



Wilderness Survival 101 Handouts

Handout to include sections on:

- Survival Mentality and Priorities
- Survival/Emergency Preparedness Gear
- Bow Drill - Friction Fire
- Aidless Land Navigation and Lost Prevention
- Body Temperature/Shelter
- Water



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Survival Mentality and Priorities

Acronym **S.U.R.V.I.V.A.L**

Stop and evaluate

Understand the problem

Remember your sense of humor (aka don't feel sorry for yourself)

Verify your fears

Improvise

Value living

Always work to improve your circumstances

Live in the moment (look forward not backward)

Your brain is the most important tool in your toolbox

Fear and anxiety is normal and actually is an important survival skill but you need to use it as a tool to keep you safe and not as a barrier that holds you back.

As a human your biggest survival advantage is your intelligence. You are not the strongest or the fastest creature on the planet, you are the smartest.

- You must keep a cool head if you want to make good sound decisions
- You must develop the ability to calm yourself in crisis
 - Breathing tips - Breathing and stress are directly connected. If you can control your breathing you can control your stress
 - Sit down/Calm Down
 - Don't make impulsive decisions

Survival theory is simple though in practice it can be incredibly challenging dependent on your situation



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Four most important survival rules

- Determine your need and develop a solution - Use the survival triangle below to learn about need priority
- Always continually work to improve your circumstances
- Empower yourself as a problem solver, not a sit around and complainer
- Take action with intention and forethought so that you don't make your situation any worse

Don't feel sorry for yourself, remember humor is a great stress reliever and the best medicine to prevent feeling sorry for yourself. If you did something stupid (we all do...) learn to laugh it off. Self deprecating humor is vital to getting through stressful situations.

NEVER GIVE UP!

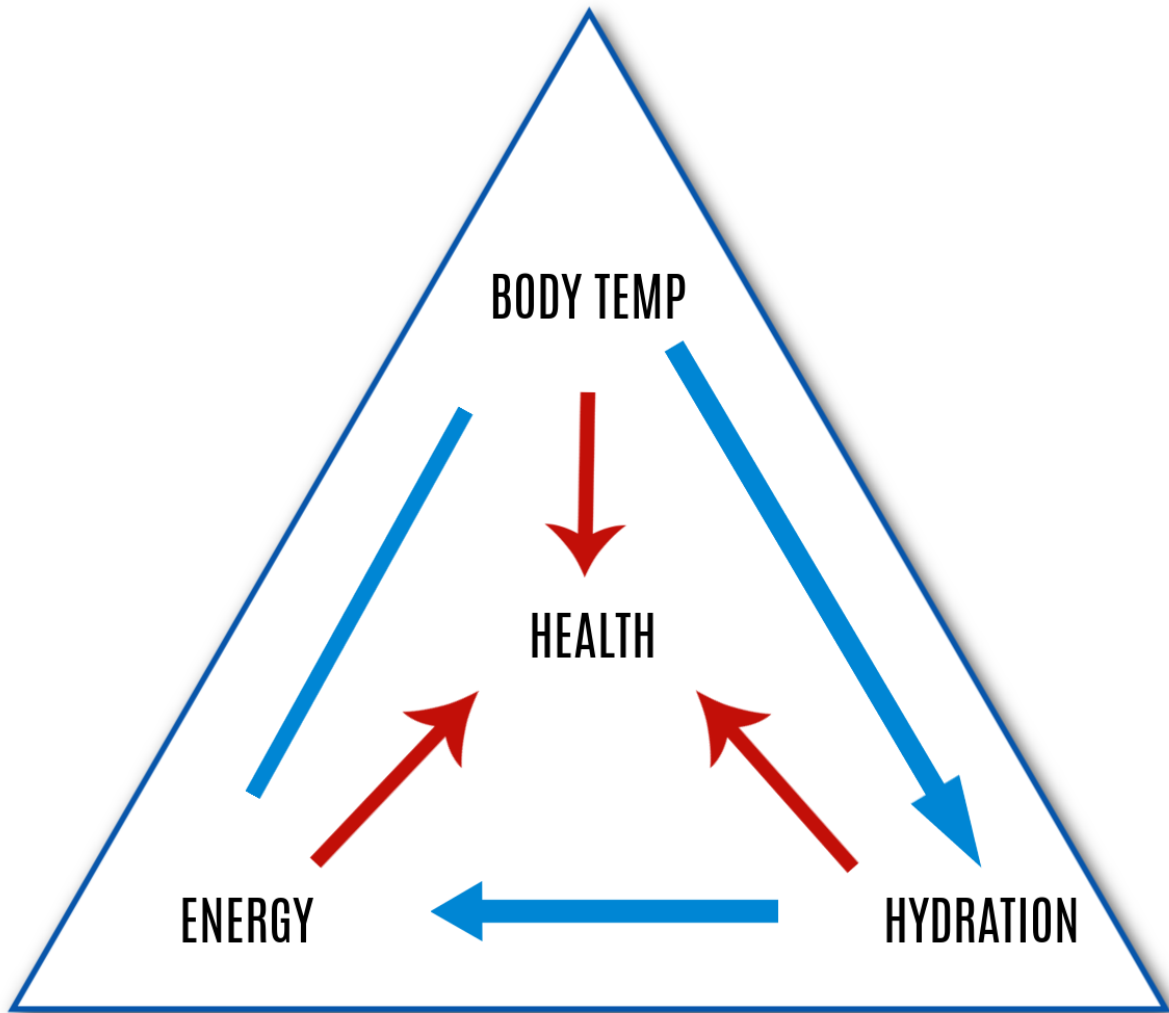
DO:

- Stay in the moment and focus on the task at hand Make sound decisions
- Relish your victories, no matter how small
- Think outside the box
- Do as the animals do (particularly larger mammals as they have the same needs that we do)
- Try to maintain your sense of humor and don't take things so personally



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Survival Triangle: The survival triangle below is all about understanding and prioritizing your needs. Start at the top of the triangle and move clockwise.



