

Chapter 3 – Field Skills

PO.3 – Field Skills

- EO.1 – Pack and Carry Individual Clothing and Equipment
- EO.2 – Demonstrate Hiking Techniques
- EO.3 – Tie a Knot
- EO.4 – Explain How to Prevent and Treat Exposure Injuries and Illnesses
- EO.5 – Recognize Environmental Hazards
- EO.6 – Demonstrate a Concern for the Environment

EO.1 – Pack and Carry Individual Clothing and Equipment

In Recruit Training you learned how to select personal clothing and equipment. The following section will explain how best to pack and carry this equipment for expeditions and encampments. Keep in mind each expedition and encampment will require different equipment, so what and how you pack will need to be adjusted based on what you need. The following are general guidelines that can be adapted to each unique situation.

- Line your pack with an open plastic garbage bag you can seal. This will line the main compartment of your pack and keep all of your equipment dry.
- Put all of your toiletries in a protective bag such as a Ziploc bag or other plastic bag that can be sealed. This will act as another layer of protection for your equipment.
- If you are carrying any fuels, be sure they are packed in approved, sealed containers.
- Pack your equipment in the order you are likely to use it.
- Heavy objects should be close to the back of the pack, centered and higher on the load.
- Be sure to carry or pack long items vertically to maximize your space. You don't want the width of your load to exceed twenty-four inches.
- Pack the things you will need in an emergency in outside pockets or in the top of your pack for easy access. Water bottles should also be packed in convenient pockets or pouches.
- Your day's meals and snacks should be packed in an outside pocket.

Once you have packed all of your equipment, use the following checklist to make sure your pack is secure and comfortable to carry:

- Your pack should not weigh more than 10% of your body weight for a daytime hike. If you weight 80 lbs., then your pack should not weight more than 8 lbs.
- You have padded any sharp edges of your equipment and tools to protect your pack and other equipment that could be ripped or damaged.

- ❑ Your pack is as flat as possible.
- ❑ Fasten all pocket covers so nothing is hanging or dangling from the outside of your pack.
- ❑ Tighten all the compression straps to keep the load compact.

EO.2 – Demonstrate Hiking Techniques

Preparing for a Hike

Preparing for a hike begins the day or two before hiking day by making sure your body is properly fueled and your pack is ready to go. Waiting until the night before or even the morning of your hike to prepare can cause you to feel rushed, to forget important equipment, or to run out of energy in the middle of your route from improper nutrition. It is important to know exactly how to fuel your body before, during, and after a hike and what to bring to make sure you are prepared for any situation you may face.

Something else you can do to prepare for an upcoming hike is to add walking into your day or as part of a fitness program. A hike is really a long walk through the wilderness. You should be walking for fitness in the days and even the weeks leading up to your hike to make sure your muscles are prepared to walk for an extended period of time. Most people are not used to walking for several miles, so a hike will be tough on their muscles. Preparing for your hike does mean you have to pack and fuel up the day before, but it also means you need to get your body ready which will take more than a few days before your scheduled hike.

Fueling for your Hike

Hiking uses up a lot more energy than you may think. It is important to make sure your energy stores are full before you leave for your hike. Think of your energy stores like the gas tank in a car on a road trip. You need to make sure the tank is full before you leave and you continue to fill it up throughout your trip so you don't run out of gas before you get to your destination. You need to do the same with your body before any strenuous physical activity such as a hike.

To fill up your energy stores, you need to eat a combination of carbohydrates and proteins. Your body uses carbohydrates for quick energy and protein to fuel your muscles. Carbohydrates are things like bread, pasta, oatmeal, potatoes, and fruits that also contain fiber and sugar to keep you going. Proteins are meats such as chicken or steak, nuts, and nut butters such as peanut butter. Make sure you eat healthy, balanced meals the day before your hike and drink plenty of water. Avoid sodas or caffeinated drinks as these can actually dehydrate you.

During your hike, it is even more important to maintain your fuel stores and hydration levels. You should start your day by eating breakfast and drinking plenty of water or sports drink. While you are hiking, you should be snacking every hour or so and drinking water or sports drink as often as possible. If you wait to eat or drink until you are hungry or thirsty, your stores are already low, or you are already dehydrating. You never want to let yourself get too thirsty. To prevent this from happening, make sure to bring small, high-energy foods with you on the trail such as trail mix or granola bars. You also want to make sure to pack a healthy meal for when you stop for a longer break. This meal, like your meals the day before, should contain both carbohydrates and protein such as a sandwich and some fruit. You also need to make sure you are sipping on water or sports drink every ten to twenty minutes or as often as you can if your bottles are hard to reach easily.

