPR, continue to do chest compressions until help arrives or the victim wakes up.

It's normal to feel pops and snaps when you first begin chest compressions - DON'T STOP! You're not going to make the victim worse.

30 Compressions

3. Open the airway.

After 30 compressions, open the infant's airway using the head-tilt, chin-lift method. Place your mouth over the infant's nose and mouth making a seal with yours.

4. Begin rescue breaths.

Give the infant a breath just enough to make the chest rise. Let the chest fall, then repeat the rescue breath once more. If the chest doesn't rise on the first breath, reposition the head and try again. Whether it works on the second try or not, go to step 5.

If you don't feel comfortable with this step, just continue to do chest compressions at a rate of at least 100/minute.

2 Breaths

5. Repeat chest compressions.

30 Compressions

Repeat chest compressions. Do 30 more chest compressions just like you did the first time.

6. Repeat rescue breaths.

Repeat rescue breaths. Give more breaths just like you did in step 4 (unless you're skipping the rescue breaths). Repeat steps 5 and 6 for about two minutes (about 5 cycles of 30 compressions and 2 rescue breaths).

2 Breaths

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Wounds and Treatments

An interruption of the skin's integrity characterizes wounds. These wounds could be open wounds, skin diseases, frostbite, trench foot, and burns.

Open Wounds

Open wounds are serious in a survival situation, not only because of tissue damage and blood loss, but also because they may become infected. Bacteria on the object that made the wound, on the individual's skin and clothing, or on other foreign material or dirt that touches the wound may cause infection.

By taking proper care of the wound you can reduce further contamination and promote healing. Clean the wound as soon as possible after it occurs by--

- Removing or cutting clothing away from the wound.
- Always looking for an exit wound if a sharp object, gun shot, or projectile caused a wound.
- Thoroughly cleaning the skin around the wound.
- Rinsing (not scrubbing) the wound with large amounts of water under pressure. You can use fresh urine if water is not available.

The "open treatment" method is the safest way to manage wounds in survival situations. Do not try to close any wound by suturing or similar procedures. Leave the wound open to allow the drainage of any pus resulting from infection. As long as the wound can drain, it generally will not become life-threatening, regardless of how unpleasant it looks or smells.

Cover the wound with a clean dressing. Place a bandage on the dressing to hold it in place. Change the dressing daily to check for infection.

If a wound is gaping, you can bring the edges together with adhesive tape cut in the form of a "butterfly" or "dumbbell" (Figure 4-7).

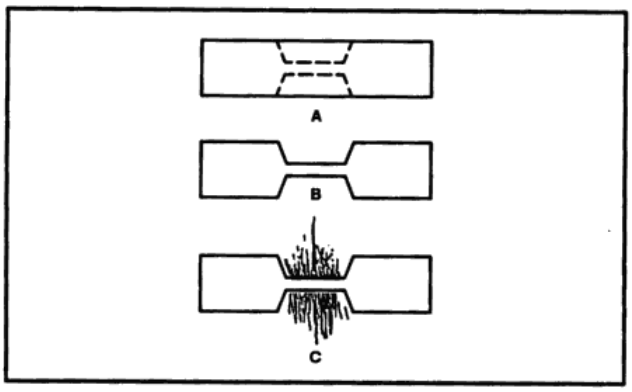


Figure 4-7. Butterfly closure.

In a survival situation, some degree of wound infection is almost inevitable. Pain, swelling, and redness around the wound, increased temperature, and pus in the wound or on the dressing indicate infection is present.

To treat an infected wound—

- Place a warm, moist compress directly on the infected wound. Change the compress when it cools, keeping a warm compress on the wound for a total of 30 minutes. Apply the compresses three or four times daily.
- Drain the wound. Open and gently probe the infected wound with a sterile instrument.
- Dress and bandage the wound.
- Drink a lot of water.
- Continue this treatment daily until all signs of infection have disappeared.

If you do not have antibiotics and the wound has become severely infected, does not heal, and ordinary debridement is impossible, consider maggot therapy, despite its hazards:

- Expose the wound to flies for one day and then cover it.
- Check daily for maggots.
- Once maggots develop, keep wound covered but check daily.
- Remove all maggots when they have cleaned out all dead tissue and before they start on healthy tissue. Increased pain and bright red blood in the wound indicate that the maggots have reached healthy tissue.
- Flush the wound repeatedly with sterile water or fresh urine to remove the maggots.
- Check the wound every four hours for several days to ensure all maggots have been removed.
- Bandage the wound and treat it as any other wound. It should heal normally.