Anticipate being very busy in the first 48 hours of a survival situation. Ideally in within 2 days you should have dealt with any body temperature issue, found some food (even if just a little), found and purified adequate water and potentially kindled a fire (depending on the circumstances and the weather).

- **Be efficient to preserve energy**
- **Expect to be sore**
- **You must adjust your idea of comfort - Being alive and uncomfortable is better than being dead...**



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Survival/Emergency Preparedness Gear Recommendations

Tier 1 - On person every day:

- Good quality folding knife
- Magnifying glass (recommend keeping credit card size magnifying glass in wallet or purse)
- Clothing appropriate to weather and activity ****Acknowledging the unexpected****
- Light of some type - Small LED on keychain, or cell phone
- GAIA Phone app and maps downloaded for your surrounding area or the area you are visiting

Situational dependent on person:

- Fire starter
- Compass

Optional:

- Small Multi-tool/Keychain tool
- Cordage (recommend Paracord) - integrate as shoe laces or as keychain

Tier 2 - In every day pack/bag:

- Non-folding knife (Recommend MORA)
- Fire starter (lighter, matches, and/or ferro rod)
- Fire starting fuel (Recommend fat-wood)
- Compass (Recommend integrating a small keychain compass into bags and having larger compass)
- Stainless steel water bottle (Un-insulated)
- Water purification tablets
- Large black trash bag + a couple of Ziploc bags
- 3 to 4 water-tight bread bags (to use as layer between dry socks and wet shoes)
- +Whatever gear you need for your activity



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Situational dependent:

- Grayl water filter bottle, Sawyer mini or similar water filter
- Extra warm clothing layers (if cold weather)
- Extra pair of warm socks wrapped inside 2-4 bread bags (add to every-day bag during cold weather to wrap feet to create waterproof layer between dry socks and wet shoes)
- Rain Gear (raincoat and rain-pants)
- Small First-aid kit
- Small flashlight or headlamp (plus extra battery)
- PowerBank battery pack - For recharging phone

Optional small dedicated Survival pack (waist pack size):

Tools

- Quality non-folding knife (Recommend Mora)
- Compass
- Quality multi-tool
- LED flashlight with constant on switch (strobe optional) - Recommend light that has low LED output option with long battery life
- Folding saw (recommend Silky Pocketboy with medium teeth)

Fire

- 2-4 fire starter options recommended in order (hurricane matches, Ferro rod, lighter, strike anywhere matches)
- Fire starter fuel (Recommend fatwood)
- Magnifying glass (recommend credit card size)

Shelter

- 2 emergency ponchos
- 3 Thick black extra large trash bags
- Lightweight small tarp (recommend small tent floor with grommets) - Note: this may not fit into a really small dedicated pack. If not, consider a piece of thicker clear plastic sheeting (readily available at any hardware store) - Learn how to tie a Sheet Bend knot!

Water

- Sawyer mini or similar small water filter
- Iodine or similar water purification tablets
- 2 clear 2 liter clear water carrying bags (clear camelback bag is also a good option)
- Stainless steel water bottle



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Food

- A small amount of high calorie food - recommend between 500-1000 calories
- Sugar and Salt packets in ziploc bag (grab some the next time you are at a fast food place)
- Emergen-C or other electrolyte replacement

Supporting items

- Small first aid kit (bandages - small and larger, irrigation syringe, pain killers, Benadryl (this is a lifesaving drug), antibiotic ointment, medical tape, small scissors, tweezers, sterile rolled gauze, small amount of concentrated soap, **plus at least a week's worth of any critical prescription medications (if applicable)**)
- Extra pair of glasses (if you wear glasses or contacts) - Tip- throw an older pair into your pack after you get new glasses
- Small bit of duct tape
- 30-50 feet of paracord (military specification)
- Extra - fresh batteries (enough to replace in your light at least 2 times)
- Several gallon size Ziploc bags
- Picture frame wire (30 feet) - to make snares or 6 premade small game snares
- Whistle
- Signal mirror
- Small fishing kit - hooks, braided fishing-line, rubber worms, dry flies, a few lead weights - Metal Altoids tins make a good small fishing kit and/or firestarter storage containers
- Small amount of high quality Duct tape! - Can be used to repair items and also as a makeshift bandage to hold wounds together. Duct tape glue has antibacterial qualities

Optional adds

- Pencil/notepad
- Flagging tape

Tier 3 - Larger full sized dedicated pack "Go-Bag":

All items from smaller pack + the following

Tool adds

- Quality hatchet - Recommend forged hatchets from the following companies -S.A. Wetterlings, Gransfors Bruk, Husqvarna, Hults Bruk, or Beavercraft (Husqvarna and Beavercraft are good budget friendly options)
- 2 flashlight one that uses AA and one that uses AAA
- Small Mill file - For metal filing
- Small hacksaw with extra blade



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Shelter adds

- Larger lightweight tarp (recommend tent floor with grommets)
- Piece of thick clear 10 mil plastic (at least 12x12)

Water adds

- 2 more clear water bags (2-4 liter)
- Pump water filter

Food

- Minimum of 2 MRE or similar meal options (recommend at least 3000 calories combined)

Other Adds

- Full sized first aid kit (recommend Adventure Medical)
- 10 Chemical Hand-warmers
- Leather gloves
- Large thick durable bag for carrying additional items- Tip: Buy nylon laundry bag
- 100 feet of paracord (mil spec)
- Knife sharpener
- Larger fishing kit (add more hooks, more line, lures, dry flies, more rubber worms/fake bait options)
- 10 premade small game snares (purchased or home made)
- Raingear - lightweight jacket and rain-pants
- Cold weather clothing add (packed in Ziploc or vacuum sealed bags) - extra wool socks, extra long underwear, hat, down vest, etc.)
- Power Bank battery pack - For recharging phone