Once you finish your hike, you need to make sure you refuel and rehydrate your body. You may want to reward yourself with sugary treats or big meals, but these foods will not give you the proper vitamins and nutrients you need after a strenuous day of hiking. You need to fill your tank back up with healthy meals and lots of water to avoid feeling tired or hurting the next day.

Packing for your Hike

In addition to preparing your body, you need to prepare your gear for your day of hiking. Below you will find a list of gear you may need. Always check with your Unit Commander, Adult Volunteer, or Senior or Advanced Young Marine who planned the expedition before you pack your bag to make sure you don't bring too much or don't forget anything. Make sure to check the weather as well, so you know what to wear. For more information on clothing and equipment, review this section in your Recruit Guidebook.

You may need to make changes to this list based on the weather, the length of your trip, the season, or the terrain you will be facing, but these items should cover most hiking conditions you and your unit should be prepared for:

- A map or a guidebook of the area
- A compass
- Water
- Snacks or food as listed above
- First aid kit
- Rain gear
- Matches or a fire starter*
- Extra socks and undergarments
- Gloves
- Emergency blanket
- Multi-use pocket or utility knife*

*Only to be used under adult supervision

Hiking Techniques and Tips

Hiking may seem as simple as walking in the wilderness, but a long day of hiking, especially if you're in rough or rocky terrain, can put a lot of strain on your body. Typically, you will hike for longer distances and with heavier packs than you're used to carrying. In order to maintain safety and comfort, follow the techniques and tips below:

- Maintain a steady pace while you are walking. Your goal should be to finish the day at the same pace you started, so don't start off too fast or you'll tire out quickly.
- Make sure to mix up your stride and how you are walking. Take smaller steps, larger steps, and steps on your toes or further back on your heels to use different muscles while you are walking. Walking the same way for a long period of time will wear out those muscles and can cause muscle fatigue or injury.
- Take short, regular breaks instead of long, occasional breaks to keep your muscles in a set pattern. Make sure to stretch during all of your breaks and take time to adjust your pack. Alternate the weight of your pack between your shoulders and hips to keep one area of your body from becoming over tired.
- On each of your breaks, make sure to sip some water and check for blisters. Areas most common for blisters are the ankles, heels, and the bottoms of your toes. Blisters happen from too much friction on your skin, usually because your boots or socks are too loose, and your feet are sliding around while you walk. Each time you stop, make sure your shoes are tied tight so they aren't slipping but not so tight that you cut off circulation. If any part of your foot feels sore, painful, or burning, remove your shoes and socks to check for redness and/or any spot that has started to blister. If you find any of these spots, alert an adult or the medical staff on the trip to treat the areas before the blisters worsen or pop.
- Keep an eye on the weather conditions and how your body is feeling. If it is cold outside, you need to keep enough layers on to stay warm but not so much that you are sweating, or so much that you soak your first layer of clothing. If it looks like rain, make sure your rain gear is easy to access. If it is hot and sunny, you may need to reapply sunscreen or put on a cover. Always be aware of your surroundings and the weather conditions as they change during your hike.
- When hiking uphill, keep a slow and steady pace and focus on your breathing. Walk in a zigzag pattern up the hill if it is too steep to walk up straight comfortably.
- When hiking downhill, be very careful of foot placement and watch where you are going. It is very tempting to take downhills quickly after a tough uphill climb. Most accidents happen when hiking downhill too quickly and stepping in a hole or sliding down loose earth.

If you're hiking at night, additional precautions need to be taken. Safety should be your number one priority any time you're hiking but especially if you're hiking at night. In addition to the tips above, make sure to abide by the following:

- Never try new trails at night and always stick to the trail you or your Unit Commander has chosen. Traveling at night is more difficult than hiking during the day, so you don't want any surprises you may find when traveling an unfamiliar trail.
- Make sure to bring plenty of lights. Travel with flashlights, lanterns, or head-lights, and be sure to bring extra batteries and lantern fuel with you.
- Be very aware of your surroundings and the wildlife you may run into. Many forest animals are nocturnal creatures which means they hunt and travel at night. Make sure to be very respectful of any wildlife you encounter at night and maintain a safe distance from any you spot.
- Check the lunar and weather conditions before you plan a night hike. Traveling with a full or nearly full moon will offer additional light, but fog or clouds could make your hike very difficult, as could rain or a drop in temperature.
- Be even more prepared than you are during a daytime hike. Pack plenty of water and snacks and extra layers for cooler nighttime temperatures. It's important to prepare properly because you never know what can happen on a hike, and nighttime hikes can be even more unpredictable because of the darkness.

