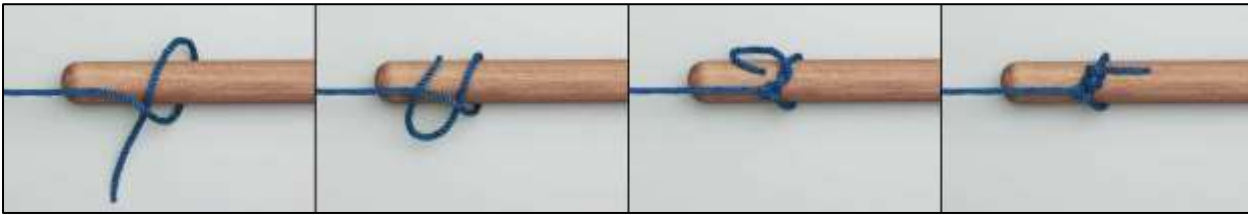


DWITIYA SOPAN

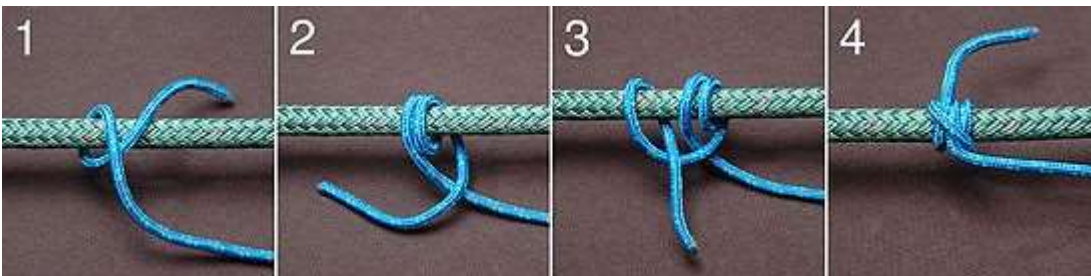
HITCHES

Timber Hitch



The Timber Hitch is useful for handling cargo but practically falls apart when pull ceases. It is also useful when towing a spar or log either afloat or on land. When used for this purpose, the Timber Hitch is often placed near the center of the spar and a separate Half Hitch is dropped over the end of the spar to act as a guide. It is also used to attach the strings on some stringed instruments including the ukelele and the guitar.

Rolling Hitch (Magnus Hitch)

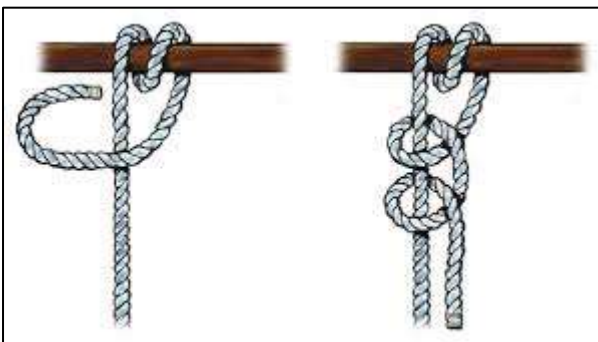


The rolling hitch is a knot (see also Magnus hitch) used to attach a rope to a rod, pole, or another rope. A simple friction hitch, it is used for lengthwise pull along an object rather than at right angles

The rolling hitch is a versatile knot that has many uses. One of the most practical is for exerting force along another line. For instance if a jib sheet jams in a winch, you can attach a rolling hitch to take the pressure off the line as you undo the jam.

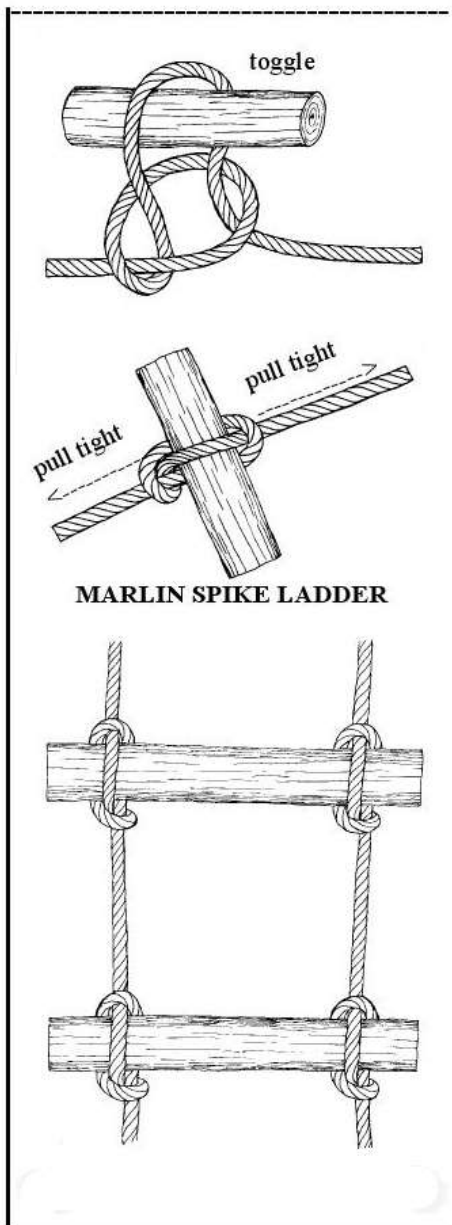
Round Turn Two Half Hitches

This knot has a self-explanatory name: one half hitch, followed by another half hitch. It is easy to tie and forms a running noose that can be made larger or smaller. This is the perfect hitch to use to tie a line tightly around an object. Combined with a round turn, it is an excellent way to secure a dock line to a piling. Tying two half hitches on top of a clove hitch is also the best way to keep a fender whip from slipping.



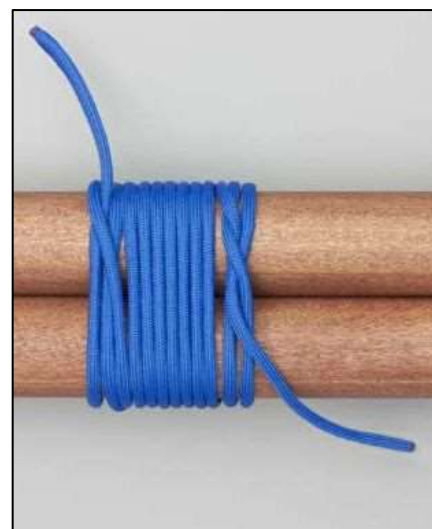
Level Hitch (Marlin Spike Hitch)

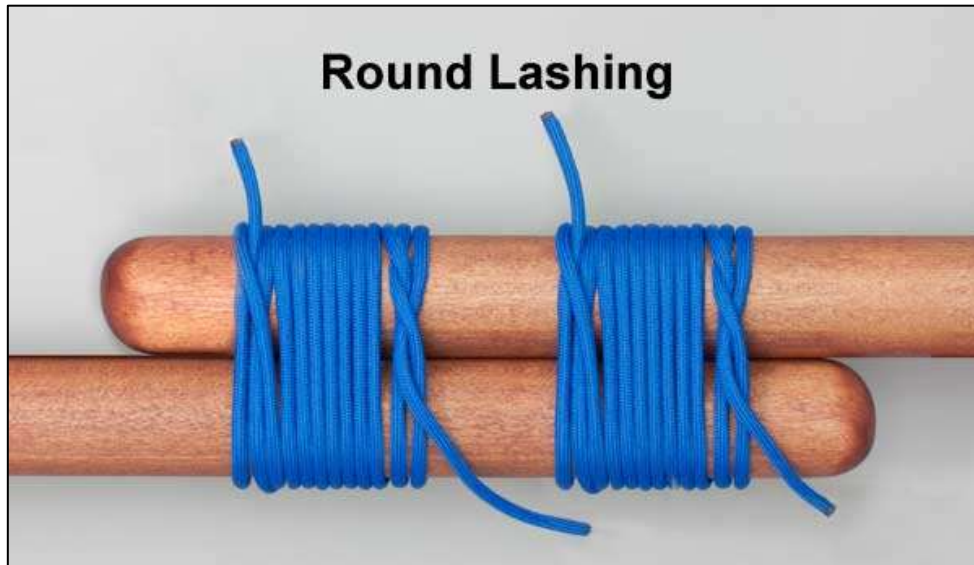
The Marlinespike Hitch is a wonderful way of quickly gripping a pole or a bar to take weight. The ladder shown in the animation is an excellent example. The marlinespike hitch is a temporary knot used to attach a rod to a rope in order to form a handle. This allows more tension than could be produced comfortably by gripping the rope with the hands alone. It is useful when tightening knots and for other purposes in rope work.



LASHINGS

Round / Parallel Lashing – (Mark 1 Lashing)





It is important to have a good overlap of spares-between a quarter and a third of its length.

1. Start with a clove hitch or timber hitch round one of the spares near the end of the overlap.
2. Wrap the rope neatly and tightly round both spares for 8-10 turns.
3. Finish with a clove hitch round the second spare. Add a second lashing at the other end of the overlap so that no movement is possible.
4. To tighten for the, add small wedges between the spares next to the lashings.

Uses: Two Round Lashings can be used to make a longer pole. used for joining two spare to increase the overall length.



Shear Lashing (Mark 2 Lashing)





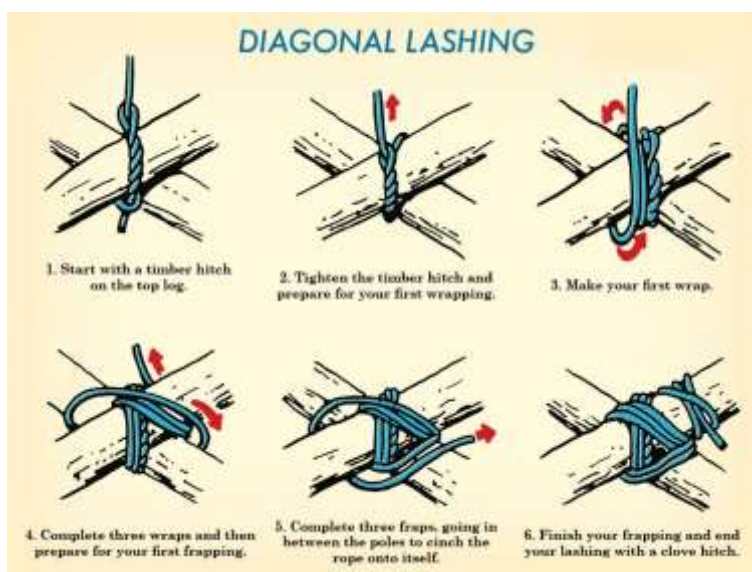
1. Tie a clove hitch around one pole.
2. Wrap both poles with a simple lashing.
3. Wrap the lashing with a two or three tight frapping turns.
4. Tie off the end with a clove hitch.

Spread the poles to make shear legs

Uses: Shear legs support weight. A single pair can be controlled with a rope as they lean over a stream to lift a bucket. A series of them can support an aerial walkway.

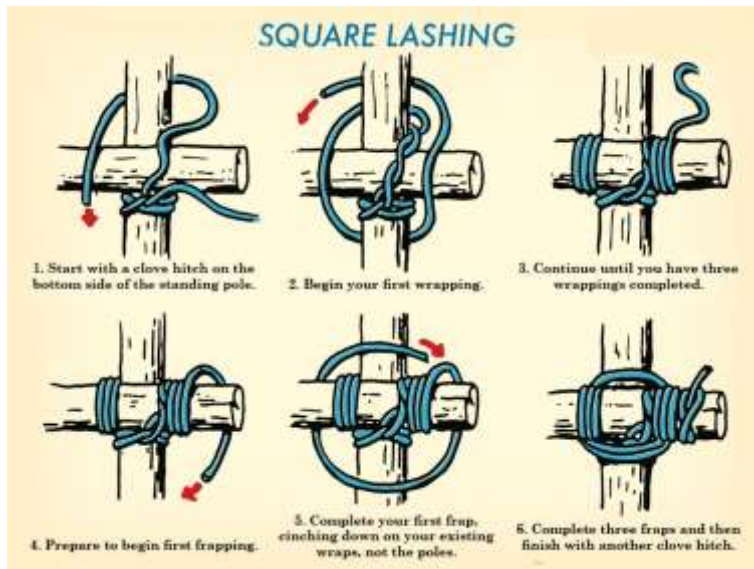


Diagonal Lashing



A diagonal lashing is used to bind two poles together diagonally and prevent racking, which is the term given when poles twist or rotate within their lashing. Like a square lashing, the poles do come together at right angles, but in a diagonal lashing the poles themselves are diagonal to the ground or the load which they are supporting, like the legs of a picnic table.