Other items to consider

- Collapsible .22 LR rifle + at 200 rounds (recommend Ruger 10/22 takedown with magpul stock that has storage in the rifle butt)
- Fishing net
- Metal gig spear tips (with tapered female base so it can be halfted onto a wooden pole)
- Breakdown pole spear
- Collapsible fishing pole and reel, or hand line
- Small Solar charger + Rechargeable batteries
- Cold weather addition - Lightweight Down sleeping bag in compression sack
- Waterproof bivy sack



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Recommended gear for your Vehicle

- 2 Flashlights (with extra batteries)
- Multi-tool
- Knife
- Extra weather appropriate clothing
- Water-1-2 Gallons
- Battery Jumper Pack
- Basic siphon pump (for siphoning fuel)
- "Go Bag" or smaller dedicated survival pack
- Good first aid-kit - recommend Adventure Medical Mountain Series
- In cold weather - wool blanket(s), or sleeping bag
- Water filter and purification tablets
- Paper road maps, or map book, of your city and state
- Emergency Flares

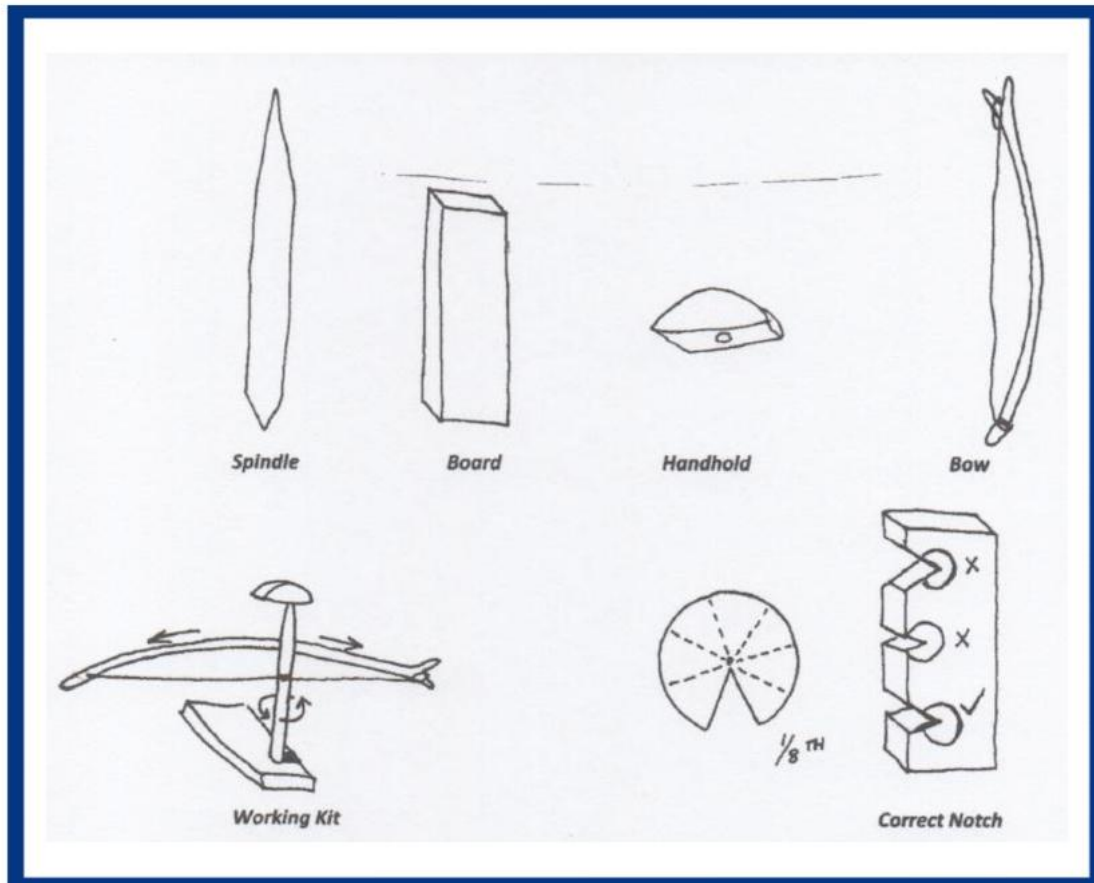
Recommended gear for your Home

- At minimum 15 gallons of backup water (Option- get a dark colored plastic 55 gallon rain water barrel (sunlight should not be able to penetrate sides) and fill it with water from the hose, add 1/8 cup of bleach, seal it up tightly, and store it outside or in garage or shed) - Drain and replace water every 6 months. The only issue with outdoor water storage is that it might be frozen and inaccessible during a hard freeze.
- 10-20 Gallons of backup fuel for your vehicle **with fuel stabilizer added** (make sure the fuel is stored safely. DO NOT store flammable liquids in home or in an attached garage)
- Enough food for to feed self/family for 14 days - assume you will not have power for fridge or freezer and plan for that
- Unscented household bleach and eyedropper (for water purification - 8 drops per gallon)
- Quality pump water filter
- Camping gear for all seasons



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Bow Drill - Friction Fire



Notes:

- * Your form is really important
- * Remember, stability of the handhold is critical
- * Burn in to FULL spindle diameter before cutting notch!
- * Lubricate your handhold
- * Keep the spindle straight up and down
- * Lay your shoulder down onto your knee for added stability
- * Lock your wrist into your shin
- * Use the whole bow - Long strokes
- * Firm/moderate downward pressure
- * Slow and steady until your notch is full - then speed up to light coal

Tinder:

- * Awesome: Finely shredded inner tree bark, dried grass leaves (not stems), dry moss, very fine wood shavings
- * Takes some skill/practice: Grass stems, dry pine needles, charcoal, coarsely shredded inner bark, damp finely shredded inner bark
- * Not worth your time: Damp or wet moss, wet inner bark, anything green (alive)