Skin Diseases and Ailments

Although boils, fungal infections, and rashes rarely develop into a serious health problem, they cause discomfort and you should treat them.

Boils

Apply warm compresses to bring the boil to a head. Then open the boil using a sterile knife, wire, needle, or similar item. Thoroughly clean out the pus using soap and water. Cover the boil site, checking it periodically to ensure no further infection develops.

Fungal Infections

Keep the skin clean and dry, and expose the infected area to as much sunlight as possible. *Do not scratch* the affected area. During the Southeast Asian conflict, soldiers used antifungal powders, lye soap, chlorine bleach, alcohol, vinegar, concentrated salt water, and iodine to treat fungal infections with varying degrees of success. *As with any "unorthodox" method of treatment, use it with caution.*

Rashes

To treat a skin rash effectively, first determine what is causing it. This determination may be difficult even in the best of situations. Observe the following rules to treat rashes:

- If it is moist, keep it dry.
- If it is dry, keep it moist.
- Do not scratch it.

Use a compress of vinegar or tannic acid derived from tea or from boiling acorns or the bark of a hardwood tree to dry weeping rashes. Keep dry rashes moist by rubbing a small amount of rendered animal fat or grease on the affected area.

Remember, treat rashes as open wounds and clean and dress them daily. There are many substances available to survivors in the wild or in captivity for use as antiseptics to treat wound:

- *Iodine tablets.* Use 5 to 15 tablets in a liter of water to produce a good rinse for wounds during healing.
- *Garlic.* Rub it on a wound or boil it to extract the oils and use the water to rinse the affected area.
- *Salt water.* Use 2 to 3 tablespoons per liter of water to kill bacteria.
- *Bee honey.* Use it straight or dissolved in water.
- *Sphagnum moss.* Found in boggy areas worldwide, it is a natural source of iodine. Use as a dressing.

Again, use noncommercially prepared materials with caution.

Frostbite

This injury results from frozen tissues. Light frostbite involves only the skin that takes on a dull, whitish pallor. Deep frostbite extends to a depth below the skin. The tissues become solid and immovable. Your feet, hands, and exposed facial areas are particularly vulnerable to frostbite.

When with others, prevent frostbite by using the buddy system. Check your buddy's face often and make sure that he checks yours. If you are alone, periodically cover your nose and lower part of your face with your mittens.

Do not try to thaw the affected areas by placing them close to an open flame. Gently rub them in lukewarm water. Dry the part and place it next to your skin to warm it at body temperature.

Trench Foot

This condition results from many hours or days of exposure to wet or damp conditions at a temperature just above freezing. The nerves and muscles sustain the main damage, but gangrene can occur. In extreme cases the flesh dies and it may become necessary to have the foot or leg amputated. The best prevention is to keep your feet dry. Carry extra socks with you in a waterproof packet. Dry wet socks against your body. Wash your feet daily and put on dry socks.

Burns

The following field treatment for burns relieves the pain somewhat, seems to help speed healing, and offers some protection against infection:

First, stop the burning process. Put out the fire by removing clothing, dousing with water or sand, or by rolling on the ground. Cool the burning skin with ice or water. For burns caused by white phosphorous, pick out the white phosphorous with tweezers; do not douse with water.

- Soak dressings or clean rags for 10 minutes in a boiling tannic acid solution (obtained from tea, inner bark of hardwood trees, or acorns boiled in water).
- Cool the dressings or clean rags and apply over burns.
- Treat as an open wound.
- Replace fluid loss.
- Maintain airway.
- Treat for shock.
- Consider using morphine, unless the burns are near the face

HYDRATION

The signs you do not drink enough water are often easily confused with symptoms of something else, so it can be confusing to know if you're suffering from dehydration or simply a migraine… but I can help! If you're experiencing more than two of the following, then you might be dehydrated, and it's time to have some water, sweetie! Here are 9 telling signs that you do not drink enough water.

1. DRY MOUTH

If your mouth is dry, chances are, you're at least mildly dehydrated, and it's time for a drink.

Keep a bottle of water with you everywhere you go, and sip from it often. Keep in mind that some medications can also cause dry mouth, so if you're experiencing just this one sign that you do not drink enough water, it could just be a side effect from a drug, not from actual **dehydration**.

2. HEADACHE

A mild to moderate headache, especially when combined with one or more of these other symptoms of **dehydration, can be** another sign you do not drink enough water.

If it seems like you're always suffering from a slight headache, your body is probably trying to tell you to drink more water!