Square Lashing



A square lashing is used to bind two things (often logs/poles) together at a right angle. It is important to note that it is used for items that will be used at a right angle to the ground as well. If poles are intended to be used diagonal to the ground, or diagonal to their load, then a diagonal lashing should be used.

KNOTS

The figure-eight knot or figure-of-eight knot is a type of stopper knot. It is very important in both sailing and rock climbing as a method of stopping ropes from running out of retaining devices. Like the overhand knot, which will jam under strain, often requiring the rope to be cut, the figure-of-eight will also jam, but is usually more easily undone than the overhand knot.



SCOUT CAMP TOOLS AND USES

Pocket Knife



The pocket knife is a Scout/Guide staple and a must have for any camper. Since you never know when you will need a small tool while in the middle of nowhere, it is best if you bring a pocket knife with you on your camping

trip. This handy item can be quite beneficial when you are in the woods and do not have access to a tool box but need to cut something or use one of the small screwdrivers or pliers.

Compass

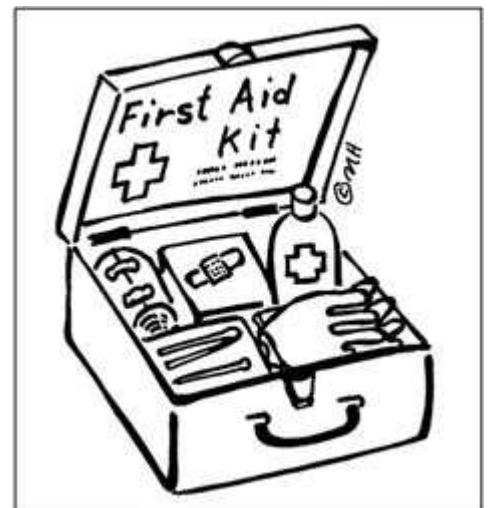


Another handy item that the Scouts/Guides use on a frequent basis is a compass. With a compass in hand, you will always know which direction you are heading and where you have come from. As long as you know how to properly operate a compass, you should never get lost in the wilderness.

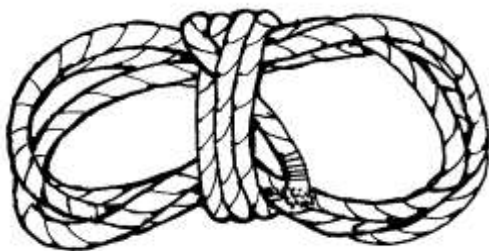
If you plan on doing some exploring while you are on your camping trip, it is wise to bring a compass with you. It is quite easy to get lost in the woods, especially if it is a heavily wooded area full of thick trees. However, when you have a compass, you will know exactly which way to travel in order to get back to your campsite.

First Aid Kit

A first aid kit is a must have camping tool for any camper, Scout/Guide or regular camper. With a first aid kit on hand, you will always be prepared to deal with any injuries you may encounter with your camping group. While a first aid kit will not be able to help with any serious injuries, it certainly can help with smaller injuries and buy some time for you to get to a hospital if there is a serious injury.



Ropes



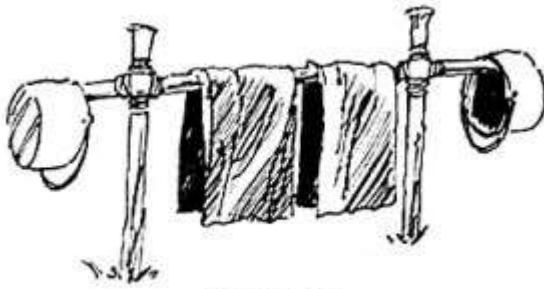
One last camping item the Boy Scouts use on a regular basis is ropes. Ropes help to

build small gadgets, haul a person to safety, give first aid, estimate distances, throw a safety harness, build a shelter, etc.

FOUR GADGETS

IDEAL CAMP ACCORDING TO BADEN POWELL: "...where every patrol leader and Scout takes a genuine pride in his camp and his gadgets." — Lord Baden-Powell

Building any good camp gadget requires at least some basic skills in Campcraft, e.g. proper use of wood tools, tying basic knots, simple lashings. At camps, these camp gadgets are often referred to as "campsite improvements." A good camp gadget should be durable, aesthetically pleasing, and serve a purpose.

Towel Rack / Double Fire Bucket Holder

Towel Rack

Materials Needed:

- Two pioneering stakes, a solid stick about 30 inches long with a notch on either end to hang the buckets
- Two short 1/4-inch manila lashing ropes, 6 to 10 feet long.

Method: In a sensible place near the tent, simply pound in the pioneering stakes, approximately 1 and 3/4 feet apart.

Then, making sure the notches on the 30-inch crossbar are facing up, lash it to the two stakes with tight square lashings. Fill the fire buckets and hang them on either side. That's all there is to it. As illustrated in the drawing, this same design can be used in a variety of ways. It can also be used to hang two buckets with sand and water to be used to douse emergency fires.

Dishwasher Stand**Materials Needed:**

- ten 5-foot Scout Staves
- fourteen 6-foot x 1/4-inch lashing ropes
- one 20-foot x 1/4-inch lashing rope
- two narrow pioneering stakes
- three wash basins



Method: Make the A-frames. An easy way to assure you'll have well-lashed A-frames is to first square lash the tops at 90° and then the ledger to one leg, also at 90°. This will create some strain on the lashings when the other leg and the other end of the ledger are lashed together, yielding a nice tight A-frame. Support the A-frames with the rope attached to the legs and anchored to a stake on each side. A rope attached to the legs and anchored to a stake on each side.

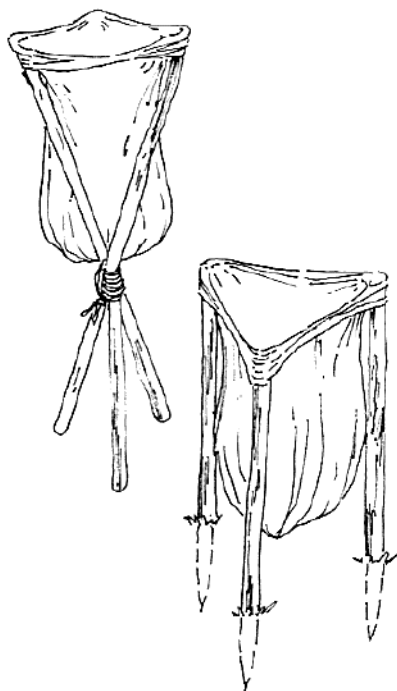
Connect and stand up the A-frames. Tightly lash two staves to the outside of the legs of each A-frame, about 20 inches from the top. The front and back edges of the wash basins will rest on these staves. Hammer in two stakes about 12 feet apart where you want the rack to be located, and position the connected A-frames between. Halve the 20-foot lashing rope and approximating the midpoint between the A-frames, secure the rope to the top of one leg with a Clove Hitch, and pulling the rope to the other A-frame, repeat the process on the top of a leg on the other side. Tie the ends of the rope to the stakes on either side, securing the ends tightly with taut line hitches. (If preferred use round turns with two half hitches.)

Add the two-stave basin supports. The A-frame ledgers will now serve to do something more than keep the A-frames' legs from shifting. They'll now also support the two remaining staves that assure the basins stay put! Lash these two staves parallel to one another on top of the ledgers, on either side of the rack.

Place the basins on the rack. Once you check to see all the lashings are tight, and the central rope is secure and stabilizing the structure, then you're ready to bring on the basins. Position them side by side and fill them about 3/4 of the way up.

Garbage Bag Holder

Garbage Bag Holder



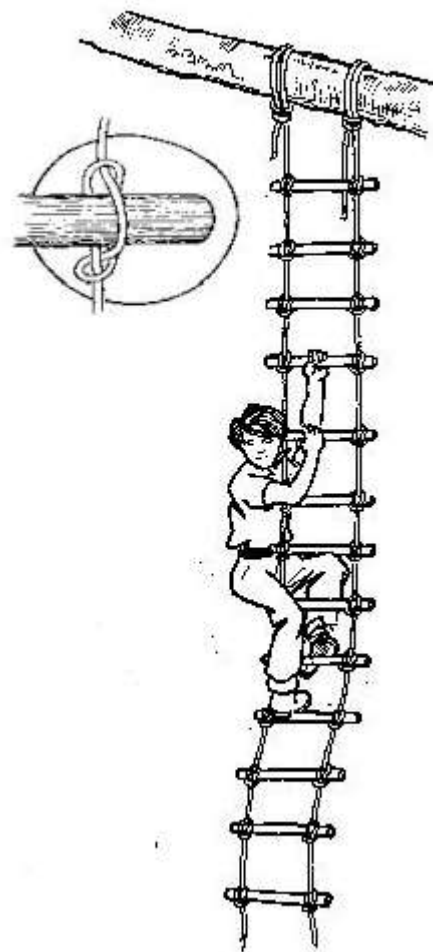
Materials Needed: 3 staves, manila rope

Method: Form a tripod using shear lashing and spread the legs. A plastic cover or a garbage bag can now be fixed to the 3 open ends to hold the mouth open.

Rope Ladder

Materials Needed: Several short 1 foot staves, thick manila rope

Method: Use the Marlin spike hitch to attach staves to two ropes at distances of 1 foot each from each other. Tie the ends of the rope to a tree branch. This will be a fun gadget to go up and down.



PIONEERING

What is Pioneering?

The name comes from the 18th and 19th century military engineers who went ahead of an army to "pioneer" a route, which could involve building bridges and towers with rope and timber

In the Scout Movement, pioneering is the art of using ropes and wooden spars joined by lashings and knots to create a structure. Pioneering can be used for constructing small items such as camp gadgets up to larger structures such as bridges and towers. These may be recreational, decorative, or functional.

Pioneering is used to teach practical skills, teamwork and problem solving. It is widely used in Scouting and Girl Guiding. Many Scout and Guide groups train their members in pioneering skills and construct projects, both small and large. In camp, Scouts may construct functional items like tables, camp dressers and gadgets, as well as decorative camp gateways.

Pioneering skills include knot tying (tying ropes together), lashing (tying spars together with rope), whipping (binding the end of a rope with thin twine), splicing (joining or binding the end of a rope using its own fibres), and skills related to the use, care and storage of ropes, spars and related pioneering equipment.

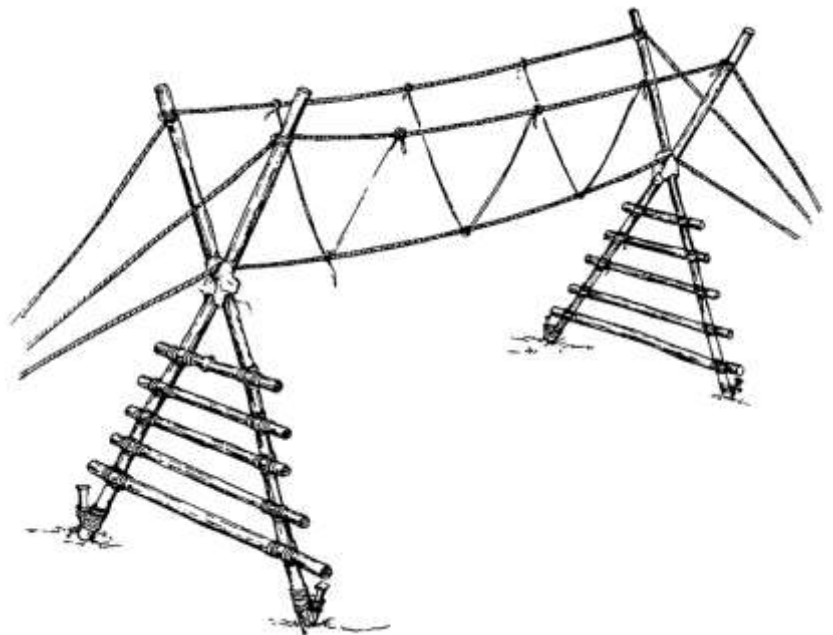
PIONEERING PROJECT - MONKEY BRIDGE

Equipment

- 4 x spars 3.6m long
- 2 x spars 2m long
- 8 – 10 light spars for ladder rungs
- lashing lengths
- Additional light lines 2 – 3m long
- 3 hawsers 20 – 24m long
- 1 pulley suitable for hawsers
- 1 Handy Billy
- sisal
- sacking
- large pegs or pickets

Method: This bridge will require substantial ground anchors at each end. Before you start building, check to see if there are any suitable trees to act as anchors. If you do use trees, do not forget to protect them from abrasion by wrapping them in sacking.

