www.NavigatorsUSA.org

Navigators USA
236 West 27th Street
New York, NY 10001

Stay on Course!

THE NAVIGATORS USA GUIDEBOOK

FOSTERING FUN, FRIENDSHIP & ADVENTURE
FOR YOUTHS AND THEIR FAMILIES!

Navigating Life, Navigating Friendships, Navigating the Planet

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This Book Belongs to:

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Introduction

Welcome!

We are pleased to welcome you to Navigators USA. Our organization proudly serves youths and familiy members committed to our vision of making this world a better place to think and grow, play and create, observe and wonder, explore and experiment, appreciate and share. Navigators USA offers positive fun, friendship and adventure!

Let’s get started!

How to Use This Book

This is a guidebook for Navigators USA youths, their families, and leaders. As you read along, you will notice some of the information is written to help adults and other sections are written with the youths in mind. It is all intended to be shared together.

The book begins by telling the story about how Navigators USA came to be. It outlines some of the important goals and values Navigators USA honors, and defines the Moral Compass, the Cardinal Points, the Slogan and Motto—all-important information navigators need to learn and understand.

The book provides adult leaders with information about how and why to begin a Navigators USA Chapter, as well as how to gain sponsorship. It also offers information about how to form a core group, conduct a weekly meeting and establish a Navigators USA. Finally, you'll find some suggestions for fun activities, field trips, and creative recipes to use at meetings and campouts.

You will learn about all five Navigators USA Levels of Achievement and the exact requirements and information needed to complete and advance through each one.

- The first level is SHADOW.
- The second level is TRACKER.
- The third level is PILOT.
- The fourth level is NAVIGATOR.

Beyond those four levels lies the SUMMIT ACHIEVEMENT AWARD—the highest honor a navigator can achieve.

We suggest navigators and their families and leaders take time to look over this book together. Bring the book with you to meetings and on outdoor adventures. Read and refer to it often; it is filled with wisdom that can guide you now and for years to come.

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Chapter 1:
The Navigators USA

The Story Behind Navigators USA

Navigators USA was founded in 2003 by a group of volunteers, and was sponsored by The All Souls Unitarian Church in New York City. The church congregation has always believed in the importance of helping youth develop an interactive sense of community and an appreciation for nature. Adult members of the congregation regarded the formation of the Navigators USA as an opportunity for members of the congregation to develop a scouting group. The congregation also agreed on the importance of "experiential education." Rather than just talking or reading about the importance of attributes such as camaraderie, loyalty, friendship, cooperation, and appreciation for nature, the congregation wanted to provide young people with hands-on experiences that fostered those values and more—experiences they could learn from, remember, cherish and share with others.

In addition, church members wanted to create an organization committed to providing a quality scouting experience that would be inclusive and available to all children and their families, regardless of gender, race, religion, economic status, sexual orientation and/or social background.

Thus was planted the seed of the group that has since become Navigators USA.

Today, Navigators USA proudly demonstrates the founding group's dream of creating a diverse scouting organization that meets the needs of youths, parents, guardians and other adult caregivers well into the twenty-first century. We are a co-ed, youth-adventure organization committed to opening minds and creativity through direct contact with nature.

The Navigators USA Moral Compass says it all.

Navigators Moral Compass

As a navigator I promise to do my best

To help create a world free of
prejudice and ignorance,

To treat people of every race, creed,
lifestyle and ability
with dignity and respect,

To strengthen my body and
Improve my mind
to reach my full potential,

To protect our planet and
preserve our freedom.

The Importance of Nature as a Teacher

As part of its mission, Navigators USA believes strongly in the importance of nature and outdoor exploration has in all of our lives—especially our youth. We are committed to providing experiences that allow them to wonder about, explore and appreciate the natural world. Navigators USA provides opportunities for children to spend unstructured time in nature.

It Takes a Community to Raise a Navigator

In much the same way that Navigators USA values the importance of nature in helping youths develop in positive ways, we also believe a strong community experience helps nurture, guide and support our youths.

We believe that when navigators see themselves as belonging to a larger social structure, for example when they take part in a shared social cause, they feel good about themselves and others.

In every meeting, outing and activity, Navigators USA leaders endeavor to model and foster a spirit of "one for all and all for one." This approach, coupled with the notion that we each have something to teach and plenty to learn, allows each Navigators USA youth to feel valued, validated, cared for and, in turn, caring.