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Aidless Land Navigation and Lost Prevention

General Principals:

- Tell people where you are headed and when you'll be back (really important in case of injury)
- If you get disoriented **Don't Panic** - No matter how extreme the situation sit down and take a few minutes to collect yourself
- Learn to use a compass and bring one along
- Remember you are NOT LOST, you are just disoriented within a larger known area that you know and understand - collect yourself and develop a plan to find your way to familiar territory

Navigation Techniques:

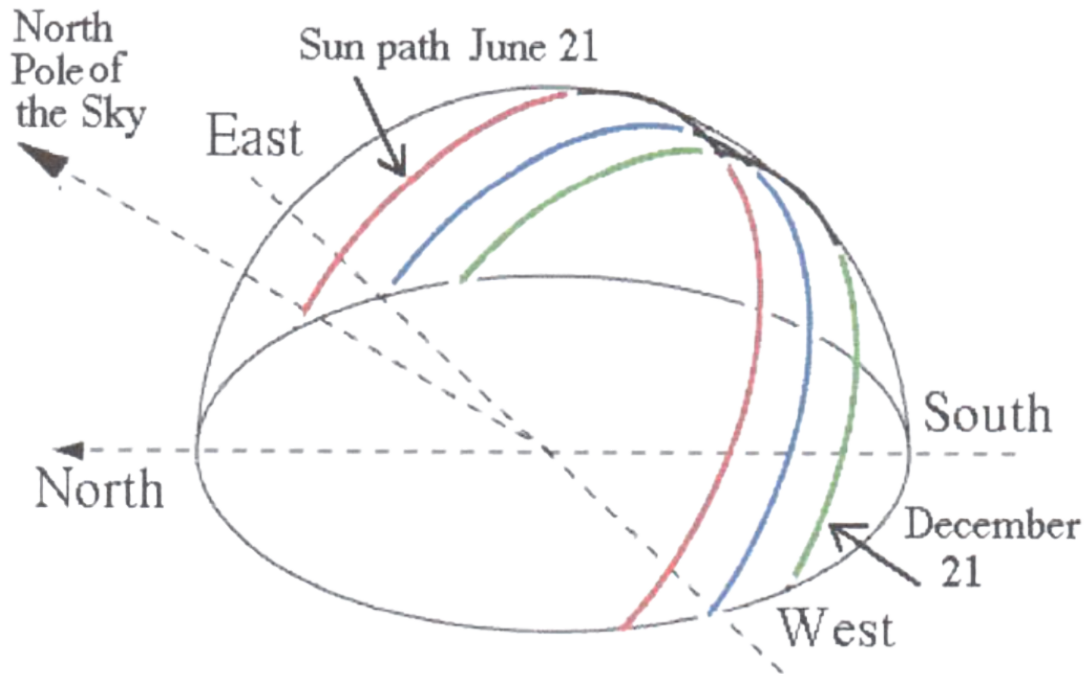
- **Always START oriented and STAY oriented. The moment you realize you are no longer oriented, re-orienting yourself is your top priority**
- Awareness is the key component around which all navigation revolves
- Look all around and note interesting and/or unique features on the landscape (do not walk around with your eyes on the ground, or focused on someone else all the time)
- Note location of orientation sources (i.e. Sun, wind, major landmarks, compass heading etc.) use these landmarks to note direction of travel
- Any time you go into the woods try to start with a big picture view of the landscape (Map reading is valuable but you don't necessarily need a map to understand the big picture)
 - Use available orientation tools to establish a major feature big picture (i.e. ridge running East/West to my North, river to the South)
 - Note, whether you know it or not you most likely already have a big picture in your head it is just a matter of how much detail you have in the picture
- Note the predominant wind direction (high wind currents not ground currents) use the clouds or birds to determine wind direction.
- In more rugged terrain, south facing slopes are going to get sun, North face slopes no sun (more snow on North Slopes, less snow on South Slopes)
- Have a failsafe direction planned out beforehand just in case AND a tool to find that failsafe direction (i.e. compass)

Aidless Land Navigation Tools:

- Song lining (simply a way of creating mental landmarks and expanding awareness - works great)
- Sight lining
- Trailblazing creating markers, flagging
- Backtracking
- Using the Sun - Sun rises generally East, sets generally West, and is South at midday
- Using the Stars and Moon.



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June 21, 2012 (Rise extreme North of East and set extreme North of West)

Sunrise 6:30am

Mid-day 1:30pm

Sunset 8:34pm

Dec 21, 2012 (Rise extreme South of East set extreme South of West)

Sunrise 7:23am

Mid-day 12:30pm

(Change due to DL Savings)

Sunset 5:32am

Equinox (Rise and Set due East and due West)