E0.3 – Tie a Knot

Tying knots is an essential skill for any Young Marine who will spend time in the field. Before you can tie any knots, you need to make sure your rope or chord is in good condition. Check for any frayed or damaged portions before you try to secure anything with the rope. To keep your rope in good condition, make sure to:

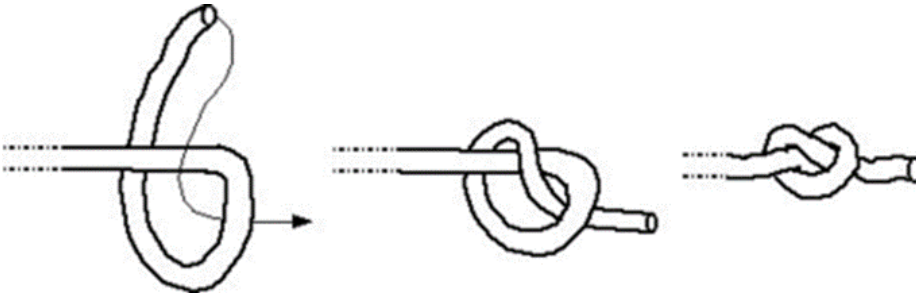
- avoid stepping on the rope,
- distribute wear on the rope,
- keep it dry, clean, and wash with mild soap when dirty,
- store it coiled in a dry place with all knots and kinks removed,
- do not store near strong chemicals because the fumes may damage the rope fibers,
- whip, melt, or bind rope ends to keep them from unraveling, and
- avoid snagging on or dragging across sharp rocks.

This section will describe how to tie six different types of knots: thumb knot, figure eight knot, double figure eight knot, square knot, clove hitch, and half hitch.

The Thumb Knot

The thumb knot or “overhand knot” is used to keep the end of a rope from unraveling or to stop a rope from passing through a pulley or eye. This knot is very strong when the rope is wet. To tie the knot:

1. Make a loop in the rope, holding the tail end (the end you will move to make the knot) in one hand and the loop you made in the other hand.
2. Pass the tail end around the standing part of the rope and then through the loop you made.
3. Pull the knot tight.

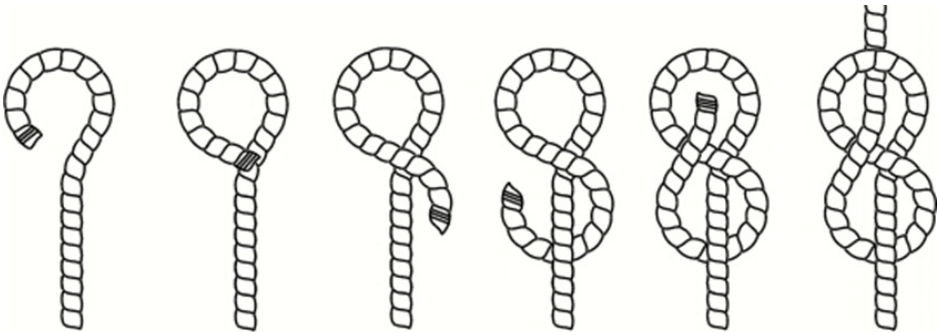


The Figure Eight Knot

The figure eight knot has the same uses as the thumb knot but is easier to undo. This can be useful if the rope becomes jammed against something but also has its downsides as the knot can come undone easier than other knots. To tie the knot:

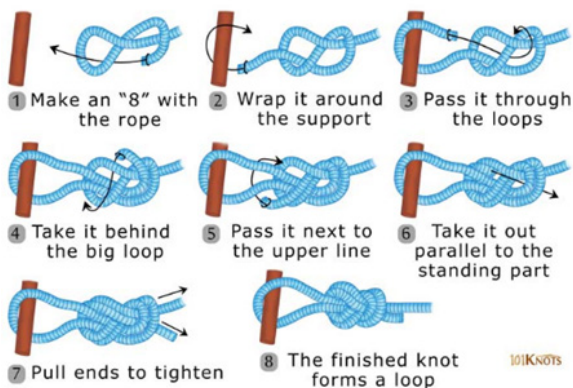
1. Make a loop in the rope holding the tail end in one hand and the rest of the rope in your other hand.
2. Wrap the tail end around the rope before passing it through the loop.
3. Pull the knot tight. If done properly, it should resemble a figure eight.

The Double Figure Eight Knot



The double figure eight knot is used to anchor a rope around a tree trunk, pole, or other similar item. It begins just like the regular figure eight knot, but you need to make sure you leave enough length on the tail end to make the first knot, wrap around the object you are securing the rope to, and then loop back through the original knot. To tie the knot:

Figure 8 Follow Through Tying Steps

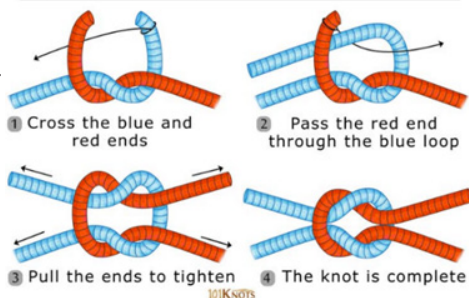


1. Make a figure eight knot, but do not pull it tight. Leave space in each loop of the knot.
2. Wrap the tail end around the support, whatever you are tying the rope to.
3. Pass the tail end through the loops in the same pattern you used to make the first knot. The tail end should be once again facing the support away from the rest of the rope.
4. Pass the tail end behind the big loop at the top of the knot nearest to the support.
5. Pass the tail end through the top loop one last time so the tail end emerges underneath the knot.
6. Pull the tail end so it is next to the standing end of the rope.
7. Pull both ends to tighten the knot.