Navigators USA Mission

Our Navigators USA Mission can be summed up in five easy points:

1. To introduce boys and girls ages 7 - 18 to the great outdoors through camping, hiking, skiing, canoeing, rafting and other adventure activities.

2. To meet weekly to learn and practice wilderness skills and safety procedures.

3. To help members participate in group games, sports and community service.

4. To develop social and group-building skills by planning frequent trips to natural settings during the school year.

5. To encourage growth in all areas of personal development: social, physical, intellectual, creative and emotional. We aim to spark intellectual curiosity in all areas, especially in areas related to the natural sciences and nature.

Cardinal Points

A Navigator is:

Truthful

Respectful

Inclusive

Patient

Dependable

Resourceful

Cooperative

Navigators Slogan

The more you give,

The more you get.

Navigators Motto

Stay on course.

Chapter 2:
The New Chapters

Starting a Navigators USA Chapter

A Navigators USA chapter is a place where children participate in structured and unstructured activities that promote friendship, teamwork, discovery and fun. Navigators enjoy the opportunity to grow and learn while exploring the bounty of experience offered by camping and other outdoor adventures. Communities that sponsor Navigators USA chapters understand the value of helping youths develop personal and interpersonal skills in natural settings. At Navigators USA, we also believe that unstructured time spent together in a safe setting can be a valuable learning tool. Lessons learned while making up games, running around a playground or sitting by a stream sharing silly jokes are as important as learning about knots and compass points.

Navigators USA brings diverse members of a community together in a positive way. Navigator leaders enjoy the friendships and camaraderie they generate together, along with the positive feelings that come from volunteering time to work with neighborhood youth.

Navigators USA leaders enjoy:

- Working with each other and participating parents as part of a caring community
- Working with and guiding youth in healthy, positive group experiences
- Learning about and exploring nature while leading outdoor adventures
- Making a solid contribution to self, family, friends, and community

The Sponsoring Organization

In order to organize and launch a Navigators USA chapter, interested adults must partner with an existing organization such as a church, civic organization or school. Many of these organizations are eager to help, but finding just the right one may require a bit of persistence.

A good sponsor partnership helps guarantee stability over the long run. The sponsoring organization can assist with the recruitment of volunteers and children. It can help find and fund a meeting space. It also bears responsibility for screening potential leaders and providing oversight of the volunteers in order to maintain a safe meeting environment.

In turn, Navigators USA remains open to working with the sponsoring organization to plan and carry out fun and helpful projects of benefit to the immediate community and to the neighborhood at large.

Navigators USA and sponsors should aim for a positive, supportive and healthy collaboration.

A start-up group must secure a Navigators USA Charter. Contact National Navigators USA and request a Charter Application and related start-up materials, including insurance information, training forms, etc.

NOTE: If your sponsoring entity does not have the necessary insurance coverage necessary to begin meeting, purchasing insurance through Navigators USA's umbrella policy may be more cost-effective than seeking coverage from other sources. Investigate both options with your sponsoring entity.

The Navigators USA Contract

In the beginning of a new Navigators USA year, which coincides with the beginning of a new school year, chapter members have an important job to do: They must create their own "social contract."

A social contract is an agreement that will help guide how you work and play together for the next year of your Navigators USA adventure. It is important that each member contributes to and helps shape this agreement. Having all the members vote to agree on what the social contract says encourages them to become invested in the positive ways they will interact with their peers and leaders. We call this special social contract the Navigators USA Contract.

To begin, look together at the sample Navigators USA Contract on the next page.

Use this sample as a model for the one you create. Remember each Navigators USA group is different, and it is important for you to write a contract that you like and agree upon.

To customize your own contract, follow these steps:

STEP 1: Begin by fleshing out three basic starting points:

•Work together as a group to achieve both individual and group goals;

•Adhere to certain safety and group behavior guidelines;

NAVIGATION CONTRACT

The Navigation contract is a a compact among the members of each chapter that states the main elements that will make that Chapter a successful group effort. There can be as many elements as the Chapter deems necessary but there are three basic starting points:

1. Work together as a group to achieve both individual and group goals

2. Adhere to certain safety and group behavior guidelines

3. Give and receive feedback, both positive and negative, and work toward changing behavior when it is appropriate.

•Give and receive feedback, both positive and negative, and work toward changing behavior when it is appropriate.

STEP 2: List each point on a separate piece of chart paper and invite navigators to offer their thoughts regarding each point. Conduct a brainstorming session in which the group entertains any and all ideas for each of the three points. Encourage participants to define each point and offer guidelines for each one. Frame each guideline in positive terms that state what navigators should do rather than what they should not do.