March 21, 2012

Sunrise 7:34am

Mid-day 1:30pm

Sunset 7:43pm

Sept 22, 2012

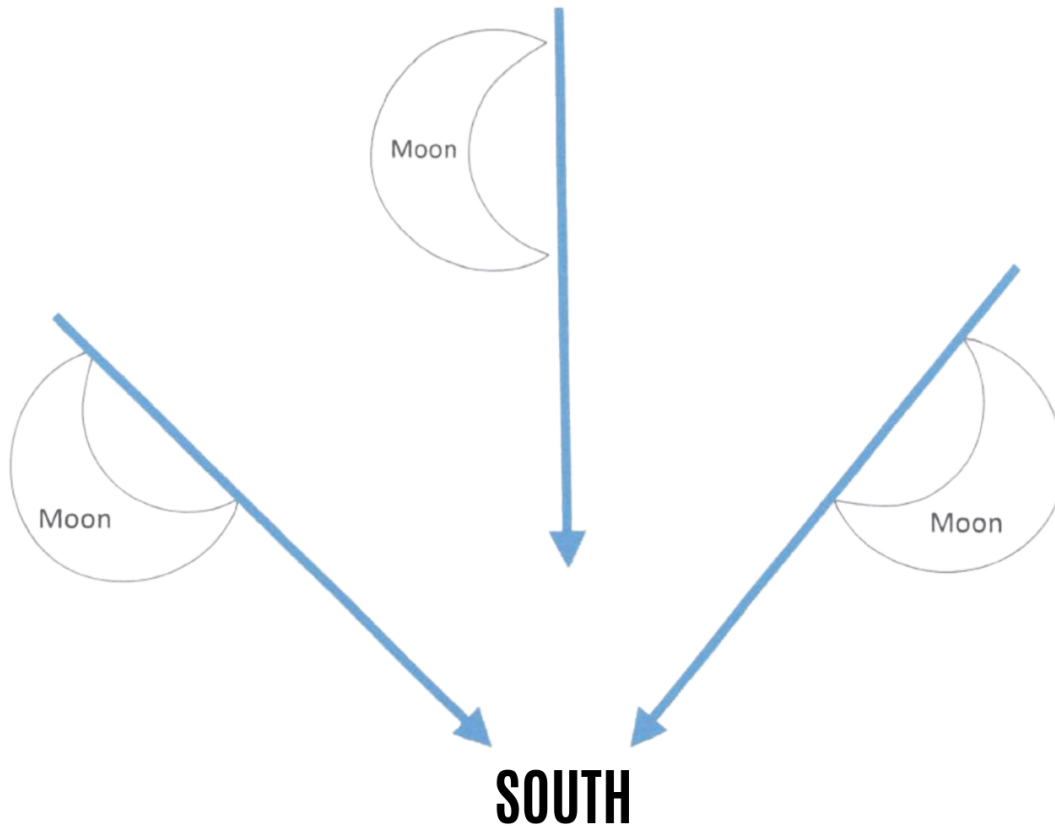
Sunrise 7:19am

Mid-day 1:30pm

Sunset 7:28pm



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Note: The moon follows the same general path across the sky as the sun rising in the East(ish), due South at its highest point in the sky, and setting in the West(ish). Getting a southerly direction from a waxing or waning moon is relatively simple. Draw a line across the points of the moon down to the horizon and you will find South. A full moon rises opposite the sun so the full moon will be in the South at midnight. Also note that the moon will inform you where the sun is and if you know where the sun is you can use that to orient yourself to direction/time of night etc.

Star Navigation with L.U.R.D.-

Pick a star in the sky and position a Y stick so you are able to track its movement across the sky.



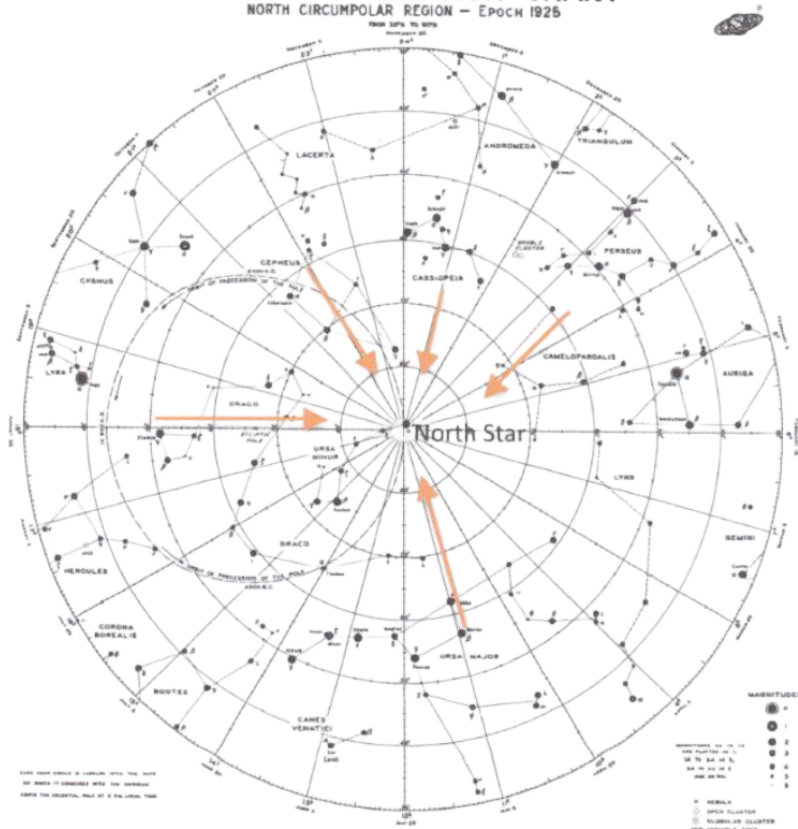
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Example =
Star moves UP and RIGHT
you are looking South East

Left → North
Up → East
Right → South
Down → West

SC2 CONSTELLATION CHART NORTH CIRCUMPOLAR REGION - EPOCH 1925





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Body Temperature/Shelter

Remember - Building a shelter is a solution, but not always the best solution to body temperature problems depending on the situation. Think outside the box!

Body temperature should be your # 1 concern after dealing with any major injuries. One of the most dangerous things about unhealthy body temperature levels is that your level of consciousness starts to decrease and you can quickly become unable to think clearly and therefore unable to help yourself.

Temperature transfer

4 Major ways that heat is transferred from your body

- **Conduction** - Direct contact (i.e. touching something that is colder or warmer than you are)
- **Convection** - Air currents moving heat away from your body (i.e. wind)
- **Radiation** - The idea that heat rises and radiates out from your body
- **Evaporation** - Cooling is a product of the evaporative process

A good strategy for controlling our body temperature starts by either minimizing (or in the case of hot weather) maximizing the transfer of heat from our body. In cold weather environments we want to do everything we can to maintain, or build our warmth. In a hot environment we want to do everything we can to expel heat.