The Square Knot

The square knot is used for joining two ropes of equal thickness. This is not the most secure knot, so it should not be used for anything but joining two ropes together. To tie the knot:

Square (Reef) Knot Instructions



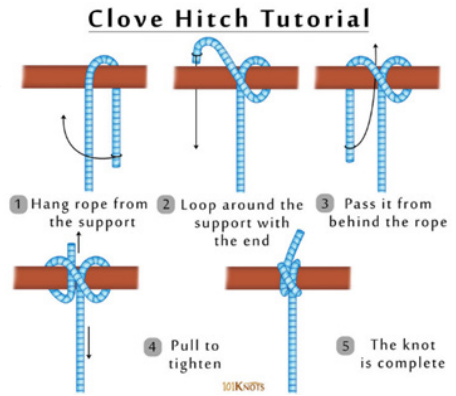
1. Hold each rope you wish to join in each of your hands.
2. Cross the ends of the ropes you wish to join over one another so that they form an 'X'.
3. Bring the end of the rope on your right hand behind the rope in your left hand and then back around so the two ropes are entwined, just like you would do if you were tying your shoes.
4. Take the two ends of the ropes and cross them again to form another 'X'.

5. Take one end and bring it through the loop formed inside both X's.
6. Pull tight on the ends of the ropes to tighten the knot.

The Clove Hitch

The clove hitch is used to secure a rope to a spar, sail, or similar fitting. The benefit of this knot is it can be easily tied and will hold tight when one end is weighted. However, it can slip or bind and is not as effective when tied around a square post. To tie the knot:

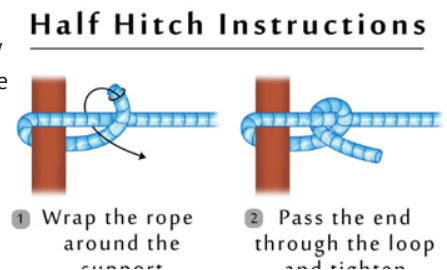
1. Hang your rope, or wrap it around, the object you are hitching the rope to.
2. Loop it around the rope from the back, pulling the rope up and over the part of the rope in front of the object.
3. Loop the rope around the object once again.
4. Pull the end of the rope through the loop you just made around the object, not the first loop that was made.
5. Pull both ends tight.



The Half Hitch

The half hitch is used to fasten the end of the rope around a ring or spar. It is not necessarily a secure knot, but it is the basis for other, more complex knots you will learn. To tie the knot:

1. Wrap one end of the rope around or through the object you are hitching to from behind.
2. Pass the end of the rope behind the standing end of the rope to form a loop.
3. Bring the end back up and through the eye of the loop you just created.
4. Pull the knot tight.



EO.4 – Explain How to Prevent and Treat Exposure Injuries and Illnesses

A major concern while in the field is the impact weather can have on your body. Extreme conditions such as heat, cold, rain, wind, or thunderstorms can negatively impact you very quickly. Know the signs of weather-related illnesses such as hypothermia or heat stroke.

Hypothermia

Hypothermia is the most severe form of cold-related injury. It occurs when your body is losing heat faster than it can produce heat. We wear jackets and coats in the cold to help our body conserve heat, but our bodies have their own ways of producing heat. If it is too cold outside, or we don't wear enough layers to help our bodies conserve heat, we lose too much body heat and can become hypothermic. Hypothermia is a major danger because the symptoms come on so gradually that many victims and their teammates don't notice them until it's too late.

Hypothermia is usually first noticed when **a person is shivering and cannot stop**. This condition is always serious, but at this point the person can be treated by getting them warmed up. Try to get them as warm as possible by layering them with jackets or blankets, getting them to shelter, and replacing any wet clothing with clean, dry layers. Warm food or drinks, even warm water, will also help the process.