STEP 3: Talk together about:

•Which parts you like and want to keep (underline these)

•Which parts you want to leave out (strike through these)

•Which parts you would like to change (make edits directly to the chart)

•Things you want to add (use marker to add items to your original list).

Take your time creating your contract. It will outline the rules and principles you will be living with for the months to come.

This document will define your group and govern the way that it operates. Bear in mind that crafting a Navigators USA Contract may require more than one meeting.

The Core Group

When starting a chapter aimed at youth ages 11 to 18, it's a good idea to encourage enrollment at the younger end of that spectrum, which fosters continuity in enrollment over the first few years. A good rule of thumb is to have one adult leader per six to eight kids.

The Meeting Place

It will be your responsibility to find a meeting space that can accommodate your group. Your sponsor can help you scout about for space, or you can seek space on your own to present to them. It's a good idea to remain open to unconventional solutions as well as tried and true meeting facilities.

•The meeting space should be large enough so you can gather, move about comfortably and have plenty of space to spread out for games and to complete projects. Look for accommodations that provide space on the floor and/or enough chairs for your whole group to gather and listen and share.

•Ideally, you should have access to tables or desks for crafting projects, as well as storage space for stashing supplies you do not want to tote back and forth for each meeting.

•Gyms, all-purpose rooms, church halls or "cafetoriums" all work well as meeting spaces.

•You will need access to the room at the same time on

a regular basis. Aim to meet weekly or bi-weekly.

•A locker or two for storing camping equipment, uniforms and other Navigators USA gear and supplies is nice to have, but not necessary.

The Meeting Time

As you begin your role as a Navigators USA leader, one of your first tasks will be to choose a time for your group to meet.

Plan for regularly scheduled weekday evening meetings that end at a reasonable “school night” time. Ninety minute meetings work well.

As a new leader, your first meeting is bound to be exciting—and a little nerve-wracking. Careful planning and a one-meeting-at-a-time mentality will minimize last minute snafus. Over time, you will all relax into a familiar meeting routine.

Weekly Meetings

Pre-Meeting Time

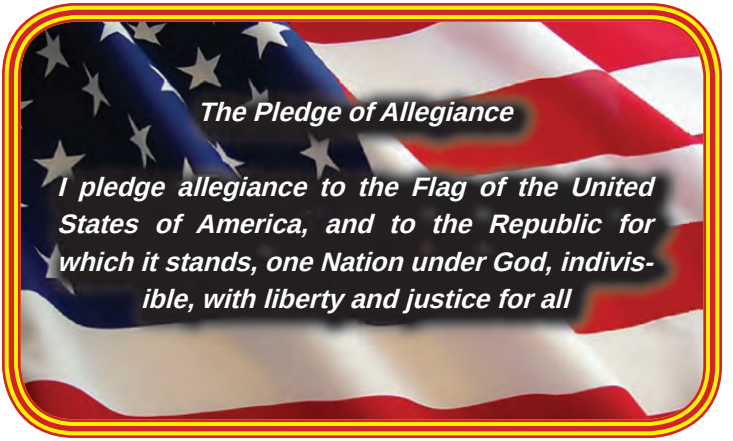
In general, many leaders find it helpful to have a set meeting structure, including certain routines and procedures. As the group gathers, it's a good idea to welcome participants with an open-ended pre-meeting activity they can join as soon as they arrive.

It's ideal, but not required to schedule a sports activity (basketball or volleyball, etc.) for a short time before your group's actual meeting time. Such an activity helps bond the group, gives members an opportunity to move around in between school and the meeting, and accommodates children arriving at different times.

The meeting itself should last approximately an hour and a half.

Opening the Meeting

One child should lead the meeting. Have the leader begin start by leading The Pledge of Allegiance [optional] and the recitation of the Navigators USA Moral Compass [required].


The Pledge of Allegiance
I pledge allegiance to the Flag of the United States of America, and to the Republic for which it stands, one Nation under God, indivisible, with liberty and justice for all


Navigators USA Moral Compass
As a Navigator I promise to do my best
To help create a world free of prejudice and ignorance,
To treat people of every race, creed, lifestyle and ability
With dignity and respect,
To strengthen my body and
Improve my mind to reach my full potential,

Routines and Current Business

1. Have an adult leader announce upcoming events, trips, community service projects, fundraisers, etc.

2. Plan group discussion of recent events.

3. Introduce the meeting activities, such as:

- •Guest speaker
- •Games or activities
- •Projects
- •Plans for outings.