Hot weather body temperature regulation strategies

- Increase conduction by putting your body up against objects that are cooler than you are, such as water, cool sand or soil below the surface of the ground, or a large rock in the shade.
- Increase convection by getting yourself into the breeze, or fanning
- Increase radiation by expelling layers of insulative clothing and getting into cooler areas (shade) where your body heat will radiate more easily
- Increase evaporation by wetting yourself and cotton clothing (which cools when wet).
DRINK WATER! Your body has a built in evaporative cooling system called sweat, but you need to be hydrated!



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Remember, the human body is incredible at shedding heat! You are an incredible heat shedding machine. Stay hydrated, in the shade, and out of hot cars and you should be fine.

Cold weather body temperature regulation strategies

- **Conduction** - Separate yourself from objects that are colder than you are, i.e. don't lay directly on the ground or other dense cold surfaces.
- **Convection** - Use non-permeable objects or geography to block air currents, i.e. get yourself out of the wind or create wind-blocks.
- **Radiation** - Find insulation and use it. Any material that is high volume - low mass is a great insulator. Some examples include leaves and forest debris, snow, crumpled paper, moss, etc. Think outside the box!
- **Evaporation** - Stay dry! Stay out of the rain and monitor your body temperature when doing high-energy activities (like building a shelter). Shed extra layers as needed to reduce the amount that you sweat and to keep clothing dry. Use a fire to dry wet clothing.

Tip - in a pinch you can "scarecrow" yourself to increase insulation. Simply stuff your clothing full of good insulation. This works very well! And is a very good strategy when you do not have time to build an adequate shelter

Shelter building 101

A good shelter should address and reduce/solve all of the heat loss issues. It should-

- Separate you from the ground
- Provide adequate insulation above and below your body
- Be out of, or block, wind currents
- Shed water well enough to stay dry inside

It is critical that you have ample materials for your envisioned shelter in the immediate vicinity of your chosen shelter location. If adequate materials are not nearby, change locations.

Remember - Don't make your situation worse. ALWAYS look for hazards when choosing a shelter location. Hazards can include - flooding, falling trees or branches, signs of dangerous animals in the area etc.



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Take into consideration how the sun moves across the sky in relation to your shelter location and how that is going to affect, ambient temperature, moisture in the air and soil, and dry materials for a fire.