If the person cannot be warmed up in time or if their symptoms go unnoticed, severe hypothermia can set in. The symptoms of severe hypothermia are much more drastic than just shivering. If you notice any of the following symptoms, alert an adult to call for emergency medical services, and try to get the person as warm as possible while you wait:

- Slurred speech or mumbling
- Slow or shallow breathing
- Weak pulse
- Lack of coordination
- Drowsiness or very low energy more than just normal tiredness
- Confusion or memory loss
- Loss of consciousness

Often people suffering from hypothermia don't notice how bad their condition is because of how slowly the symptoms appear and because hypothermia often causes confusion or disorientation to the extent they will not notice their symptoms. For this reason, it is important to be very mindful of your own condition and the conditions of those around you. If you begin to shiver uncontrollably or are wet and cold, alert an adult as quickly as possible before you become hypothermic. If you notice someone around you is badly shivering, is looking sluggish, or seems to be confused or dazed, alert an adult.

Cold weather is not the only condition in which hypothermia can occur. You can also become hypothermic in cool, wet, or windy environments. Be particularly careful during rainy weather that is accompanied by a decrease in temperature and wind which can easily lead to a drop in body temperature especially if you are caught unaware or don't have the proper equipment. In the event of a surprise rain shower, seek shelter as quickly as possible and change into warm, dry clothes as soon as you can to avoid hypothermia.

In the event of extreme cold, you also need to look out for **frostbite**. This happens when **soft tissues such as your fingers and toes begin to freeze**. When your core temperature begins to drop in cases of very cold temperatures or wind chill, your body takes blood away from your limbs to protect your internal organs. To prevent frostbite, wear appropriate clothing, mitts or gloves, headgear, and socks and footwear. You can tell frostbite apart from just cold fingers or toes by looking for:

- Cold skin and a prickling sensation in the affected area
- Numbness
- Red, white, bluish-white, or grayish-yellow skin
- Hard or waxy-looking skin
- Clumsiness due to joint or muscle stiffness

You should first treat frostbite by slowly rewarming the area. This may cause tingling or pain in the affected areas. If the frostbite progresses to the point where the skin turns white after first turning red or numbness occurs, still attempt to warm the area, but you also need to seek medical attention.

In cold weather environments, always stay with a partner and be sure to keep an eye out for signs of cold-related illnesses. Alert an adult immediately if you suspect either of these is occurring.

Heat-Related Injuries and Illness

On the opposite end of the spectrum from hypothermia and frostbite are injuries and illnesses caused by heat and sun exposure. Just as our bodies try to warm us up in extreme cold, they will also try to cool us down when overheated. Sweating is your body's natural response to increased body temperature due to sun or heat. When your body can no longer sweat or when it isn't effective at cooling you down, you run into problems.

The first two heat-related injuries and illnesses are the easiest to prevent and treat before they become severe: **sunburn** and **dehydration**.

Sunburn is the result of ultraviolet rays from the sun effecting your skin over a period of time. You do not have to be in direct or even bright sunlight for sunburn to occur. People with very sensitive skin can even get a sunburn at night because ultraviolet rays from the sun reflect off of the moon. Sunburn is also possible when it is cold outside and through clouds since the sun's rays are still strong in those conditions. If you are at a high elevation, hiking or camping in the mountains, you are more likely to get a sunburn because the sun's rays are stronger. Symptoms include **redness and pain in the affected area or blisters if the sunburn is severe**. You can protect yourself from sunburn fairly easily by wearing long-sleeve, light clothing to protect your skin but also so you don't overheat. Wear a hat to protect your face and neck. You should also be applying sunscreen every

two hours or more often if you have been in the water or sweating. If you have sunscreen labeled as waterproof, make sure to follow the instructions on the bottle for how often it needs to be reapplied once you have gotten wet or started sweating. Don't forget to apply sunscreen to the most exposed part of your body: your face, ears, neck, shoulders, back, knees, and the tops of your feet. Also, don't forget your lips can also get sunburned. Apply sunscreen to them or make sure to get lip balm or Chapstick with SPF built in.

Dehydration occurs when **your body has used up more water than you are taking in**. Your body expels water through sweating, breathing, urination, and other bodily functions. It is recommended you drink one to two liters of water a day based on your size and activity level. Larger or older people typically need to drink more water than smaller or younger people just as those who are more active need more water than people who sit for most of the day. If you are active or exercising, you should drink the recommended amount of water plus whatever water you are sweating out. This means during expeditions or encampments you should be drinking more water than you usually do during a normal day. If you let yourself become thirsty while you are hiking or sweating, you are losing too much water. A good rule of thumb is to **drink one canteen or quart every hour or to take sips any time you get a break during a hike or exercise**. If you are not getting enough water, you will quickly become dehydrated, especially in the heat or during strenuous activities. Symptoms include **extreme thirst, headache or dizziness, and dark-colored urine**. If these symptoms occur, stop any strenuous activity and take small, slow sips of water until the symptoms subside. If you or anyone in your group starts to become **irritable or disoriented or can't keep down any fluids**, alert an adult and seek emergency medical attention.