4. Break into groups to work on advancements. A library of books and resources should be on hand to use during this period.

(**TIP**: These should have been selected in the prior meeting and gathered in advance of the current meeting.)

Closing the Meeting

Your group can design its very own special closing ceremony, which should include folding the flag. Navigators may want to end with a song, a special handshake or a secret signal.

TIP: As part of the closing ceremony, consider asking for volunteers to summarize your meeting's experience and print it for a chapter "history". A three-ring binder can be designated to hold all of these meeting notes.

Field Trips

In addition to regular meetings, it's a good idea to plan field trips throughout the school year. Here is a suggested list of ideas:

- **September or early October**: Day hike
- **Mid-October**: First overnight camping trip
- **Mid-November**: Second overnight camping trip
- **December**: Fund-raising activity, such as conducting a holiday tree sale
- **January**: Trip to museum or ski trip
- **February**: Ski trip
- **March**: Day hike
- **Mid-April**: Third overnight camping trip
- **Mid-May**: Fourth overnight camping trip
- **End of year celebration**: Amusement park trip or rafting adventure.

Plan ahead for these events by preparing a checklist of items you will need, a list of who is responsible for what, plus a map of the route you will take, if traveling. Review this information in your meetings, then send a written description of the event home, along with participation permission forms for navigators to have signed and returned.

Safety

Navigators USA highly recommends that each leader avail him/herself of safety training.

The American Red Cross, local Police and Fire stations, Community colleges or the local YMCA, among other resources, offer reasonably priced training in the areas water safety, first aid and/or CPR .

In addition, safety discussion and planning should be built into the meeting agendas. Group training, visits by emergency and medical professionals, and exercises geared toward getting the group thinking about safety are all valuable experiences.

Guidelines for Navigators USA Advancements

As a member in Navigators USA, you will be on a path to learning and growing. As you move along, you'll want to challenge yourself to be the best you can be for yourself and your friends and family. That's where Navigators USA advancements come in.

There are four separate levels of achievement. Within each level you'll find a series of tasks and challenges that will help you grow strong and skilled.

* The first level is **SHADOW**.
* The second level is **TRACKER**.
* The third level is **PILOT**.
* The fourth level is **NAVIGATOR**.

To celebrate your progress, you will receive a special patch upon completion of each level.

A navigator who has completed the Navigator level of achievement is eligible to work toward the highest level of all, the **SUMMIT ACHIEVEMENT AWARD**.

In this book, you will find forms that show you the requirements you need to complete for each level, plus the different Achievement Awards you can earn.

For each requirement there is a space on the form for the adult leader to add his or her initials and date when the youth has mastered that requirement.

The last requirement for each level is a review to confirm competency. When a youth had completed this review, he or she receives a completion patch, and the celebration of achievement can begin!

To start a National Navigators USA chapter, contact the Navigators:

www.navigatorsusa.org

and request a Charter Application and related start-up materials.

Chapter 3:
The Shadow

A Word from Our Sponsor: Minimum Impact Camping

This book is filled with information and ideas for how to organize and have fun in your Navigators USA groups. But one of the most important messages we want to deliver to youths and leaders alike is the importance of paying honor and respect to our "sponsor," namely Nature.

What do we mean by that?

True navigators always engage in what's called "minimum impact camping." Navigators understand that we are all part of nature, and as such, must have respect for nature and each other while out in nature.

Navigators never disrupt or destroy the natural environment. For example, navigators would never pick plants or capture wild animals.

Navigators obey signs set out to ensure safety and explain rules.

Navigators always remain calm and quiet in areas where noise would disturb wildlife or others out exploring. In this way, everyone can enjoy and help protect their natural surroundings!

Essential Hiking Equipment

A navigator is always prepared for even the shortest of hikes. The best way to do that is to make sure you have the proper equipment in your backpack. Allow plenty of time to prepare. Rushing around at the last minute is no fun and never recommended. A day or two to plan and pack for short hikes should do it; longer hikes mean longer planning.

Here's a list of must-have items for a safe and pleasant day hike:

- Pocketknife
- Map
- Whistle
- Compass
- Cell phone
- First aid kit
- Sun protection (sunscreen, sunglasses, hat)
- Extra clothing
- Rain gear
- Water bottle
- Flashlight
- Trail food
- Matches and fire starters
- Foil (to use as a cup or as a signaling device)
- Insect repellent
- Nylon filament
- Pocket mirror (to use as a signaling device)
- Radio and batteries
- Space blanket
- Water purification tablets
- Toilet tissue

Personal Hygiene

Keeping yourself clean while camping is just as important as it is at home. When you are out in the elements it is very easy to get dirty and expose the skin to microorganisms and germs that live in the dirt.