Construct 2 A frames by laying 2 x 3.6m spars alongside each other and tying a sheer lashing approx 1 1/2m from the top. Open the spars out and lash a 2m spar across the base, using square lashings. Lash light spars above the base to form a simple ladder. To protect the ropes, place some sacking in the crutch of the frame and secure it in place with sisal. Tie guy ropes to the top of the spars. To make the walkway, lay the foot rope on the ground and mark the approximate position of the A frame. Place the hand rope about 1.25m either side of the foot rope. It is a good idea to peg these ropes down to maintain the spacing during the next stage. Using the light line (6mm polypropylene is ideal) attach the middle to the foot rope with a clove hitch and the ends to the hand ropes with a round turn and two half hitches.



The bridge will require a vee rope every metre or so. With the A frames in position, but still on the ground, check the alignment of the bridge – the frames must be in a straight line between the ground anchors/trees. Anchor one end of the foot rope using a round turn and two half hitches and fit a Handy Billy to the other. Raise one A frame at a time and guy them when they are upright. Heel the butts into the ground to stop them sliding during use. As you tension the foot rope, use a light spar to ease it over the A frame otherwise it will lock in the crutch and tend to pull the frame over. Make the other end of the rope off and remove the Handy Billy. The bridge should now be strong enough to allow the A frames to be climbed. Attach the hand ropes to the top of the spars using a loose square lashing. Tension them off using the Handy Billy and then tighten the lashings with a couple of frapping turns.

Note the tension in the hand ropes must be the same. This can be achieved either by using a very long rope doubled back on itself or by looping the two ropes together and placing a single large pulley block in that loop. The ropes are tensioned with the Handy Billy attached to this block.

FIRES AND FIRE EXTINGUISHERS

Fires start when an inflammable or a combustible material, in combination with a sufficient quantity of an oxidizer such as oxygen gas or another oxygen-rich compound (though non-oxygen oxidizers exist), is exposed to a source of heat or ambient temperature above the flash point for the fuel/oxidizer mix, and is able to sustain a rate of rapid oxidation that produces a chain reaction.



What is the Fire Triangle?

The fire triangle is used to show the three elements that when present together can cause a fire to start. These three ingredients are fuel, heat and oxygen, under all circumstances they should be kept apart to avoid a fire starting. Understanding the basic principles of the fire triangle is essential in helping to protect your business and prevent fires from breaking out.

How does the fire triangle work?

When fuel or flammable materials are heated, the energy stored inside starts to react with oxygen in the air, giving off heat. This creates a vicious cycle, which causes the fire to spread. To stop the spread of a fire you have to remove one of these elements to break the triangle.

All fires can be separated into 5 different categories, depending on the type of fuel that is burning.

Class A – Ordinary combustible fires

These are probably the most common type of fire. They occur when materials become heated to their ignition temperature and will continue to burn as long as there is heat, oxygen and fuel to burn. Materials involved in these types of fires include paper, wood, textiles, rubber, some plastics and other organic carbon based compounds.

Class A fires are probably the easiest to extinguish as spraying them with water will cool the fire, removing the heat supply which is essential for the fire to burn. Water based or foam fire extinguishers are most appropriate for putting out ordinary combustible fires.

Class B – Flammable liquids

Flammable liquids are those that have an ignition temperature of less than 100°C. These liquids also have a low flashpoint, which means that they burn easily. The flashpoint is the temperature at which a substance gives off enough vapour to be ignited. These liquids can however burn at any temperature if a source of ignition, such as a spark or naked flame is supplied.

Examples of liquids that are flammable include petrol, kerosene, alcohol, solvents and paints. Fires involving these give off a lot of heat and tend to spread very quickly. They also produce thick, black toxic smoke, which can make these fires difficult to fight.

The best approach for extinguishing a Class B fire is to use a foam fire extinguisher to smother the flames, as using water causes the fuel to scatter therefore spreading out the fire.

Class C – Flammable gases

Flammable gases such as butane, propane and petroleum gases have the potential to create an explosion, if triggered by a single spark. For this reason flammable gases have to be stored securely in sealed containers.

Fires involving flammable gases are one of the most dangerous types of fire to fight. Before attempting to put the fire out, you should make sure that the gas supply is isolated first. Most fire extinguishers are ineffective on Class C fires, the only type being suitable for use being dry power extinguishers.

Class D – Metal fires

Certain metals and powdered metals can burn if ignited, although it requires a lot of heat to ignite most metals, as they are good conductors and transfer heat away quickly to their surroundings. Powdered metals and metal shavings are easier to ignite than solid lumps of metal, so pose a higher fire risk.

Alkali metals such as potassium, magnesium, aluminium and sodium can burn when in contact with air and water. Therefore putting water or foam onto metal fires will increase the intensity of the flames and result in potentially explosive reactions that will send pieces of burning metal in all directions.

Electrical Fires

Short circuits, overloaded switchboards, faulty equipment and damaged wiring can all cause electrical fires. Electrical fires are not strictly a fire class of their own, as electricity is a source of ignition as opposed to a fuel. They are still important to mention however as they have their own special fire safety requirements.

Before dealing with an electrical fire, the supply of electricity must be isolated as quickly as possible. As water and foam has the power to conduct electricity, even once the electricity source has been cut off, you should not attempt to put out the fire by putting water on the flames or by using foam and water based extinguishers. Carbon dioxide and dry powder fire extinguishers are the only types of fire extinguishers recommended for safely tackling electrical fires.

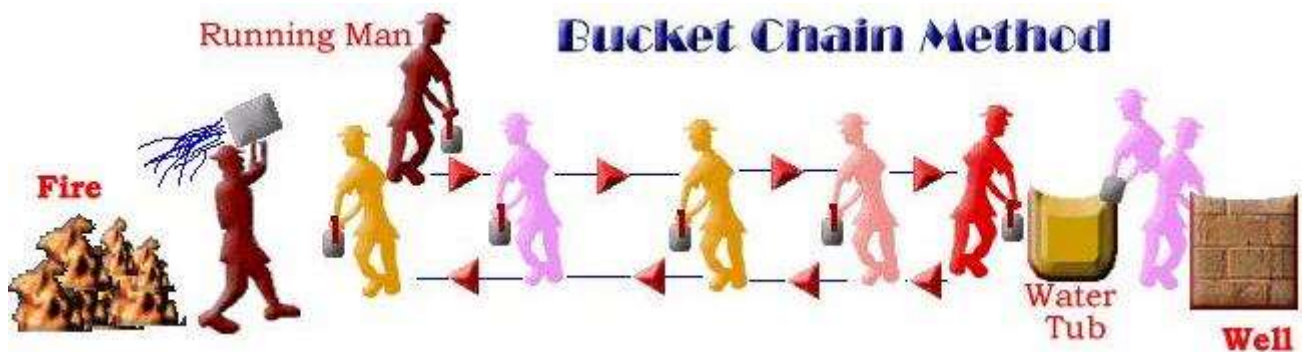
Class F – Cooking oil fires

Fires involving cooking oil and fats are common both in homes, businesses and professional kitchens. They pose a very difficult challenge to extinguish, due to the high temperatures involved. Simply trying to cool the fire with water will not work; in fact using water on a burning pan is likely to cause a rapid spreading out of the flames, making the fire worse and potentially injuring anyone in its vicinity.

Type Extinguisher	Fire	CLASS A	CLASS B	CLASS C	CLASS D	Electrical	CLASS F	Comments
		Combustible materials (e.g. paper & wood)	Flammable liquids (e.g. paint & petrol)	Flammable gases (e.g. butane and methane)	Flammable metals (e.g. lithium & potassium)	Electrical equipment (e.g. computers & generators)	Deep fat fryers (e.g. chip pans)	
Water	✓	✗	✗	✗	✗	✗	✗	Do not use on liquid or electric fires
Foam	✓	✓	✗	✗	✗	✗	✗	Not suited to domestic use
Dry Powder	✓	✓	✓	✓	✓	✓	✗	Can be used safely up to 1000 volts
CO2	✗	✓	✗	✗	✗	✓	✗	Safe on both high and low voltage
Wet Chemical	✓	✗	✗	✗	✗	✗	✓	Use on extremely high temperatures



Bucket and Chain method to put out fire



The bucket and chain method to put out fire works best when you have a team of volunteers available. The volunteers form a chain from the water source to the point of fire. A relay of buckets with water or sand can be conducted by passing the buckets from hand to hand continuously. The last person to throw water/sand on the fire then passes the empty bucket to a couple of runners who run back to the water/sand source with the buckets.

What to Do in Case of a Fire

- Immediately pull the nearest fire alarm pull station as you exit the building.
- When evacuating the building, be sure to feel doors for heat before opening them to be sure there is no fire danger on the other side.
- If there is smoke in the air, stay low to the ground, especially your head, to reduce inhalation exposure. Keep on hand on the wall to prevent disorientation and crawl to the nearest exit.
- Once away and clear from danger, call your report contact and inform them of the fire.
- Go to your safety area and await further instructions from emergency personnel.

Fire Safety Precautions and Fire Systems Equipment

- Keep doorways, corridors and egress paths clear and unobstructed. Make sure that all electrical appliances and cords are in good condition and UL approved. Do not overload electrical outlets. Use surge protected multi-outlet power strips and extension cords when necessary.
- Never store flammable materials in your room or apartment.
- Do not tamper with any fire system equipment such as smoke detectors, pull stations or fire extinguishers. Doing so is a criminal offense.
- Raising a false alarm is a criminal offense. It endangers the lives of the occupants and emergency personnel.

Fire Safety Do's

- DO treat every fire alarm as an emergency. If the alarm sounds, exit the building immediately.
- DO remain in your room if you are unable to exit the building safely because of smoke or fire. Keep the door closed and await assistance from the fire department. If smoke is entering under or around the door, stuff damp sheets or blankets in the spaces to help keep smoke out. If possible, open a window and waive or hang a brightly colored towel or garment to notify rescue personnel of your location.
- DO close the doors behind you if it is safe to leave your room.
- DO become aware of your neighbors and note if they have not evacuated and tell authorities they are missing and may need assistance.

Fire Safety Don'ts

- DON'T assume that a fire alarm is a test or burned microwave popcorn. Any alarm could be the result of a dangerous fire.
- DON'T waste time collecting personal items. Take your keys and yourself to safety as soon as possible.
- DON'T use the elevators during a fire emergency; always use the stairs.

Precautions in case of gas leak

Safe Handling of LPG

LPG gases are combustible and highly flammable. LPG can burn or explode when it comes in contact with air or a source of ignition. It has the potential to create a disaster. Since LPG is stored under pressure, it can leak from any joint or improperly sealed connection. Awareness or knowledge of safe handling LPG can eliminate the chance of fire or explosion. Following are some useful tips for safe handling of LPG cylinder.

1. In the early morning, proper precaution is required to ensure that there no gas buildup in the room, by opening doors and windows prior to turning on the stove.
2. LPG containers are not to be placed in close proximity to the stove or any other sources of flame.
3. Ensure that the gas tube is not squashed or severely bent.
4. Choose an LPG supplier who can provide you with well-maintained LPG cylinders, and after-sales support.
5. Replace the LPG cylinder hose on a regular basis, and replace any damaged or worn hose with a new hose.
6. Landlords who use agents to manage properties need to ensure that tenants are aware of safe use of LPG and LPG rubber tubes they use have an ISI mark.
7. Never check for gas leaks using a lit match. Always use a solution of soapy water and look for bubbles coming from around valves and pipe joints. These bubbles indicate a gas leak.
8. After securely connecting a new or refilled cylinder, apply some soapy water to the cylinder connections and turn on the cylinder.
9. Any burning objects must be extinguished prior to installation of any equipment to the new LPG cylinder.
10. Spare cylinders should not be kept next to cylinder in use.
11. Do not store kerosene or other flammable equipment in the kitchen.
12. In order to avoid danger, cylinders and its accessories must be used according to the usage instruction.
13. Never switch on the electricity or light stove when LPG scents are present.
14. Use a child-safe regulator on the LPG cylinder for domestic use.
15. Using domestic cylinder for commercial purpose is illegal and if caught legal actions are taken against the consumers under the Essential Commodity Act which is forfeiture of cylinder, penalty and imprisonment up to 3 years.
16. It is safer to evacuate everyone from the area.