Two more dangerous heat-related illnesses are **heat exhaustion and heatstroke**. These illnesses can also be prevented just like sunburn and dehydration by taking the proper precautions. Once they set in, they are much harder to treat and can be very dangerous.

Heat exhaustion, just like dehydration, occurs in high temperatures, very humid environments, or in times of strenuous exercise and is a result of your body overheating and not being able to cool down. Symptoms of heat exhaustion include **cool, clammy skin even in the heat, extreme sweating, dizziness, fatigue, rapid pulse, muscle cramps, nausea, and headaches**. Heat exhaustion can develop over time or can happen all at once, so it is important to be on the lookout for the symptoms. If any of these occur, stop all physical activity and rest. Get to a cooler or shaded place if possible or try to at least get out of direct sunlight and drink water or sports drink to replenish electrolytes lost through sweat.

If someone experiencing heat exhaustion cannot be cooled quickly enough or their symptoms go unnoticed, it can progress to **heatstroke** which is extremely dangerous. Heatstroke occurs when someone's body temperature rises above 104 degrees Fahrenheit and if left untreated can result in damage to their brain, heart, kidneys, or muscles. If any of the following symptoms occur, cool the person off quickly using whatever means possible

and call emergency services immediately. Symptoms of heatstroke include:

- Confusion, slurred speech, anger, or irritability
- Seizures
- Hot but dry skin signaling that the body can no longer sweat to cool itself
- Nausea or vomiting
- Red or flushed skin
- Rapid heart rate
- Headache

If heatstroke occurs, it is very important to cool the person as quickly as possible. Remove any excess layers of clothing, move them into the shade, or place them into cool water if possible. Spray them with water or use a wet cloth or sponge to wipe over their skin. Cool them with ice packs or wet towels over their head, neck, armpits, and groin.

Fortunately, heat-related illness and injuries can be prevented by taking proper precautions. Always be sure to wear the proper clothing to keep yourself covered and cool. Drink plenty of water or sports drink to keep yourself properly hydrated. Most importantly, be aware of the signs your body is sending you and pay attention to your fellow Young Marines. If you or someone around you starts to feel sick or tired, speak up and ask for a rest or more water.

Severe Weather

Be aware of severe weather such as a lightning or thunderstorms. Lightning produced by thunderstorms or even dry lightning (lightning without rain) can be very dangerous when you are out in the field. In the summertime, strong or dangerous thunderstorms can develop quickly. They may also pass quickly, and it is important to know what to do to ride out the storm safely. If you notice a thunderstorm approaching, stop whatever you are doing and take steps to ensure the safety of you and your team.

- Get out of any water immediately or move away from larger bodies of water. They can be a target for lightning, and water is a major conductor of electricity. You also need to look out for areas where ground water will collect (puddles) because it can conduct ground current if lightning strikes nearby.
- Avoid hilltops or open fields. If you are in either of these places, move to low or covered ground as quickly as possible.
- Stay away from tall, single trees and towers or poles.
- Crouch down as low as you can with your feet close together. This reduces the surface area of your body exposed to ground current if lightning strikes nearby.
- Try to place yourself in an enclosed shelter. A large enclosed building is the safest place, followed by an enclosed metal vehicle such as a truck or van.

Be sure to discuss the plan for inclement weather with your Unit Commander or the leader of your group before your expedition or encampment.

Remember the acronym “**COLD**” to make sure you are always prepared

C: Clean Clothes - Clean clothes breathe and offer better insulation.

O: Overheating - Avoid overheating by utilizing clothing with built-in ventilation or cooling qualities.

L: Loose layers - Dress in loose layers for comfort.

D: Dry - Always stay dry. Choose moisture-wicking fabrics and pack extra clothes in case yours get wet and you have no way to dry them.

EO.5 – Recognize Environmental Hazards

Weather is not the only hazard you may encounter on an expedition or encampment. You also need to be aware of your surroundings, particularly the environment you are in. There are a variety of dangerous plants and animals that you may encounter can harm you or other members of your unit if you are not careful. The most prevalent are poisonous plants, insects, and small animals such as racoons, skunks, and mice or squirrels. Knowing how to identify these hazards and treat potential exposure can ensure a much safer excursion.

Poisonous Plants

Poison ivy and **poison oak** are the most common poisonous plants in the United States. The leaves of these plants have an oily substance on them that can cause a rash when it encounters your skin. **Poison ivy** can be found throughout much of North America and usually grows as a vine or as a low shrub and can be found in open fields, wooded areas, roadsides, and along riverbanks. It can also be found in parks or backyards, places people are more likely to find it. **Poison oak** also grows as a vine or shrub but is mostly found in the western United States. Both plants can be identified by their leaf arrangement: both have leaves that grow in clusters of three.