Navigators prepare for this by putting together a small kit that can easily be placed in the backpack. The kit will contain, among other things, a toothbrush, toothpaste, wash rag(s), towel, soap, comb/brush, and toilet paper. In addition, you may need to include any special creams or medications you use at home.

Plan to bring only as much as you will need for your camping trip in order to economize on the limited space in your pack. Anticipate how much you will need based on how many nights you'll be away from home. You can find small travel-sized containers for your toiletries in your drugstore.

The great outdoors is no place for heavy use of cosmetics, hair sprays, deodorants, or any such products with a strong fragrance, as the scent of these items will attract bugs. Look for unscented products wherever possible.

Building, Lighting and Extinguishing a Fire

Campfires are one of the best parts of outdoor camping, but they can pose danger if everyone in the group does not behave in a responsible manner and practice common sense.

Never build a fire without the knowledge, permission, and supervision of an adult leader.
NO EXCEPTIONS.

When planning to build a fire, you must secure permission from an adult leader who must guide and direct you every step of the way. Once the fire is going, be sure to maintain a safe distance and never engage in behavior that might put you or one of your fellow campers in danger of getting burned.

Your Outdoor Fireplace

The first step in building a fire is to decide on the best location. Many parks and campgrounds set aside special areas for fire building. They may even have grills or fireplaces available in which to build fires. If your campgrounds provide such accommodations, always use those rather than clearing your own spot.

If there are no pits or grills provided, select a good spot on which to build your fire. Look for a spot on gravel, sand, or bare earth, away from trees or brush that could accidentally catch on fire.

Then, follow these safety steps:

STEP 1: Clear the spot of any ground cover that might burn.

STEP 2: Lay a mound of mineral soil in your spot. The mound should be about 2 ft square and 3 in thick. You'll build your fire on top of this mound.

STEP 3: Collect the three types of materials you'll be burning for your fire: tinder, kindling, and fuel.

> **TINDER** is small, easily ignited, fast burning material used to heat the kindling to burning. Look for dry pine needles, tiny twigs, grass, small pinecones, moss, birch bark, and even crumpled bits of paper. All of these make good tinder.
>
> **KINDLING** is used to ignite the fuel wood. Dead, dry twigs no larger than a pencil make for good kindling.
>
> **FUEL** is the wood that will burn as your campfire. Fuel wood should be larger than kindling, but no larger in diameter than your arm.

TIP: A good minimum impact camping practice is to gather the fire materials from a relatively wide area rather than collecting from a single wood source.

Arranging and Lighting the Fire

Now that you've collected your wood, you're ready to arrange the fire:

STEP 1: Form a base by placing three fuel-sized sticks in an overlapping triangular pattern on your fire spot.

STEP 2: Put a loose handful of tinder in the center of the triangle.

STEP 3: Place a mound of kindling on top of the triangle.

STEP 4: Finally, arrange the fuel wood around the kindling in the form of a small teepee, leaving openings to allow air into the center.

STEP 5: Light a match and ease it under the crossbar of the triangle base to light the tinder. The tinder will light the kindling, which will ignite the fuel wood. When the fire is burning, you can add more fuel wood.

Putting out the Fire

Navigators who build an outdoor fire are responsible for seeing that the fire is properly extinguished or snuffed out. Never leave a burning or smoldering fire unattended.

Once the fire has burnt out, sprinkle water on it until you're sure the site is cool. Stir the ashes with a stick to ensure there are no remaining embers.

If you plan to use the site again, you can leave the leftover materials where they are for use in the next fire. Otherwise, scatter the remaining ashes and soil widely around the campsite.

Practice minimum impact camping by removing all evidence of your presence. Remember that the area is home to the plants and animals that live there. Just as you would not visit someone's home, make a mess, and leave it behind, don't leave a mess in nature's home.

Knots

Knots are an integral part of camping and everyday life. From suspending a line of damp towels across two trees, to supporting a tent or securing a boat in place, you'll encounter many situations where an understanding of knots will come in handy.

There are many kinds of knots, each of them with different purposes and uses. Different types include binding, hitches, stopper, bends, lashing, slip, and loop knots, to name a few.