Leaking of LPG

1. If escaping gas is not on fire, close any valve which will stop or reduce the flow of gas.
2. Turn off or remove any other source of ignition.
3. Ventilate the room by opening doors and windows
4. If you think that there is a danger of a fire, inform your gas supplier or Fire Department and your neighbors immediately.

LPG is on fire

1. If you have a fire fighting equipment, make sure that you know how to use it, and that it is maintained regularly. If you can't put it out, leave it to the fire brigade. It is safer to evacuate everyone from the area.
2. A small fire from a container may be smothered by a wet cloth or dry powder extinguisher and then it may be possible to stop the leak and remove the cylinder to a safe location.
3. If the gas is escaping in large quantities and has been ignited, immediately apply large quantities of water to all surfaces in the form of a jet, spray or fog.

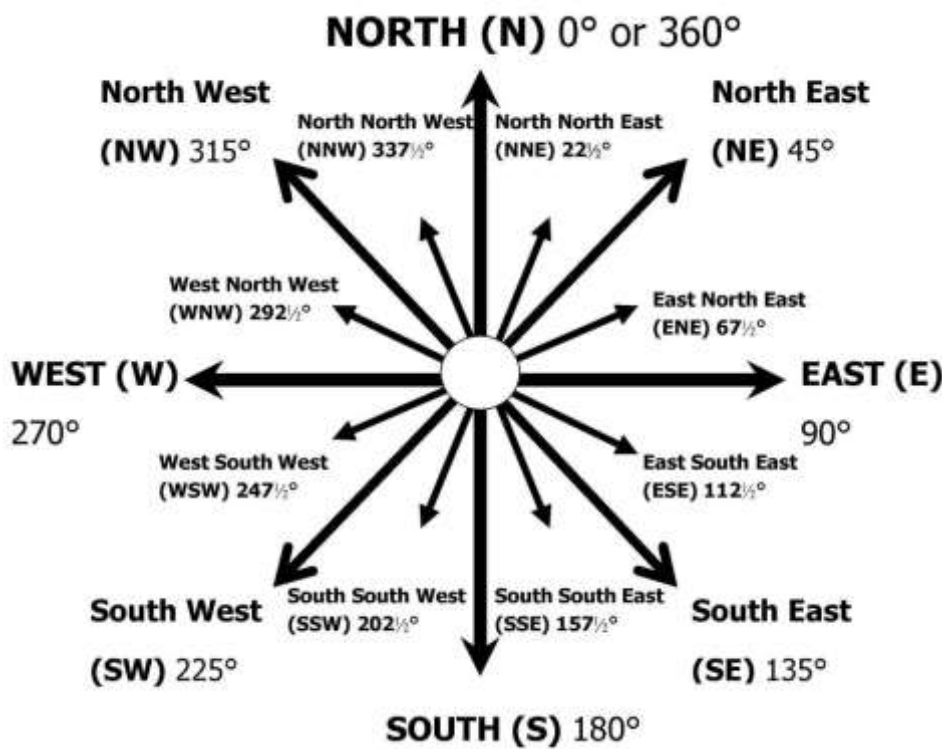
4. If the only valve which can be used to stop the flow of gas is involved in the fire, consider the possibility of effecting the shut-off by approaching the valve behind a water spray. This approach should be made at right angles to the flame and the spray used to reduce the intensity of the flame but not to extinguish it.
5. Portable LPG cylinders should be removed to a safe location.
6. If you feel the situation is not under control of you, call experts or call Fire Department immediately.

COOK IN THE OPEN TWO SIMPLE DISHES ENOUGH FOR 2 PERSONS

MAKE TEA FOR ONE PATROL OVER WOOD FIRE

[Write your experience of outdoor cooking and paste a picture. Explanation can be of one page or 2 pages at the most]

DEMONSTRATE PRACTICAL USE OF COMPASS AND KNOW THE 16 POINTS

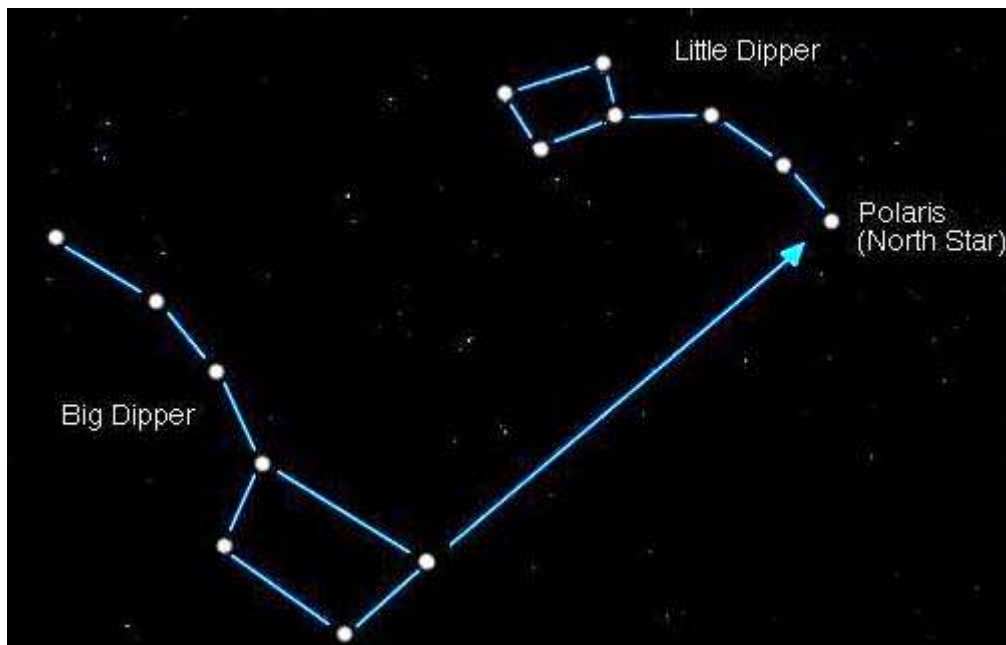


The points of the compass, specifically on the compass rose, mark divisions of a compass; such divisions may be referred to as "winds" or "directions".

A compass is primarily divided into the four cardinal points—north, south, east, and west. These are often further subdivided by the addition of the four intercardinal (or ordinal) directions—northeast (NE) between north and east, southeast (SE), southwest (SW), and northwest (NW)—to indicate the eight principal winds. In meteorological usage, further intermediate points between cardinal and ordinal

points, such as north-northeast (NNE) between north and northeast, are added to give the sixteen points of a wind compass.

FIND NORTH BY AT LEAST TWO CONSTELLATIONS BY NIGHT



To find your direction at night, you only need to find the 'North Star' (Polaris) to know the direction of "true north".

Note, the North Star is NOT the brightest star at night (many people assume that it is). The North Star is actually of average brightness.

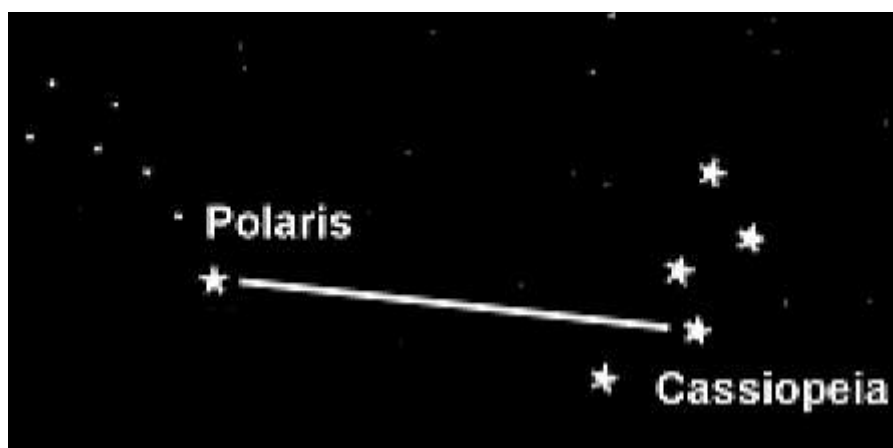
If you can find the Big Dipper in the night sky (which is arguably the easiest constellation to identify), then here's how to use it to find the North Star and the direction of North...

Locate the Big Dipper.

Locate the two stars at the front edge of the cup.

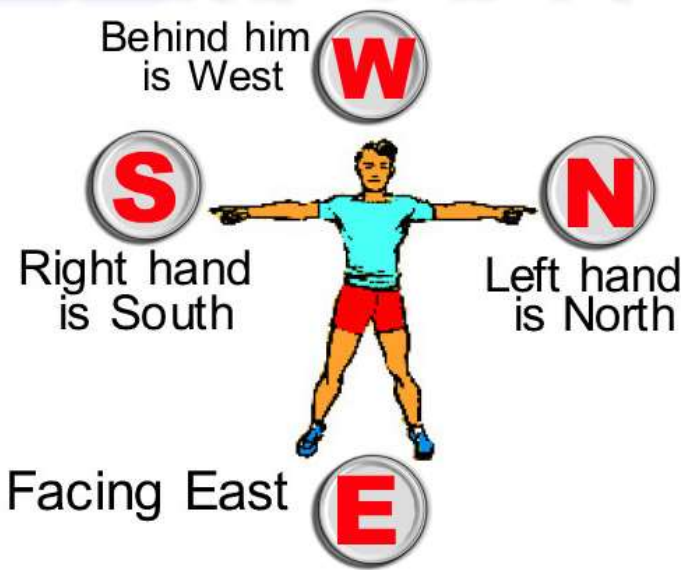
An imaginary line between these two stars, extended out about 5 times from the Big Dipper's cup will point towards the North Star (Polaris). It also happens to be the last star located at the end of the Little Dipper's handle (though the 'Little Dipper' itself is dim and often difficult to see).

As you face the North Star, you are facing true north.

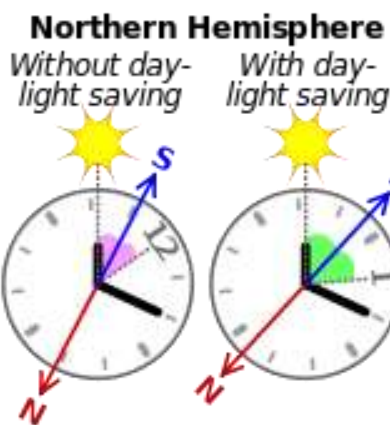


Cassiopeia or the Lazy W has five stars that form a shape like a "W." One side of the "W" appears flattened or "lazy" – that one star is not equally distanced like the other stars in the "W". Start with a line on the star that makes the bottom, left of the "W" and continue the line right through the middle of the two stars on the "lazy" side. Extend this line about five times the distance between the bottom of the "W" and the top. The North Star is located between Cassiopeia and the Big Dipper).

TWO METHODS TO FIND NORTH DURING DAY TIME



METHOD 1 - Just face the direction of the sun coming up, and bingo, you have your GENERAL directions. Remember, the sun rises in the east and set in the west. If you have a watch with moving hands, not digital, you can use it as sort of a compass as you move as well. Position the hands so east is at your 3 O'clock position, North at your 12 O'clock, South at your 6 O'clock, and 9 O'clock will be West. You can then use the other numbers to move in different directions, i.e., 1 O'clock will be North by East, 2 O'clock will be even a more eastern direction with 3 O'clock full east. It is not super accurate, but will get you headed in a good general direction.



METHOD 2 - There is a traditional method by which an analog watch can be used to locate north and south. The Sun appears to move in the sky over a 24-hour period while the hour hand of a 12-hour clock face takes twelve hours to complete one rotation. In the northern hemisphere, if the watch is rotated so that the hour hand points toward the Sun, the point halfway between the hour hand and 12 o'clock will indicate south. For this method to work in the southern hemisphere, the 12 is pointed toward the Sun and the point halfway between the hour hand and 12 o'clock will indicate north. During daylight saving time, the same method can be employed using 1 o'clock instead of 12.

KNOWLEDGE OF PACES, BEARING, MAP SKETCHES

Pace: The Roman pace (Latin: passus) was a Roman unit of length. It was notionally the distance of a full stride from the position of one heel where it raised off of the ground to where it set down again at the end of the step: two steps, one by each foot. There were 1000 paces in the Roman mile, which was named after that distance as the mille passus or passuum.



A pace is a unit of length consisting either of one normal walking step (~0.75 m), or of a double step, returning to the same foot (~1.5 m). Like other traditional measurements, paces started as informal units but have since been standardized, often with the specific length set according to a typical brisk or military marching stride.