The color of the leaves can vary based on the location of the plants and time of year, but you can always recognize them by their leaf clusters.



If you see either of these plants, the best thing to do is to avoid the area where you found them. Contact between the sap of the plant and your skin can cause irritation, redness, swelling, and small bumps or even blisters on your skin that can spread if you scratch. If you are exposed to poison ivy or oak, do not touch the area because you can spread the rash over your body by spreading the oil from the plants. **Be sure to wash the exposed area with a lot of warm water and soap within twenty to thirty minutes of**

exposure to melt the oily resin from your skin. You can also try rubbing alcohol, poisonous plant washer, or degreasing soap to wash the area. Make sure to scrub your skin with a towel or washcloth in addition to warm water and soap to remove the oil. Wash under your fingernails, and thoroughly clean any clothing that came into contact with the oils from the plant or from your skin. The longer you wait to remove the oils, the more severe the reaction can be.

The rash from poison ivy and poison oak can last anywhere from two to three weeks or longer if you spread it by scratching or by not taking care of it. If the rash appears, you can treat the symptoms with a cool compress, topical treatments to help with the itching, or antihistamines. For a severe reaction, you may need to see your doctor. Some over the counter (OTC), topical treatments that you can try are Zanfel, Tecnu, Benadryl cream, Sarna, or a hydrocortisone cream such as Cortaid or Cortizone-10. Make sure to read all of the instructions on the back on any medication for proper use, and never use any medication, even if it is a cream, without parent or guardian permission and supervision.

The simplest defense against poisonous plants is to **wear long pants** when in areas where poison ivy or oak grows. You also need to wash all of your clothing and boots after suspected contact has been made. Be sure to check the area you are in thoroughly before hiking through or setting up a camp.

Insects

For most people, biting and stinging insects are simply a nuisance that can be avoided. However, they cannot be avoided out in the wilderness, so the best thing to do is to take precautions and steer clear of any nests you come across. Make sure to always use insect repellent. Apply it liberally and often. Wear protective clothing such as long sleeves and pants tucked into your boots to avoid insects crawling up your legs. You also want to avoid dark colored clothing because this can attract insects.

For some people, insect stings can cause an allergic reaction. Most people who are allergic to insect stings are allergic to bees, wasps, or hornets, but mosquitoes, black flies, and horse flies can also cause small reactions. If people are sensitive or get too many bites a **simple allergic reaction** can be **swelling or itching at the bite site**. Most people get small red bumps when bitten by a mosquito or horse fly that can be treated with topical creams. Be on the lookout for **very large bumps, welts, or hives** after being bitten which can signal a **stronger reaction**. These reactions may need to be treated with antihistamines.

Some people have severe **allergic reactions** to bites or stings which can cause **headaches, fever, severe hives, and even swelling in the nose and throat** which can make it hard to breathe. These types of reactions need to be taken care of by trained medical professionals, so be sure to alert an adult and call emergency medical services if you expect someone is having a severe reaction. Many people with severe allergies carry medication with them in case they are stung. If you or someone you know has a severe allergy and is carrying this medication, make sure you know how to use it in case of emergency.

Another dangerous insect is a **tick**. Ticks are common in wooded areas and can carry harmful diseases such as Lyme Disease. What makes ticks so dangerous is often you will not notice you've been bitten until you find the tick embedded in your skin. Also symptoms of a tick bite take some time to show up. If you will be in an area known for ticks, wear long pants tucked into your socks, or close at the ankles, especially when walking in tall grass or shrubs. Check your body periodically for ticks, paying close attention to warm areas of the body where they prefer to be such as your underarms, groin, or head.



If you are bitten by a tick and find one embedded in your skin, *do not* pull it out. Pulling on a tick can cause the head to break off and remain buried in your skin which can become infected. Instead, alert an adult who will help you to remove the tick using tweezers and sterile supplies. Monitor the area closely over the next few weeks looking for a **red, bullseye rash**. This could signify you have contracted an infection from the tick and need to seek medical attention immediately.

Small Animals

Bears and other large animals are not the only ones you need to be aware of. Smaller woodland animals such as raccoons, mice, squirrels, and chipmunks are not as shy of humans and will readily approach your camp looking for food. Never feed any animals that approach your camp. Small animals can carry germs, bacteria, and diseases such as rabies.

To avoid animals being attracted to your camp, keep all food containers sealed, avoid spilling food in your campsite or on your clothes, and wash your dishes and cutlery away from your shelters. You also want to avoid eating in your shelter. If you choose to hang your food to keep it away from persistent ground animals, make sure to choose branches away from your shelters as well.