We'll describe just two of them here, but you'll learn the uses and how-to's about many others as you prepare for your outdoor adventures and work toward your achievement levels.

The most basic knot is the **overhand knot**. It's a very simple knot that is also the basis for the Square and Granny knots.

To tie an overhand knot, take one end of the rope, cross it over the rest of the rope and wrap around it once.

Next we will learn the **Square Knot**, also known as the Reef knot. This knot is used to tie two ends of the rope together and will not slip because it binds on itself. It is easy to untie. After pulling it tightly, just push on the ends of the rope to loosen it.

To tie the **SQUARE KNOT** follow these steps:

STEP 1: Start with two pieces of rope that are close in diameter. We'll call the end that's in your left hand rope A and the end in your right hand, rope B.

STEP 2: Hold the end of A in your left hand and the end of B in your right hand.

STEP 3: Cross A over B to form an X.

STEP 4: Wrap A once to the right around B, just like the first step in tying a bow in your shoelace. A is now sticking out to the right and B is to the left.

STEP 5: Cross B over A, forming another X.

STEP 6: Wrap B once to the left around A.

STEP 7: Pull on the free ends to tighten the knot.

Follow directions carefully, paying particular attention to step 4, In order to avoid tying a **Granny Knot**. The granny knot looks similar to the square knot but can slip when weight is added to the rope. In addition to not doing the job at hand, it can be almost impossible to untie this knot after it has been pulled tightly.

GRANNY KNOT

How to Avoid Getting Lost

Sticking together, making sure your leaders know where you are at all times and remaining aware of the activities of the group you are traveling with are the best ways to avoid getting lost.

In the event that you do get lost, keeping your cool, as well as careful pre-planning and preparation are the best ways to remain safe.

Below are some guidelines to help minimize the chance that you will become separated from your group, plus some tips for what to do if worse comes to worst and you do get lost.

Before Your Trip

1. Know your route and destination.

Study a map of the area and become familiar with the terrain. Note the trails, roads, streams, mountains, and other landmarks. Use a highlighting marker to trace your hiking routes and/or camping locations on the map. Mark any campsites you will be traveling to or through. Note any alternate trails or quick escape routes you can follow in case your path is blocked or an unexpected emergency pops up.

2. Share your plan.

After you map out your route don't keep it a secret. Let people know where you are headed. Sit down with a trusted adult friend or family member and go over your mapped out plans together. Tell them where you are leaving from, where you are going and when you plan to return. Note any campsites

you will be traveling to or through. Be sure also that the entire camping/hiking group is aware of this same information.

3. Pack proper equipment and supplies.

Make a list of any crucial gear you'll need with you. Use the list to check off each item as you place it into your backpack. Close your eyes and imagine your whole trip from start to finish. See yourself moving through your camping experience. Now imagine you have with you enough equipment to stay warm, dry, and comfortable for at least 24 hours. Then recheck your list and pack what you need. If there is space left over in your pack, you can pack a few things that would make your trip more fun and comfortable, such as a favorite book or magazine.

During Your Trip

1. Stick to the plan.

Once you have announced your plans to friends, family members, and fellow navigators, stick to it. Sticking to your planned routes and locations will make it much easier for a search party to find you should you get lost.

2.Travel in a group.

The recommended ratio for a hiking or camping group is one leader for every eight campers, plus one additional leader. These numbers allows for one leader to take care of a problem on the spot, plus have another go for help, if necessary. Remember, the more minds available to work together toward a shared solution, the better.

3. Stick together.

Make sure that no matter what—no matter how safe things

seem—you stay aware of the group, and the group stays aware of you.

What does this mean? It means if you must leave the group or for any reason—for toilet purposes, for example—you must tell two or more people where you are going before you leave and (this is really BIG) you must make certain they hear and understand you.

You can make sure you were heard by having your listeners repeat back what you said to them. Even then, stay within earshot of the group.

Never go anywhere alone; always take a buddy with you.

4. Pay attention to your surroundings.

Stay on the correct path while hiking, and note natural landmarks as you approach and move away from them. It can be tempting to veer off the path for just a few minutes, but it only takes a few minutes to become separated from the group. Compare the landscape features you see as you go along against the ones on your map. That's the best way to know for sure that you're following the planned route.

Sometimes, no matter how carefully you plan and no matter how much you try and stick to that plan, you look up only to discover you are alone.

Think **STOP!**

What to Do if You Get Lost

Should you get lost or separated from your group remember to follow the simple STOP formula.

STOP!