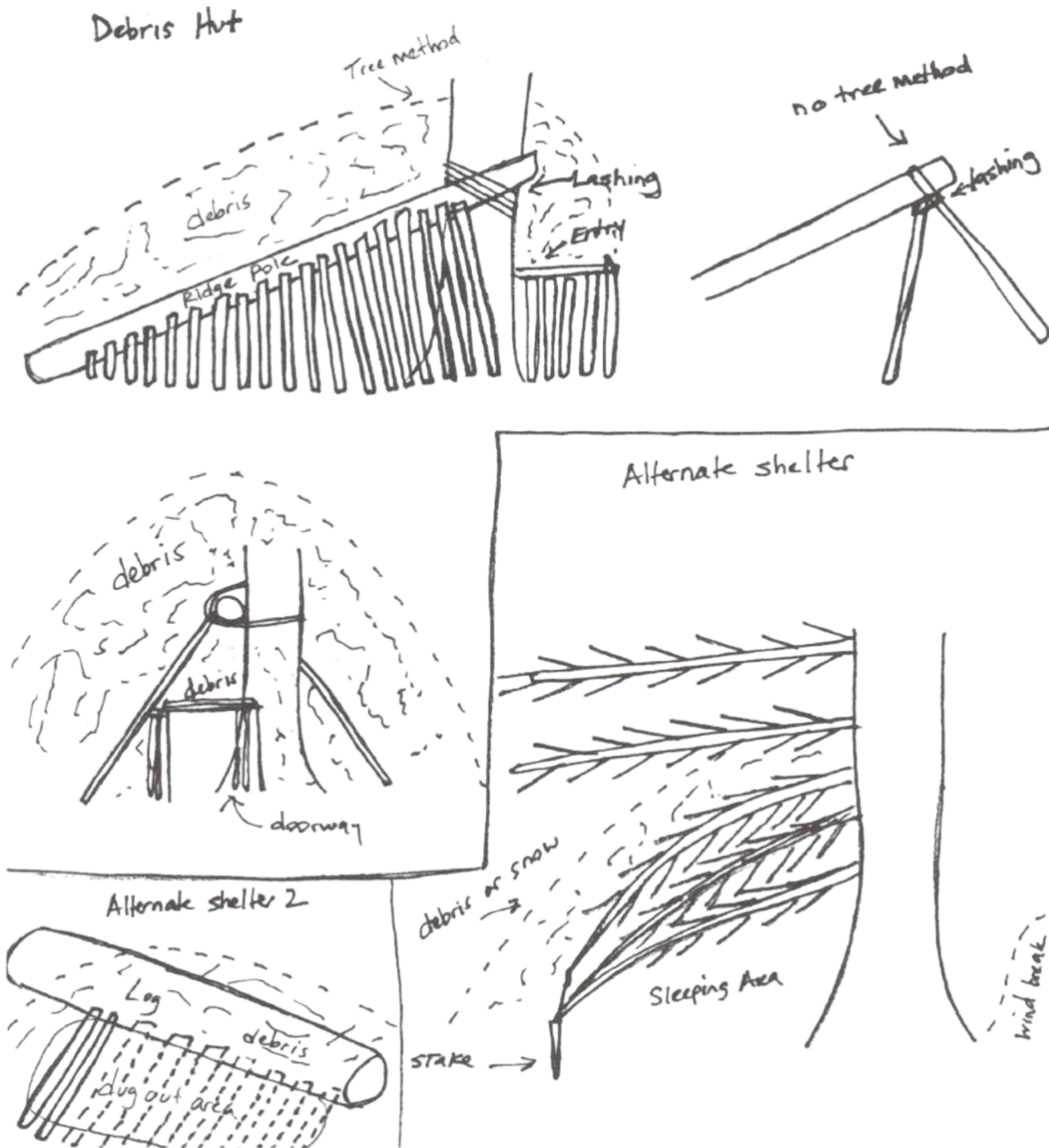
Other things to consider

- Never build a shelter that requires a fire unless you have a fire or are 100% sure you can get a fire and obtain enough wood to keep it going ALL night Consider heating rocks and/or creating coal beds to help supplement body heat (note this is tricky and can be dangerous - use caution)
- Be creative!
- Test out shelter designs and become familiar with how challenging it is to build a shelter when you are NOT in a survival situation.
- Remember, consider scare-crowding.
- FORGET ABOUT SPIDERS! You have to expand your comfort zone. You are not going to be killed by a spider in the United States. Don't die of hypothermia because you are freaked out about spiders and bugs!
- Short notice survival shelter strategies - Scarecrow, exercise, stay awake, if something isn't working FIX IT, pile up leaves and climb inside, remember miserable is ALIVE.
- Don't be afraid to change your situation or adjust your shelter in the middle of the night if needed.
- NEVER GIVE UP!



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Some potential shelter designs:





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Water

Where to find water

- You should always be curious about water, where it flows, and where it hangs out, wherever you are (around your home and away from home)
- Follow drainages to creeks/rivers/ponds/lakes - (Can be a good strategy to find your way out of the wilderness if you are lost - if all else fails)
- Cliff faces can reveal seep springs (common in hill country) - Look for mosses and algae that need water consistently to differentiate between runoff and seepage. Note: Seep springs often create rock overhangs over thousands of years as freezing water breaks the rock apart
- Look for seep springs in creekbeds (to find safe(er) water to drink. Identify them by feeling the water temperature (spring water will generally be colder than the surface water in the summer - may be warmer in the winter) - Note: try to find places where water is flowing from the ground on a higher plane than the creek water, or where the water is under pressure.
- Search for places where the water table is close to the ground - may look like dry mud holes with aquatic vegetation, dead or alive looking, (often identifiable by indicator species plants like cattail, tule reed, willow trees, river cane, cottonwood trees etc.
- Slot canyons in the desert often hold water for a long time since they get little sun at the bottom
- Tree hollows can be a good place to find emergency water but there often isn't much
- Look for large mammal tracks - if there are large mammals (i.e. deer, pigs, etc.) there will be water relatively nearby. If possible follow tracks/trails to water

Rainwater Collection

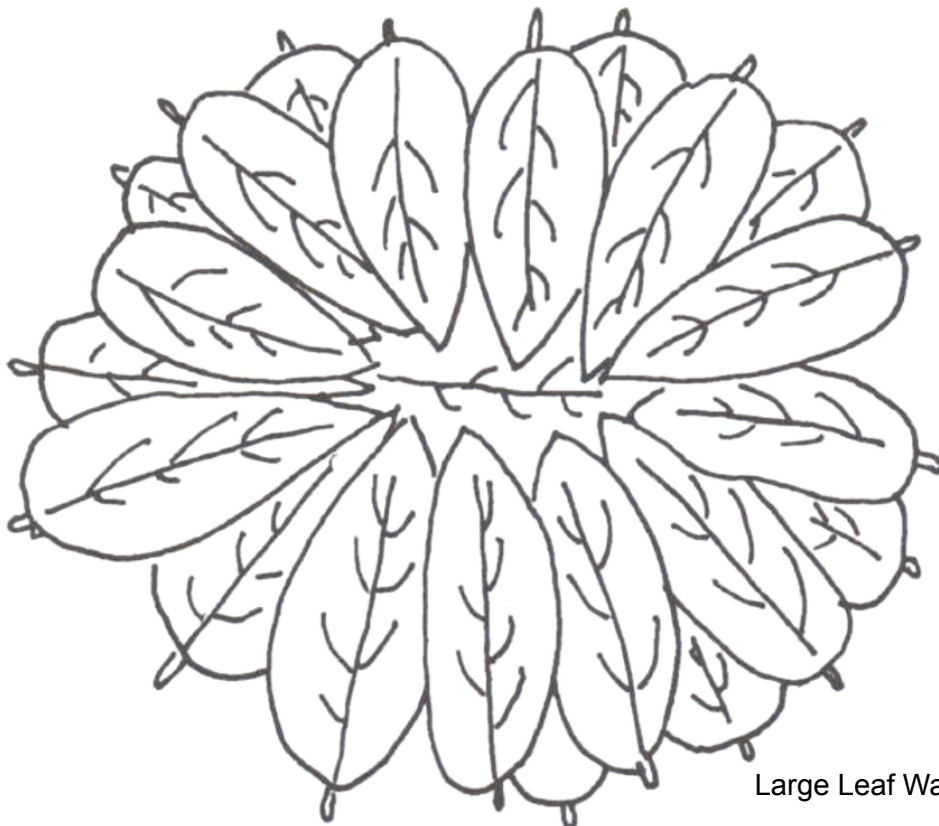
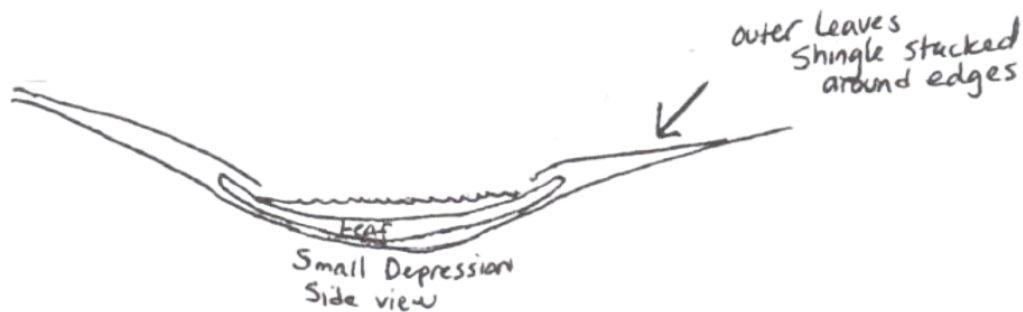
- If there is ANY chance of rain you need to prepare to collect it. Plastic is ideal if you have it - tip, dig a hole and line it with a large piece of plastic or trash bag (or two if you are concerned about leakage), then use another sheet of plastic to funnel water into the catchment. Once the bag has filled, you can seal off the top of the bag to prevent evaporation. If you make several and want to preserve them longer term you can cover the sealed water bag with dirt until needed
- You can also create many small rainwater water catchments using large leaves if you can find them (see diagram below)
 - It is best to use the largest leaves you can find. The smaller the leaves the less water you can catch. The largest leaf (or alternate catchment container) should