EO.6 – Demonstrate a Concern for the Environment

The goal of minimum impact camping is to leave behind no trace that you used or passed through a wilderness area. By acting responsibly and taking a few precautions, you can leave a campsite or a trail in the same natural condition for the next person to enjoy. You will also help the wildlife and plants to recover faster from your visit. Keep in mind the following principles as you are planning and during an encampment.

Plan Ahead

Before you leave for your encampment, be sure you have a good understanding of the areas you'll be traveling in and be aware of any regulations or special conditions such as areas to avoid. Try to avoid scheduling your encampment during days or weeks when a lot of other visitors are present. The more people who utilize an area at a given time, the less time the land and animals have to recover. It is also a good idea to use a map and land navigation techniques to plot your route to and from your campsite as well as any other points you may need during the encampment before you visit to avoid going off-trail as much as possible.

Travel and Camp on Durable Surfaces

Be sure to stick to established trails and campsites. By using popular areas and trails, you limit the damage to the wilderness. Many trails have been created to allow people to use the wilderness without harming it by incorporating established toilets, water points, and waste disposal facilities. Good campsites are found, not made so make sure you stick to approved areas and keep your campsite as small as is safe.

While hiking, walk in a single file even if the trail is wet or muddy. Wear shoes or boots with shallow tread so you don't tear up the trail. If you are walking in a pristine area, take a slightly different route than the person in front of you so you do not make a permanent

trail. Traveling in smaller groups of between four and twelve people will also help to minimize trail damage.

Dispose of Waste Properly

When in the field, be sure to **dispose of all waste** in a manner safe for the environment. When cooking, avoid dropping or draining food on the ground in your cooking area. Waste water from cooking, when cooled, should be evenly distributed across the ground away from the cooking area and campsite. Don't dump wastewater into ground water. Eat all of your meal and pack up any garbage immediately. Pack wet waste in a sealed container or plastic bag. Remember to divide garbage up for recycling— cardboard, paper, metal, plastic, glass, etc.

When it comes to **human waste**, further precautions need to be taken. Whenever possible you should use an established toilet, outhouse, or portable toilet. Where these do not exist, however, you will have to use an alternative.

In small groups you should use a "cathole" or "one-sit hole." Each person in the group should select a private and dry place and **dig a small hole six to eight inches deep**. Make your deposit and then mix in the dirt from the hole with a stick, covering and disguising everything well. If your group has more than twelve people, you should dig **a field latrine: a hole about four feet long, two feet wide, and four feet deep**. To create the latrine, cut out the covering vegetation in one piece and set it aside. Dig your latrine using the previous measurements and then leave the pile of loose earth and the shovel beside the hole to allow users to spread some dirt over their deposit. When the hole is full to about one and a half feet from the top, cover it with the remaining dirt and original natural cover.

When choosing the appropriate location for a latrine or cat hole, consider privacy and the prevention of fecal matter entering ground water. Choose a site at least 100 yards from a ground water source, on dry ground, in a location downwind from your campsite and cooking area, and off trails and roads. Be sure to pack out all toilet paper and hygiene products. Do not bury them in the cathole or field latrine.

When **washing either yourself or dishes**, you want to consider similar factors. You want to avoid soiled water seeping back into the groundwater or running into water sources. Soap, body oils, sunscreen, and grease from cooking can all contribute to water pollution. Carry water at least 200 feet away from the water source you took it from and use small amounts of biodegradable soap. Wash using a basin and cloth, both yourself and dishes, and then scatter the water away from other water sources.

Leave What you Find

While in the wilderness, it is important to leave everything exactly as you found it. This applies to taking care of the land you stay and hike on, but also to any cultural or historical structure or artifacts you come across. Make sure to leave rocks, plants, and other objects where you found them. This means more than just not taking rocks or plants out of the forest with you, but you also need to avoid moving them from place to place within the forest to avoid introducing or transporting non-native species. You also need to avoid building structures such as furniture or digging trenches as much as is possible.

Minimize Campfire Impacts

Part of leaving the wilderness as you found it is minimizing the damage you do to the land. Fires are especially damaging to vegetation, even small campfires. To avoid fire damage, use lightweight stoves for cooking and lanterns or flashlights for light in the evening. In areas that allow campfires, keep the fire to the provided areas such as fire rings and keep them small. Most importantly, burn all wood and coals down to ash and be sure to put the campfire out completely. Scatter cool ashes to further minimize damage.

Respect Wildlife

Just as you want to minimize your impact to the land, you also need to minimize your impact to the animals in an area. Many animals in areas where camping and hiking are allowed are used to people, but this doesn't mean you should approach or feed any animals you come across. Observe all wildlife from a safe distance and never approach or feed any animals. Feeding the animals can be hazardous to their health and alter their behaviors which puts them at risk to predators and other dangers. You can protect wildlife by properly storing your food as described in earlier sections of this chapter and avoid wildlife during active periods such as nesting, raising young, or during the winter.