Stay Calm: Don't panic. Sit down and collect yourself. Take a few deep breaths. Remind yourself that your group is probably already looking for you and they won't leave the area without you.

Think: Consider how you became lost, and ways you can become easy to find.

Observe: Look around you for clues as to your location. Does anything look familiar? Consult your map and compass and to try determine where you are.

Plan: Water, shelter and warmth are the most important elements to prepare for. Consider the situations you'll be in and determine ways you might provide those three things while you are waiting to be found.

Hang in There!

While You Wait

The following tips will help keep you safe and comfortable as possible until you are discovered.

•**Stay where you are**. Though you may be tempted to hike to find the group, or at least walk around to see where you are, it's best not to wander too far from your original route. It's much easier for a search party to find you if you're not moving around. Remember the people looking for you will be using your plan to track your location. If you stay in one place, they'll be able to find you much faster.

•**Signal for help.** Think of ways to attract attention. Blow a whistle at timed intervals to alert other hikers to your location. Build a smoky fire. Use a cell phone if you have one. Use a signal mirror to attract other campers or hikers who may not be able to hear you.

•**Drink water.** It is important to stay hydrated. You can go many days without food, but your body will need water sooner.

•**Shelter and insulate yourself.** Protect yourself from the elements as much as possible. During the day wear sunscreen, and cover exposed parts with a hat and clothing; stay in the shade to prevent heat exhaustion and sunburn. At night, build a fire and layer your clothing to keep warm. To insulate yourself from the cold and damp ground, build a mattress of dry leaves, pine needles, and dry plant debris. Cover these layers with clothing or blankets before lying down.

•**Remind yourself that this will soon be over.** Think about how you are going to show your thanks when the search party finds you.

Using and Caring for a Pocketknife

Navigators USA recommends that no navigator be allowed to use or carry a knife without completing this section and getting authorization from a Navigator adult leader.

Once you have demonstrated your understanding of proper knife handling skills to an adult leader, you may be allowed to carry a pocketknife with you as a navigator.

A navigator found to be using a pocketknife in a careless or negligent way may lose their knife privileges for a period of time determined by the adult leaders.

IMPORTANT: Adult leaders must be aware of and oversee compliance with all local laws governing the carrying of knives in any area in which the group is traveling.

A pocketknife is the one tool that every camper should learn to use and care for wisely. From preparing meals to cutting twine to whittling marshmallow sticks, the versatile pocket knife is probably the tool most commonly used by outdoors people. That said, misuse can damage the tool, or worse, cause serious injury. A good pocketknife should be sturdy, but compact and easy to use. It must be maintained properly for it to work effectively.

TIP: Try out different knives before buying. You'll be happiest with a knife that fits comfortably in your hand and that you find easy to open. Look for a knife with a self-locking mechanism that prevents the knife from snapping shut unexpectedly.

To open a pocketknife, hold the handle of the knife firmly between your thumb and fingers with the slot of the knife blade facing up. This way you will lift the blade up out of the slot. With your free hand, slip your thumbnail into the groove in the knife blade. Then, with your finger on the opposite side of the blade to hold it steady, carefully pull the blade out of the slot until it snaps into place.

With the blade exposed, always hold the knife by the handle with a closed fist. (Only close the fist if the blade has a lock to keep it in place so it will not inadvertently close on your fingers.) Keep your thumb out of the path of the blade and never put your thumb behind the blade to apply pressure while cutting. This may cause the knife to accidentally snap shut, possibly causing injury to your fingers.

When using a pocket knife, keep your elbows close to your sides. This can feel a bit awkward at first, but in this position you will have good control of your knife, allowing for a more precise cut.

Always cut away from your body. Practice safety first, and ask for help if you are not sure about the proper way to use your knife in a given situation.

To close the pocketknife's blade, reverse the process you used to open it, making sure to keep your fingers well away from the blade slot.

Pocketknife rules

Here are some other safe pocketknife rules to keep in mind:

1. Always keep the blade closed when the knife is not is use.

2. Never carry or pass a knife to another person with the blade open. Someone may grab the blade end of the knife.

3. Never throw a knife, even just to fool around. A thrown knife can cause serious injury.

4. Don't misuse a knife. Using the knife for any purpose other than cutting—hammering or prying, for example—could damage the handle or snap the blade.

5. Keep your knife dry and clean. Don't close a knife when it is wet or dirty. This will dull the knife and shorten the life of its blade.