In the US, it is an uncommon customary unit of length denoting a brisk single step and equal to 2½ feet or 30 inches (76.2 cm). Pace also refers to the inverse unit of speed, used mainly for walking and running. The most common pace unit is minutes per mile.

Bearing: The true bearing to a point is the angle measured in degrees in a clockwise direction from the north line. We will refer to the true bearing simply as the bearing.

For example, the bearing of point P is 065° which is the number of degrees in the angle measured in a clockwise direction from the north line to the line joining the centre of the compass at O with the point P (i.e. OP).

The bearing of point Q is 300° which is the number of degrees in the angle measured in a clockwise direction from the north line to the line joining the centre of the compass at O with the point Q (i.e. OQ).

Note:

- The bearing of a point is the number of degrees in the angle measured in a clockwise direction from the north line to the line joining the centre of the compass with the point.
- A bearing is used to represent the direction of one-point relative to another point.

What is North?

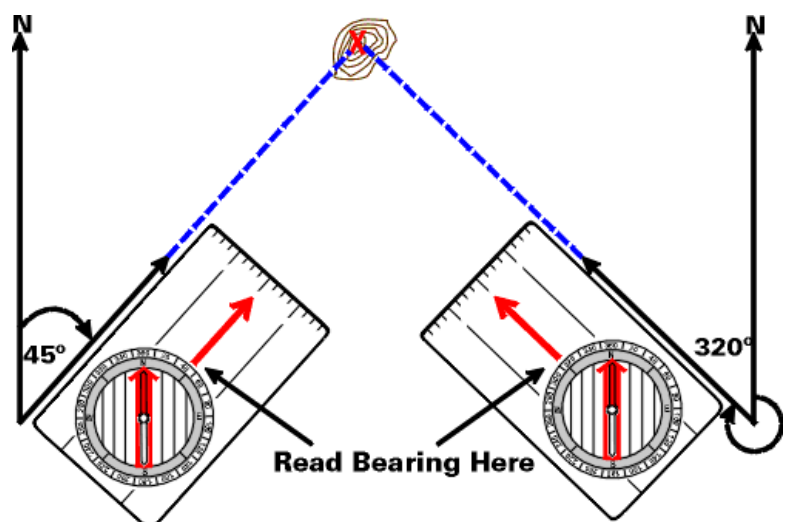
True North: (also known as Geographic North or Map North - marked as H on a topographic map - see Figure 6.8) is the geographic north pole where all longitude lines meet. All maps are laid out with true north directly at the top. Unfortunately for the wilderness traveler, true north is not at the same point on the earth as the magnetic north Pole which is where your compass points.

Magnetic North: Think of the earth as a giant magnet (it is actually). The shape of the earth's magnetic field is roughly the same shape as the field of a bar magnet. However, the earth's magnetic field is inclined at about 11 degrees from the axis of rotation of the earth, so this means that the earth's magnetic pole doesn't correspond to the Geographic North Pole and because the earth's core is molten, the magnetic field is always shifting slightly. The red end of your compass needle is magnetized and wherever you are, the earth's magnetic field causes the needle to rotate until it lies in the same direction as the earth's magnetic field. This is magnetic north (marked as MN on a topographic map).

Taking a bearing

The compass consists of a magnetized metal needle that floats on a pivot point. The needle orients to the magnetic field lines of the earth. The basic orienteering compass is composed of the following parts:

- Base plate
- Straight edge and ruler
- Direction of travel arrow
- Compass housing with 360 degree markings
- North label
- Index line
- Orienting arrow
- Magnetic needle (north end is red)

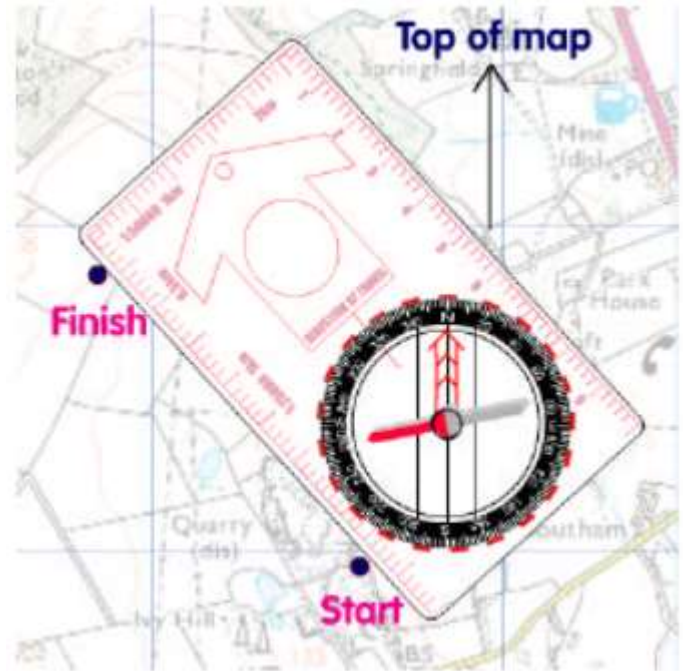


Step 1: Find the two points on the map that you want to travel from and to. Line up your compass edge between the two points, so that your direction-of-travel arrow is pointing to your destination.

Step 2: Rotate the compass housing until the orienting lines in the centre are pointing to the top of your map. You can do this by lining them up parallel to the grid lines.

Step 3: Now rotate the dial until the north pointer lines up with the mark on the dial that joins the direction of travel arrow (this is called the index line).

Step 4: Now read the bearing at the bottom of the direction-of-travel arrow, at the index line. In our example, the bearing is 320°. You will need to take into account the difference between grid north (on your map) and magnetic north (on your compass). This is called magnetic variation and your map will tell you how many degrees to add to your bearing. This can vary depending on where you are in the country.

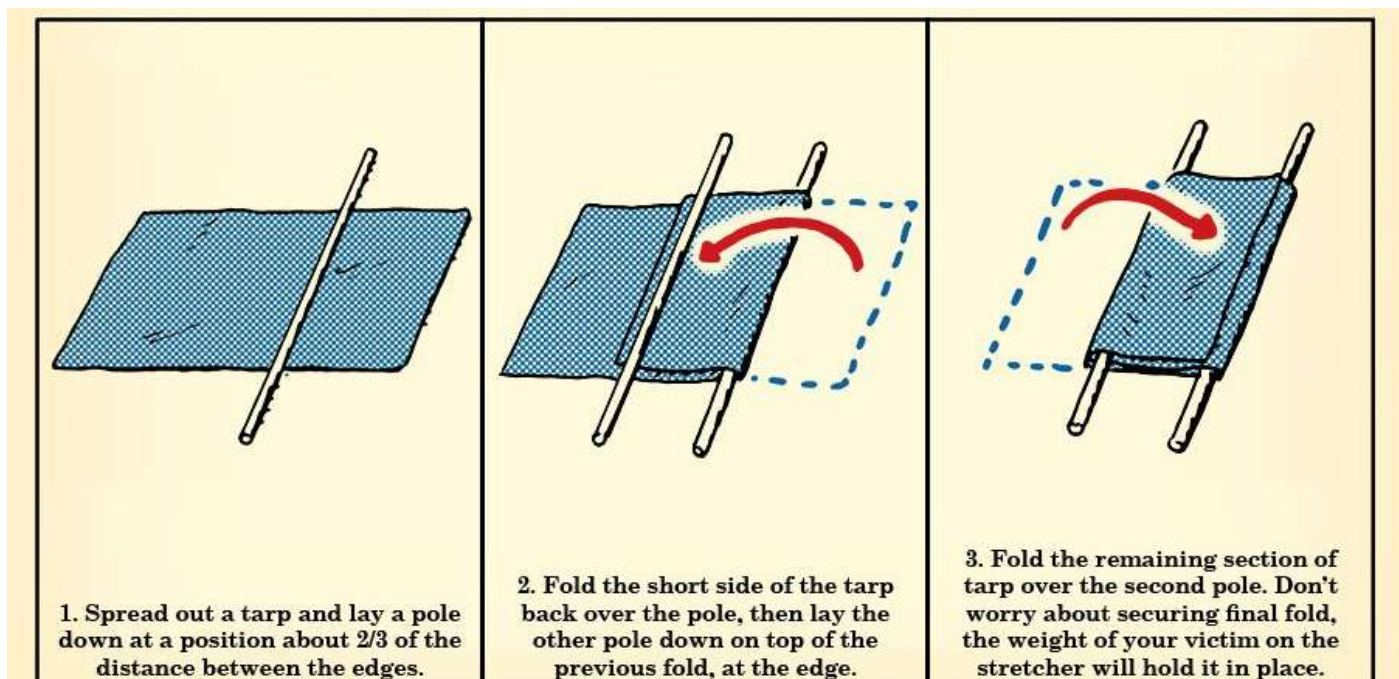


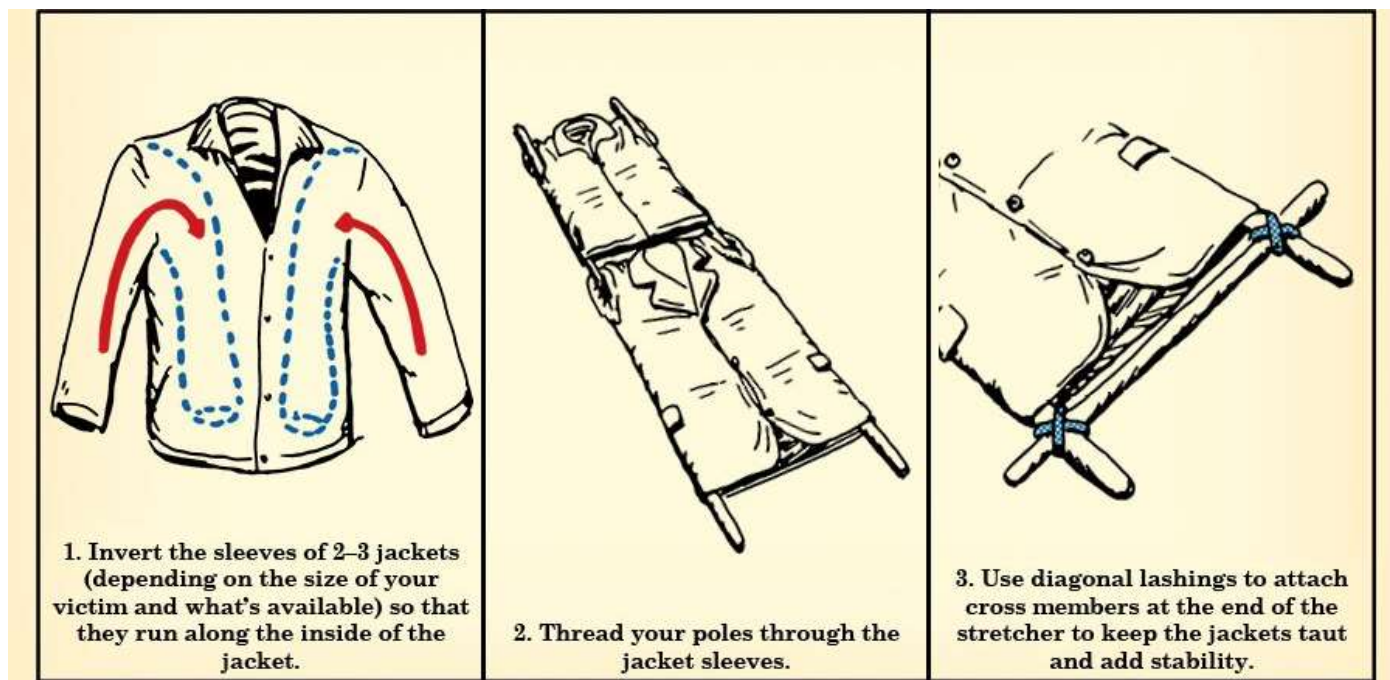
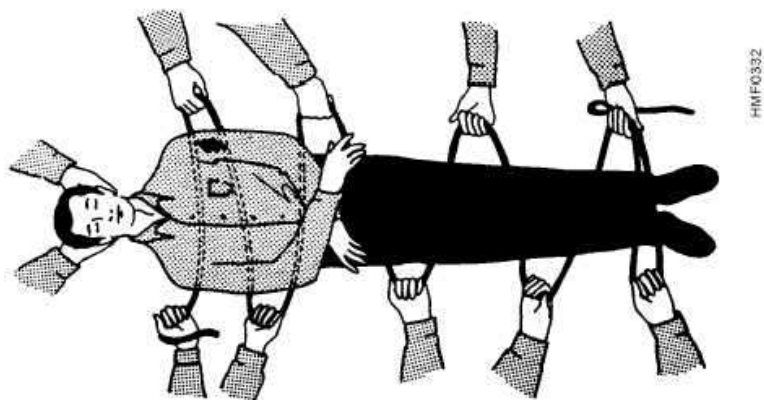
FIRST AID

Improvised stretcher

The decision to move someone who is injured is always a last resort. In most cases, as long as they are in a stable, safe position, it's best to wait for emergency medical teams to arrive and administer treatment, especially when injuries concern the neck or spine. If you must move someone to get them out of danger, such as away from a fire, or if they must be moved to reach medical services, a sturdy stretcher is the best way to keep a person stable and free from further injury. The key to any improvised stretcher is to make it rigid, durable, easy to carry, and as comfortable as possible. Fortunately, stretchers can be made of a wide variety of materials you might be carrying with you or that you can source from the immediate environment.