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be placed at the bottom of the depression. Other leaves should be shingled around the outside.

- In heavy or sustained rains with smaller leaves you do not need to shingle the outsides (as it will just overflow), just dig lots of small depressions and line them with a large leaf to catch the rain water
- If the soil is heavy clay you can even just dig a hole and funnel water in. The water will be murky but will most likely be clear of contaminants. High clay content soil does not absorb water quickly



Large Leaf Water Catchment

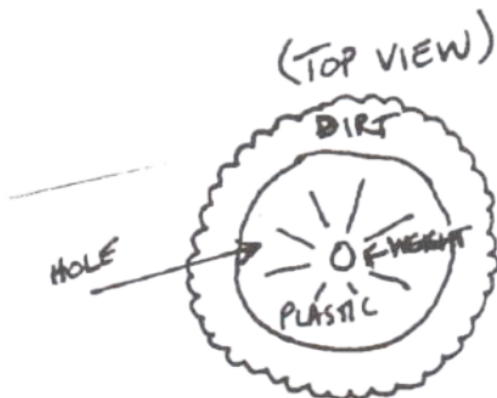
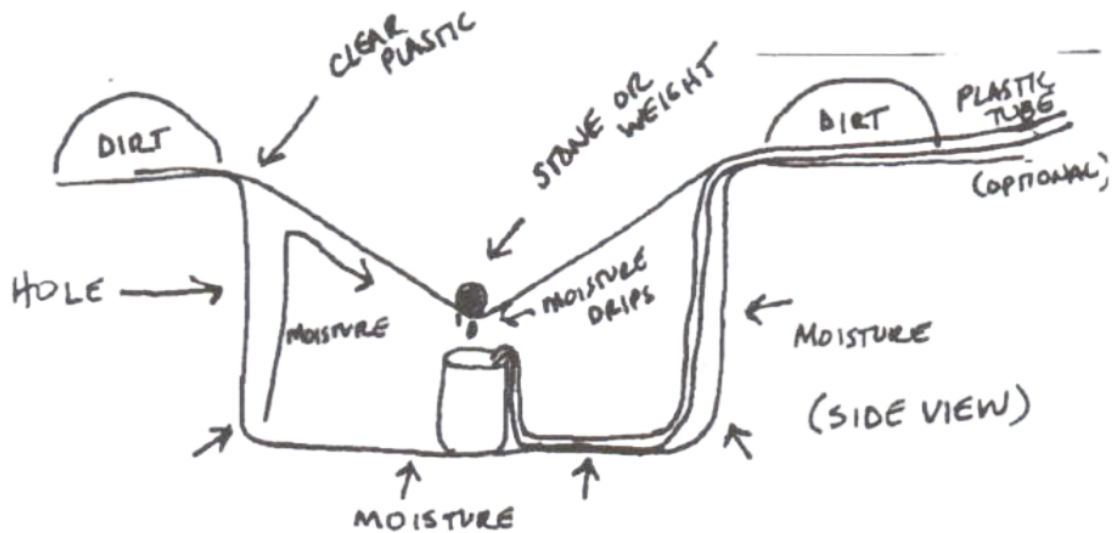


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Solar still

- Solar still can be used to obtain water from the ground through ground moisture evaporation.
- This is the only way to primitively desalinate water
- Can use this still to purify water through evaporation if you have water but it is contaminated

Caution, DO NOT count on this until you have tried it and found success with it in the region and soil type you have experience with. This still is truly HIT or MISS by region/soil type and it can require a lot of energy to create it (and water loss due to sweat).





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Water Filtration vs Purification

- Water purification is the process of killing any bacteria or viruses in the water. This can be done either through heat (boiling) or through chemical treatment with bleach or iodine or other chemical water treatment.

Tip: Household bleach is an amazing water purification tool. Simply put 8 drops per gallon of water and let it sit for 20 minutes. After sitting the water should have a light chlorine smell. If it does not, re-treat with 8 more drops

- Water filtration is the process of removing contaminants using very fine filters (usually ceramic).

Water purification methods -

- Boiling (rolling boil for a few minutes - at least 5 minutes at higher altitudes)
- Chemical Purification -Iodine, bleach, similar chemicals
- SODIS (Solar) water purification - Set a clear plastic bag, bottle, or glass water container (less than 1 gallon) in the sun for 1 day (2 days if it's cloudy). Note: water must be pretty clear for this process to work properly. The sunlight will kill the pathogens in the water and render it safe
- Generally STERI pens are not recommended for emergency water purification situations (or when prepping for potential emergencies) since they require batteries

Water filters -

- HIGHLY Recommend Grayl water press water filter bottles
- Sawyer Mini filter system is also great
- For larger groups consider a pump style water filter (many good options exist on the market)

Note: water filters can be destroyed if they are allowed to freeze (once they have been used and if not properly dried out/purged). Take precautions. It is recommended that you always have water purification tablets as a backup to water filters in case they fail.