3. PEEK IN THE POTTY

Okay, this may sound a little gross, but #people who are suffering from dehydration have darker-colored urine… so check the potty when you pee. If your urine is dark yellow or worse, dark brown, then you're probably dehydrated. Drink more water!

4. DIZZINESS

Dizziness or vertigo is another **sign you do not drink enough water**.

Again, this symptom of dehydration can be caused by other #things, like medication or sleepiness, but if you feel it in combination with other symptoms on this list, you could also be dehydrated.

5. HUNGER

Did you know that sometimes when you feel hungry, you're actually thirsty?

Slight hunger pangs are another sign that you do not drink enough water.Before you grab a snack, try drinking a glass of water. If your hunger pangs recede, chances are, you weren't really hungry, you were thirsty!

6. SLEEPY

Lethargy and overall sleepiness is another sign you do not drink enough water.

This is your body's way of slowing down to conserve water, so listen! To perk up, and give your #body what it needs, drink a cool glass of water, slowly, and see if that helps

7. DRY SKIN

Dry skin is another symptom of dehydration.

If it seems like you're always applying lotion or lip balm, and you're still flaky and dry, you could be dehydrated. Remember, healthy skin is hydrated #skin… drink up

8. INCREASED HEART RATE

A rapid, fluttery heartbeat is another sign you do not drink enough water, and one of the scariest.

Keep well-hydrated. How much water do you need to drink in a day? The average person needs 64 ounces (that's 8 small glasses) every day.

9. THIRSTY!

Finally, of course, the most logical sign you do not drink enough water — you're thirsty!

If you're well-hydrated but always thirsty, it could be a sign of diabetes, but if you're always thirsty and you know you don't drink enough water, well, what are you waiting for?

Drink up!

If you suffer from more than two of these #signs you do not drink enough water, then you may really be dehydrated, so grab a glass and get hydrated, now!

None of these symptoms are pleasant, so why torture yourself? Get to the tap, carry a bottle, or become a drinking fountain fanatic… but stay hydrated! Do you drink enough water?

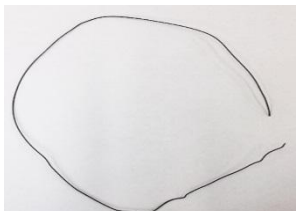
How can you tell when you're getting dehydrated? Do tell!

RABBIT/SMALL ANIMAL TRAP

Building the Trap

Equipment Tie/lacing wire (19 Gauge 1mm), wire snips, string

STEP 1

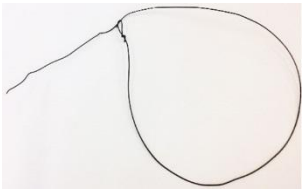


Cut about 50cm of wire

STEP 2

Make a wee loop about 2.5cm from the end twist several times to ensure loop is strong

STEP 3



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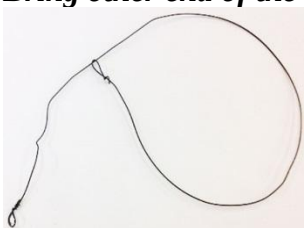
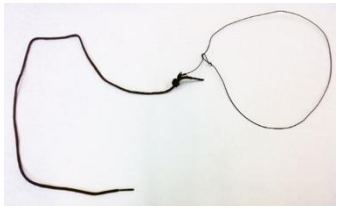
Bring other end of the wire through the loop

STEP 4



Repeat step 2 again with other end of wire

STEP 5



Tie string to the second loop.

Setting the Trap

Look for tracks where rabbits have been running. Often close to where they are drinking provides good success.

Hold the loop up using a stick or some wire etc. Often an extra bit of wire is tied to the second loop to act as a stake to hold loop up. It is important to set the trap at a good height as you are trying to catch the rabbit around the neck. A rule of thumb is to make the noose about a hands width. Make sure the end of the string is firmly staked into the ground or tied to a shrub etc. Make sure the loop is propped 7-8cm off the ground.

The more traps you set the better your chances are. **It is very important that you check traps daily and never leave them.** These are to be used as a way of catching game in a survival situation so I don't recommend using them unless such a situation arises.

When it comes to killing the rabbit please do so in the most humane way possible, preferably with a rifle.

Notes To consider:

If a person approaches you with empty hands but looks healthy, be cautious, their friends you don't see. If they approach armed, send them on their way.

Your survival matters to those you travel with, the idea when moving is to not be seen!

If you are traveling in numbers greater than 3, travel in two rows or columns, when you stop, those on the right kneel down looking always to the right, those on the left kneel down looking always to the left and the end person always watches behind. Ensure everyone knows the hand signals.