Method 1 – Tarp Stretcher



Method 2 – Jacket Stretcher**Method 3 – Rope Stretcher****Throw a lifeline for 10 meters**

All Scout camp and other Scout “swimming holes”, like public swimming pools, be equipped with a life line and lifebuoy, hanging on the pegs of a conveniently placed post; and a Scout / Guide must “Be Prepared” to throw these.

Life lines usually are of half-inch hemp or manila rope, the length depending upon the distance concerned.

The Test

For this test a rope between 30 and 50 feet in length should be used; and the thrower should place the bowline loop within grasping reach of the “person in difficulty” four times out of five; any kink spoiling a throw.

The line always should be pliable and free of kinks. To assure this, and whether kept coiled on a peg or otherwise, the line should regularly be taken down and thrown a few times, then carefully re-coiled.

Life lines at public swimming pools sometimes have a weighted end, for throwing. These, however, can be dangerous in the hands of an inexperienced rescuer.

It is safer to make a bowline in one end of the line, with the advantage that this loop can be grasped readily by the person being rescued, and probably drawn over his head and shoulder, which makes his rescue sure.

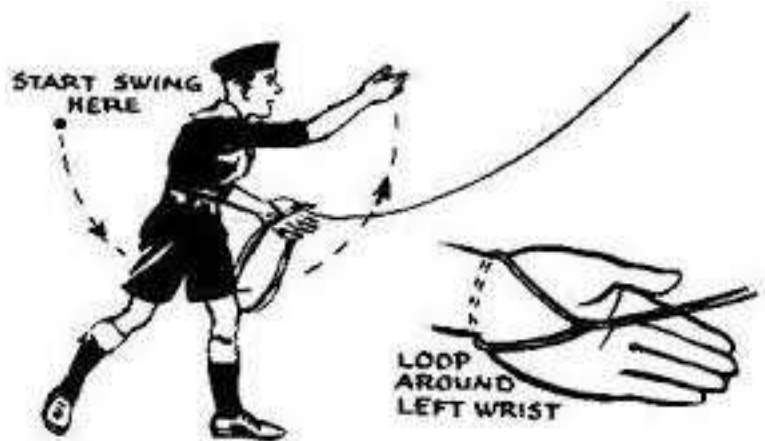
Coiling a Life Line

It is most important that a life line be properly coiled. To do this (having first made a bowline), hold the bowline in the left hand, as the first coil. Now, with a twisting overhand movement (to equalize kink tendency when thrown), add turn against turn until completed.

Now turn the coil completely around, so that the bowline is in the right hand, and divide it, holding two thirds in the right hand, the balance in the left, the end securely gripped, or better yet, tied to a post or tree.

Throwing

With a single, long under-arm swing (no whirling about the head), heave the coil, aiming at a point directly beyond the person in difficulty unless there is a current to allow for- at the same time opening the left hand to allow that portion of the line to run free. (For a left-handed Scout the procedure would be reversed.)



After Use

Dry line before re-coiling.

New Rope

A new rope will require stretching. This may be done by tying it at a “reaching” height between two suitably spaced trees, then hanging on it. As it stretches it is tightened, until the stretch limit has been reached.

Roller Bandages

Roller bandages are long strips of material which are rolled up for easy use. They come in different widths and material.

Roller Bandages: Gauze or Cotton Roller Bandage. Gauze and cotton bandages are non-conforming. This means that they do not stretch, and will not mould around the part of the body to which they are applied. Non-conforming bandages do not stay on very well. If you have both types of bandage in your first aid kit, it is best to use the conforming bandages first.

Roller Bandages: Conforming Roller Bandage

Conforming bandages are designed to stretch. This allows them to mould to the shape of the parts to which they are applied. Conforming bandages can be used on their own to provide support to an injured joint or muscle. They can also secure pads and dressings, when this is necessary to control bleeding.

Applying Roller Bandages

All roller bandages should be applied in the following manner.

1. Hold the bandage so that the head or rolled part is on top and the tail is pointing inward.
2. Pass the rolled part from hand to hand, allowing it to unroll as you go. Make sure that each turn overlaps the last by two thirds of its width.

3. Fasten the end with tape or tuck the end in and check that the bandage is not too tight.

Improvising

1. If you needed to improvise a dressing for a person with a cut on their hand you would use a handkerchief. A clean handkerchief makes an excellent pad or dressing for small wounds.
2. If you needed to improvise a bandage you could use stockings. Clean pantyhose or stockings make excellent short bandages.
3. If you needed to improvise a splint for a suspected fractured arm you would use a newspaper. A newspaper makes a useful splint because when it is folded and creased it becomes quite solid and will support and immobilize a fracture very well.

Burns & Scalds

Burns and scalds are damage to the skin caused by heat. A burn is usually caused by dry heat, like fire, a hot iron, or the sun. A scald is caused by wet heat, like steam or a hot cup of tea.

You need to be extra careful when treating burns. The longer the burning goes on, the more severe the injury will be, and the longer it may take to heal. So you need to cool the burn as soon as possible.

If someone has a severe burn or scald they are likely to suffer from shock, because of the fluid loss, so they will need urgent hospital treatment.

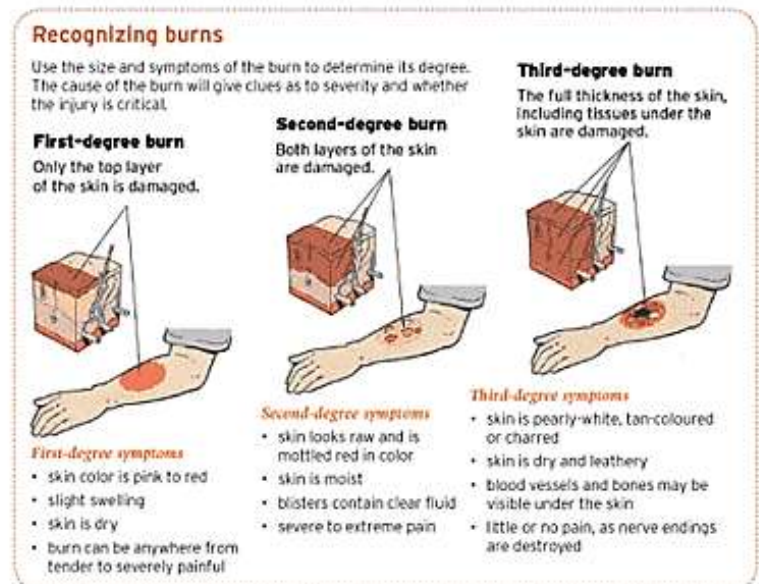
What to look for

If you think someone has a burn or scald, there are five key things to look for:

1. Red skin
2. Swelling
3. Blisters may form on the skin later on
4. The skin may peel
5. The skin may be white or scorched

What you need to do

Stop the burning getting any worse, by moving the casualty away from the source of heat.



Start cooling the burn as quickly as possible. Run it under cool water for at least ten minutes or until the pain feels better. (Don't use ice, creams or gels – they can damage tissues and increase risk of infection).

Assess how bad the burn is. It is serious if it is:

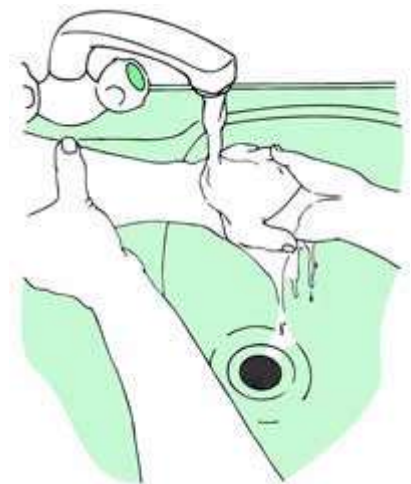
- larger than the size of the casualty's hand
- on the face, hands or feet, or
- a deep burn

Remove any jewellery or clothing near the burn (unless it is stuck to it).

Cover the burned area with kitchen cling film or another clean, non-fluffy material, like a clean plastic bag. This will protect from infection.

If necessary, treat for shock (shock is a life-threatening condition, not to be confused with emotional shock).

If you are unsure if the burn is serious then tell the person to see a doctor.



Sprains



- R** - Rest
- I** - Ice
- C** - Compression
- E** - Elevation
- R** - Referral



Sprains involve a stretch or a partial tear of ligaments (which connect two bones) or tendons (which connect muscle to bone). Sprains and strains happen more often in teens than in younger children.

Signs and Symptoms

- pain in the joint or muscle
- swelling and bruising
- warmth and redness of the injured area
- difficulty moving the injured part

What to Do

Make sure your child stops activity right away.

Think R.I.C.E. for the first 48 hours after the injury:

- **Rest:** Rest the injured part until it's less painful.
- **Ice:** Wrap an icepack or cold compress in a towel and place over the injured part immediately. Continue for no more than 20 minutes at a time, four to eight times a day.
- **Compression:** Support the injured part with an elastic compression bandage for at least 2 days.
 - **Elevation:** Raise the injured part above heart level to decrease swelling.

Stings and Bites

Not all bites or stings are the same. You will need different first aid treatment and medical care depending on what type of creature has bitten or stung you. Some species can cause more damage than others. Some people also have allergies that raise the risk of a serious reaction.

Here's how to recognize and treat the symptoms of bites and stings from insects, spiders, and snakes.

Insects

Nearly everyone has been bitten or stung by an insect at one time or another. Whether you've been attacked by a mosquito, fly, bee, wasp, ant, or other bug, insect bites and stings usually cause a mild reaction. Your body reacts to venom or other proteins that insects inject into you or transfer to your body through their saliva. This can result in symptoms at the site of the bite or sting, such as:

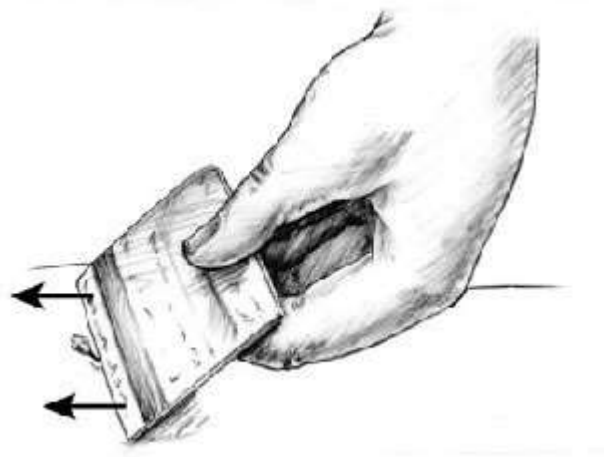
- redness
- swelling
- pain
- itching

The severity of your symptoms can vary, depending on the type of insect that bites or stings you. Some people also develop a severe allergic reaction to insect stings or bites. Bee and wasp allergies are particularly common. A severe allergic reaction can cause:

- abdominal cramps
- nausea and vomiting
- swelling of your face, lips, or throat
- breathing problems
- shock

If you or someone you know begins to experience these symptoms shortly after being bitten or stung by an insect, call local emergency services. A severe allergic reaction that affects multiple parts of your body is called anaphylaxis. It can be life-threatening if not treated promptly. Follow these steps for first-aid

- If the insect's stinger is still embedded in their skin, remove it by gently scraping a flat-edged object, such as a credit card, across their skin. Avoid using tweezers to remove the stinger, since squeezing it may release more venom.
- Wash the area of the bite with soap and water.
- Place a cold compress or ice pack on the area for about 10 minutes at a time to help reduce pain and swelling. Wrap any ice or ice packs in a clean cloth to protect their skin.
- Apply calamine lotion or a paste of baking soda and water to the area several times a day to help relieve itching and pain. Calamine lotion is a type of antihistamine cream.



Emergency treatment for a severe allergic reaction

If you suspect someone may be having a severe allergic reaction:

- Ask someone else to call local emergency services, right away. If you're alone, contact emergency services before you provide other treatment.
- Encourage them to remain calm, lie down quietly with their legs elevated, and stay still. If they start to vomit, turn them onto their side to allow the vomit to drain and prevent choking.
- If they become unconscious and stop breathing, begin CPR. Continue it until medical help arrives.



To avoid making matters worse, don't apply a tourniquet. You should also avoid giving them anything to eat or drink.

Snakes

While many snakes are harmless, the bite of some species can be poisonous and even deadly.

Symptoms of a poisonous snake bite can vary, depending on the type of snake. They can include:

- weakness
- dizziness
- fainting
- convulsions
- nausea
- vomiting
- diarrhea
- rapid pulse
- loss of muscle coordination
- swelling in the area of the bite

A poisonous snake bite is a medical emergency. Prompt treatment can minimize symptoms and promote recovery.

First aid treatment for mild bites

If someone has been bitten by a snake, and you suspect it may be poisonous, help them get emergency medical treatment and follow the steps in the next session. If you know the snake wasn't poisonous, treat the area of the bite for bleeding and other symptoms:

- Use a clean cloth or gauze to apply pressure to the area until bleeding stops.
- Clean the area with soap and water.
- Apply an antibiotic cream to help ward off infection.
- Cover the wound with a sterile bandage or gauze to protect it while it heals.

If the person is experiencing severe bleeding, help them get emergency medical treatment. Continue to apply new layers of cloth or gauze to the bleeding area, on top of layers that have been soaked through with blood. Removing old layers can make the bleeding worse.

Emergency treatment for poisonous snake bites

If you suspect that someone has been bitten by a poisonous snake:

Help them get medical help immediately.

- Encourage them to remain calm, lie down quietly, and stay still. Movement can cause the venom to spread through their body more quickly.
- Remove tight jewelry or clothing around the site of the bite, since swelling may occur.
- If they develop pale and clammy skin, dizziness, weakness, shortness of breath, or increased heart rate, treat them for shock. Give them a blanket or extra layer of clothing to stay warm.
- If you can do so safely, take a description or picture of the snake that bit them. This can help medical professionals identify the snake and an appropriate course of treatment.

To avoid making things worse, do not:

- endanger yourself by trying to capture the snake
- wash the site of the bite, since residual venom can help medical professionals identify the type of snake and proper treatment
- apply a cold compress to the site of the bite
- raise the bitten area above the level of their heart
- cut or suck the site of the bite
- give the person anything to eat or drink
- give the person any pain medications

Bleeding from Nose

Nosebleeds are common. Most often they are a nuisance and not a true medical problem. But they can be both.

1. Sit upright and lean forward. By remaining upright, you reduce blood pressure in the veins of your nose. This discourages further bleeding. Sitting forward will help you avoid swallowing blood, which can irritate your stomach.
2. Pinch your nose. Use your thumb and index finger to pinch your nostrils shut. Breathe through your mouth. Continue to pinch for five to 10 minutes. Pinching sends pressure to the bleeding point on the nasal septum and often stops the flow of blood.
3. To prevent re-bleeding, don't pick or blow your nose and don't bend down for several hours after the bleeding episode. During this time remember to keep your head higher than the level of your heart.
4. If re-bleeding occurs, blow out forcefully to clear your nose of blood clots and spray both sides of your nose with a decongestant nasal spray



When to seek emergency care

1. The bleeding lasts for more than 20 minutes
2. The nosebleed follows an accident, a fall or an injury to your head, including a punch in the face that may have broken your nose

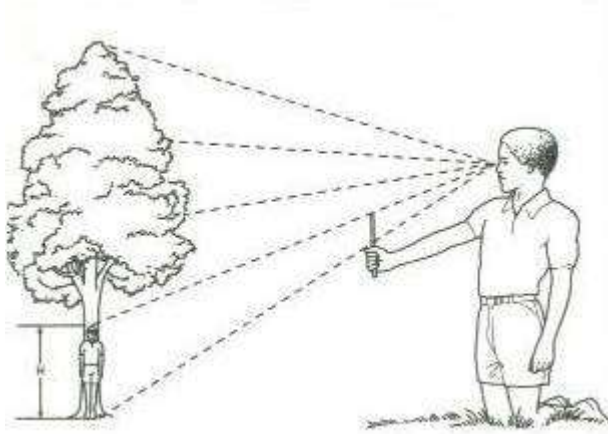
ESTIMATION

Estimation of Height and Widths

This is quite a useful skill for a Scout during pioneering projects, camping or going on an adventure trip

Heights

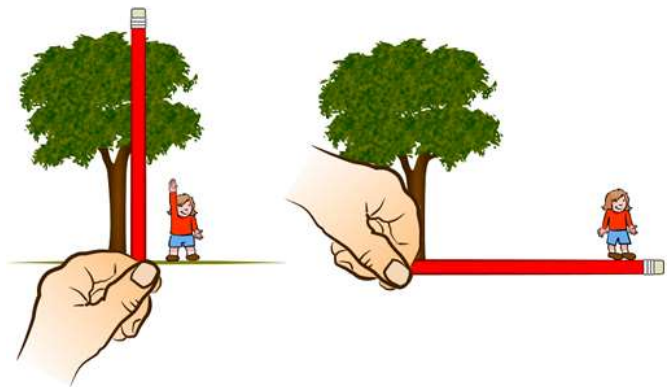
Method 1 - Pencil Method or Proportional Method



Have a friend whose height you know stand beside a tree, or tie a ribbon around the tree at your own height. Step back and hold a pencil or a stick at arm's length in front of you. With one eye closed, sight over the stick so that the top of it appears to touch the ribbon or your friend's head. Place your thumbnail on the stick where it seems to touch the base of the tree. Now move the stick up to see how many times this measurement goes into the height of the tree. Multiply that number by the height of your friend or the ribbon, and you will know the height of the tree. You can also use this method to measure buildings, waterfalls, and walls.

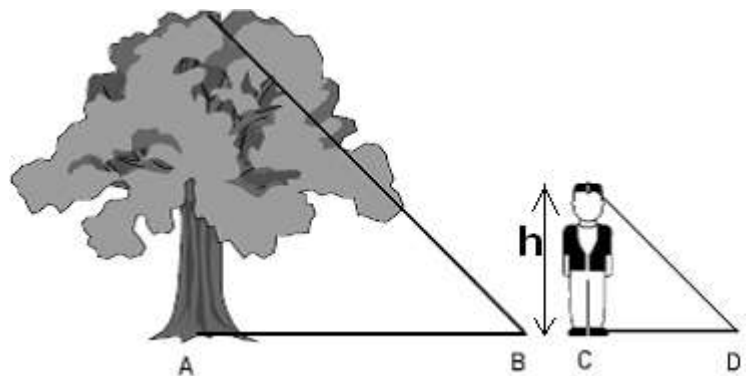
Method 2 – Tree Felling Method (Lumberman’s method)

The main method to judge height is by using a pencil or a small straight stick. Hold the stick or pencil out in front of you and line it up with the object, a tree or building, with the top of pencil aligned with the top of the object. Then, rotate it 90° and have someone, starting at the base of the object, pace out slowly – counting their steps – until they reach the end of the pencil as you see it. Convert their pacing into a measurement in metres, this then is the estimated height.



Method 3 – Shadow

The method can be used only if the sun is able to cast a shadow. First is we measure the shadow cast by the tree (from the base of the tree to the shadow of it's top), we label this length as AB. We then measure the shadow cast by someone or an object of known height 'h', we label this as CD.

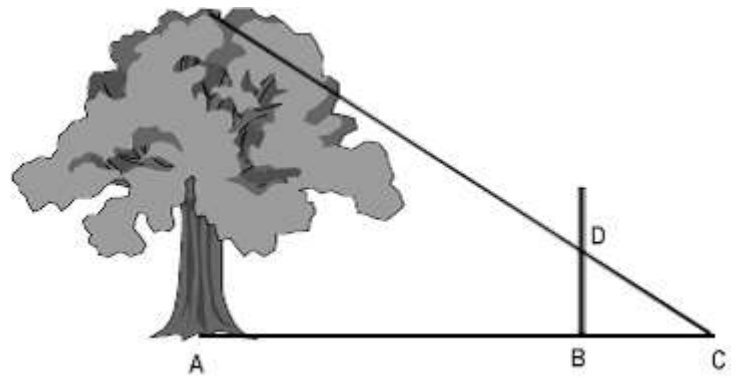


We merely solve the unknown height by use of proportions, by equating:

$$\text{TREE HEIGHT} = \frac{\text{AB (tree shadow length)} \times h \text{ (height of known object)}}{\text{CD (shadow length of known object)}} = \frac{\text{AB} \times h}{\text{CD}}$$

Method 4 – Inch to Foot Method

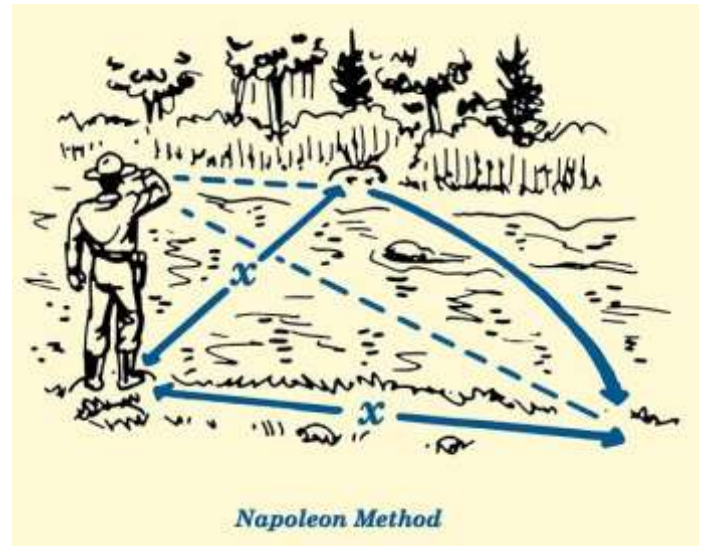
From the foot of the object you are to measure pace eleven (11) units, we label it distance AB. A unit can be any number of paces, so if we say our unit is five paces then 11 units is equivalent to 55 paces. Place something to mark the point B. From B take one more unit forward, this is distance BC. From location C lie down on the ground such that your eyes are close to the ground as possible. Sight the tree with the marker on B in your line of sight. Note where your line of sight cuts the marker to the tip of the tree. That spot is labelled as D. The distance of BD in inches is the estimated height of tree in feet.



Widths / Distances

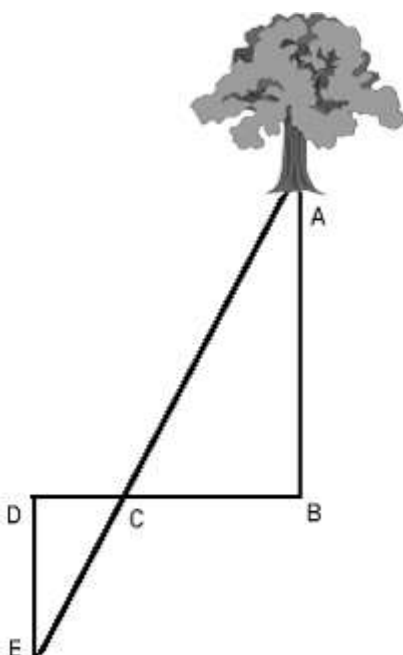
Method 1 – Napoleon Hat Brim Method

Stand on one shore of a stream. Bow your head, chin against your chest. Hold your hand to your forehead in a salute. Move your hand down until the front edge of it seems to touch the opposite shore. Without changing the position of your hand, make a quarter turn. Notice the point at which the edge of your hand seems to touch the near shore. Pace off the distance to that point, and you will know the width of the river. Napoleon might have used the brim of this hat instead of his hand. If you are wearing a cap with a visor, so can you.



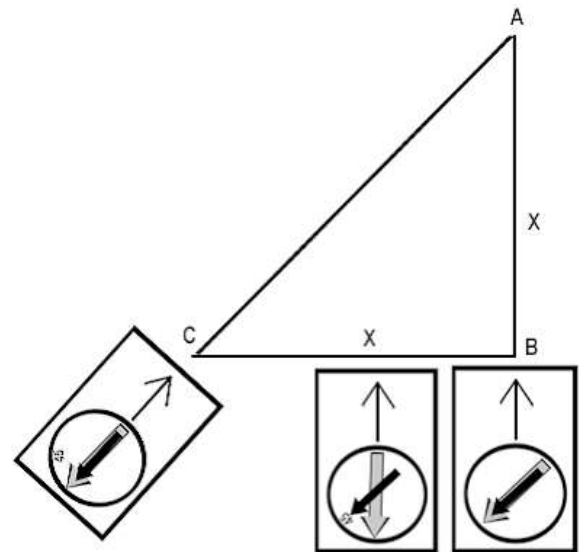
Method 2 – Stride/Step Method

Select an object on the opposite side of the river, such as a tree and we mark it as A. Mark the point directly in front of the object on the opposite side of the river, mark it as point B. Take at least 50 paces to point C, so as to form line BC. Note that line BC should be perpendicular to line AB. Mark point C with a stick or another person. Again, pace another distance to point D. The distance CD is half the distance of BC. From point D, pace another distance to point E. Line DE is parallel to line AB. Point E is marked on a location wherein you can see point C forming a straight line with point A. Meaning when you look at the stick on point C, it somewhat blocks your line of sight to point A. The distance AB is twice the distance DE. $AB = DE \times 2$. We can alter the method a bit. Instead of having distance CD half the distance between BC, we can make it equal to each other. Do the same method to find point E. Using this alternative, $AB = DE$. This is more accurate.



Method 3 – Compass Method

Locate an object on the other side of a river. Stand on your side and point the direction-of-travel arrow towards the object. Align the magnetic needle to 450 indicator of the compass housing. Pace the line BC while pointing the direction-of-travel arrow towards the object all the time. Point C is marked when the compass is oriented (magnetic needle is directly above the orienteering arrow). The distance BC is a rough estimate of distance AC. You have just for med a 45-45-90 triangle, which has two of its sides equal to each other.



PARTICIPATE IN TROOP WIDE GAME

THE TRIP TO MARS: A sealed envelope is given to each of the two-team leaders to be opened at a specified spot at a specified time. Each envelope contains a marked map sketch, and one only of the following two messages:

Message for TEAM I

(to be opened at I on map).

Story: I am the famous aviator, Colonel Bud Stoop. With you, my brave fellow airmen, I have just completed a flight to Mars where we have landed our stratoplane (indicate by placing four signal flags on 5-foot poles at the corners of a 15-foot square). Unfortunately, in landing we smashed our water tank, and since there are no rivers on Mars we are in a dangerous position. We have seen from the air NE from here one of the portable tanks in which the Mars people store their artificial water, but it will be dangerous to reach it since the Mars men are violent enemies of the Earth people.

Objects: We must capture the water tank (marked by four 5-foot poles to which are tied signal flags which must all be pulled out) and bring it to our stratoplane. At the same time we must defend our plane. If the Mars people take it we shall forever be prevented from returning to Earth again.

Score:

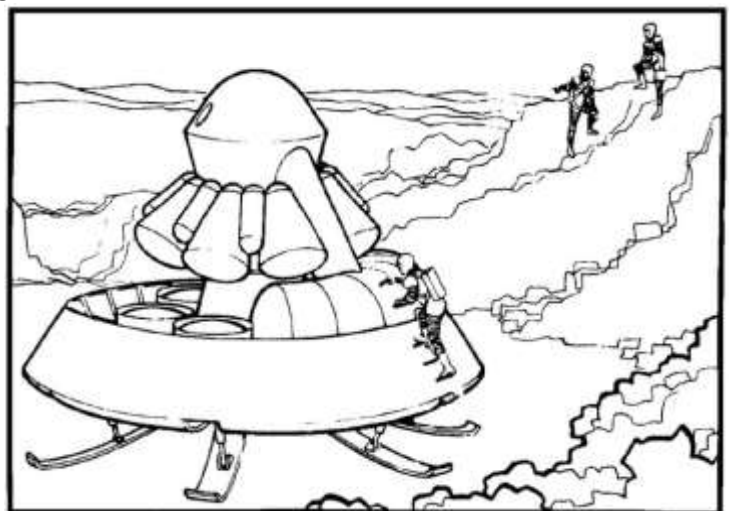
- Water tank captured (all 4 poles) = 20 points
- Stratoplane held intact = 20 points
- Each Mars man captured = 2 points

Special Rules: (Method of capture). If stratoplane is captured it may be recaptured. Game starts at (time). Stops at (time). Troop gathers at (place) at (time).

Message for TEAM II

(to be opened at II on map).

Story: I am the king of Mars. Some of the vicious Earthmen have just landed on our globe SW from here. They came in one of their great metal birds that rumbles like a volcano. My spies have just told me that they are looking for water and that they may try to get one of the tanks in



which we store our artificial water (indicate by placing it. the ground four 5-foot poles to which signal flags are tied. These poles are placed at the corners of a 15-foot square).

Objects: We must prevent them from capturing our water tank. With its water they will live and kill us all. But they shall not succeed. We shall take their metal bird (marked by 4 signal flags which must all be pulled up and brought into the water tank square) and we shall destroy every one of the ghastly Earthmen.

Score:

- Metal bird captured (all 4 poles) = 20 points
- Water tank held intact = 20 points
- Each Earthman captured = 2 points

Special Rules: (Method of capture). If water tank is captured it may be recaptured. Game starts at (time). Stops at (time). Troop gathers at (place) at (time).

MORSE CODE

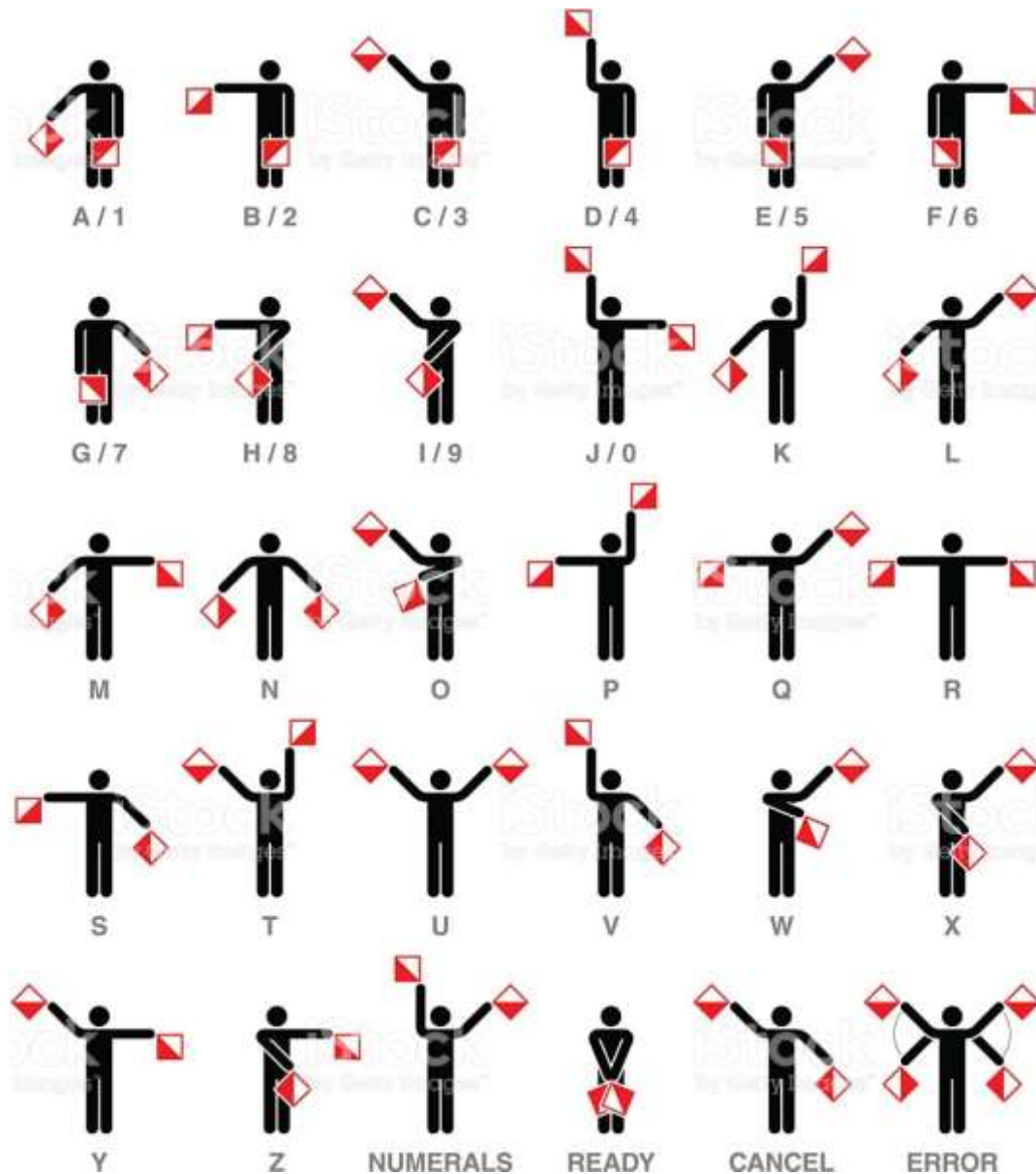
Morse code is a method of transmitting text information as a series of on-off tones, lights, or clicks that can be directly understood by a skilled listener or observer without special equipment. It is named for Samuel F. B. Morse, an inventor of the telegraph.

In an emergency, Morse code can be sent by improvised methods that can be easily "keyed" on and off, making it one of the simplest and most versatile methods of telecommunication. The most common distress signal is SOS or three dots, three dashes, and three dots, internationally recognized by treaty.

The alphabet			
.-	A	--.	G
--	M	...	S
-...	B	H
-.-.	C	..	I
-..	D	.---	J
.	E	-.-	K
...-	F	.-..	L
---	O	.-.-.	P
-.-	N	-.-.-	Q
-.-.-	R	-.-.-	X
-.-.-	Y	-.-.-	Z
-	T	-.-	U
-.-	V	-.-	W
-.-	X	-.-	Y
-.-	Z	-.-	Z
Numbers			
.----	1	-.....	6
..----	2	--.....	7
...----	3	---.....	8
....-	4	----.	9
.....	5	-----	0
Punctuation marks			
Point (.)	.-.-.-	(AAA)	
Comma (,)	-.-.-.-	(MIM)	
Question-mark (?)	..-.-.	(IMI)	
Colon (:)	-.-.-.-	(OS)	
Hyphen (-)	-.....-	(BA)	
At-sign (@)	.-.-.-.	(AC)	
Error		

SEMAPHORE SIGNALLING

The Semaphore Code, which is a development of the old land "telegraph" lines, is limited to visual signaling, and over comparatively short distance. It is, however, the fastest method of flag signaling, and is an important companion code for wigwag. It has been a traditional code in the Coast Guard, the Army, and the Navy.



Write a page each on

- Discuss a pollution problem in your locality with parents/neighbour and make a report of it
- Write an article on mobile phones and Internet and their application in the development of the country

Pioneering

1. Knots and Lashings and Hitches
 - a. Timber Hitch
 - b. Rolling Hitch
 - c. Marlin Spike
 - d. Lever Hitch
 - e. Figure of Eight Knot
 - f. Parallel Lashing
 - g. Square Lashing
 - h. Diagonal Lashing
2. 4 Camp Tools and uses
3. 4 gadgets
4. One pioneering project

Lay and light a wood fire in the open with not more than one match

Method to clean gas/kerosene stove

Knowledge of fire extinguisher

Different fires and fire extinguishers

Bucket and Chain method to put out fire

Precaution in case of gas leak

Cook in the open two simple dishes enough for 2 persons

Make tea for one patrol over wood fire

Demonstrate practical use of compass and know the 16 points

Find north by at least two constellations by night

Two methods to find north during day time

Knowledge of paces, bearing , map sketches

First Aid

- St John's sling
- Improvised stretcher
- Throw a lifeline for 10 mtrs
- Render first aid for
 - Burns & Scalds
 - Sprains
 - Stings and Bites
 - Bleeding from Nose

Estimation

- Estimate two distances /width of not more than 100 meters

Participate in troop wide game

Morse and semaphore signaling

Complete any two

- Write a scrap book on Heritage and Culture
- Discuss a pollution problem in your locality with parents/neighbour and make a report of it
- Have/ create an email-id and send/communicate at least two emails
- Write an article on mobile phones and Internet and their application in the development of the country