6. Wipe your knife dry and clean before closing it; oil it every so often with machine oil.

7. Keep your knife sharp. A dull knife can be hard to work with, and may cause accidents.

Sharpening a Knife

Knives are like any other tool; they need time and attention to work properly. To keep your knife in good working order, you'll want to sharpen it from time to time. To do that, you'll need a whetstone, or a sharpening stone, both of which can be found at the hardware store.

To sharpen your pocket knife:

STEP 1: Begin by applying a little oil or water to the whetstone or sharpening stone.

STEP2: Lay the knife blade on the stone so it is tipped up just a bit at a 20° to 30° angle.

STEP 3: Slide the blade forward across the stone smoothly, applying slight pressure as you go.

STEP 4: When the knife reaches the end of the stone, lift the blade and repeat the process several more times.

STEP 5: Turn the blade over and sharpen the other side that same way. (Important: Do not drag the blade against the stone.)

STEP 6: Look closely at the edge of the blade. You are checking for the shine factor. It seems logical that a sharp knife edge would be all bright and shiny, but it's really the opposite. It's the dull knife edge that will appear quite shiny, while a sharp knife edge will have no shine at all!

Water

While camping, it's essential to have an ample supply of fresh and clean water for drinking, cooking and washing things at all times.

Some campsites provide fresh (potable) water, but when hiking or backpacking you'll most frequently rely on natural resources, such as streams lakes and ponds.

A concern with natural sources of water is that sometimes you can't be sure of their purity. In these instances you will need to **purify the water** before using it. There are several methods of purifying the water. We will discuss three of the most basic.

The most common way to purify the water is to **boil it for 10 minutes**, which will kill anything harmful in the water and make it safe to drink and use.

A second method is to purchase **water purification tablets** before you leave on your trip. Follow the instructions on the package, but the general rule-of-thumb is to use one tablet per clear quart of water, or two tablets if the source water is cloudy. Let the water stand for five minutes, give it a good shake and then let it stand for 15 more minutes.

A third purification method involves using **iodine**. This method calls for using about eight drops of 2.5% iodine per quart of water. Drop in the iodine, stir or shake the mixture, then let stand for 10 minutes prior to use. This method produces a taste some people find unpleasant. An orange peel dropped into the water is one way to counteract the aftertaste.

Road Maps

Road maps are a common navigational tool, often used on automobile trips to determine routes and track the distances between where you are and your destination. Chances are, you've seen a map or two in your car. Nowadays, with the use of GPS devices, people may use them less frequently, but maps are still a great resource for helping to get around. Every navigator should know how to read and understand road maps.

A great way to learn about maps is to sit quietly with one and familiarize yourself with the common features shared by most maps. (This would also be a fun and instructive activity for a group meeting.)

For this exercise you'll need a map, preferably one that depicts an area you are somewhat familiar with, such as your local area or state.

The first thing to look for is the feature called the legend; It explains how to decipher the symbols on the map, and defines the map's scale. The scale tells how many feet or miles per inch the map is scaled to. The legend also contains a North arrow to help you orientate your map. You'll usually find the Legend in a corner of the map.

To assist you in finding specific places, alpha-numeric coordinates are another common feature of maps. These are indexes, frequently printed on the back of the map, that list street or town names, along with letters and numbers that correspond to them. Looking at the entire map, you'll notice an overlay of squares to form a grid that is drawn over the top

of everything. Across the horizontal borders of the map—top and bottom—each of the vertical lines will be labeled with a letter. Along both sides of the vertical borders, each horizontal line will likewise be labeled with a number. These letter/number combinations are called the alpha-numeric coordinates.

You can tell a lot about the types of roads symbolized on the map by looking at the thickness of the lines. The thicker the line, the wider and more developed the travel surface of the route. The widest roads are the Interstates that traverse state lines, usually allowing faster vehicle travel from point A to point B. Roads that are drawn with a thin line are usually local or "back" roads that have slower speed limits and may be older, local roads.

Most roads are named with either a number or name. The numbers represent the route or interstate number or some other governmental assigned number. Many of these numbered roads also have a name, but due to limited space, only the number identification will be displayed. The greater the area described by the map, the less likely it is to describe local streets or roads.

Use all of the map features described above to identify your current location. The easiest way to do this is to look for the town you are in, if it's a state or regional map, or the nearest cross section of streets for a local map. Once you have located the alpha-numerical coordinate of the place you are looking for, use your fingers to trace a path along those coordinates on the map itself. There you will find your target location. As part of your exploration, you might try comparing a local area map to a map of the entire United States to see how they agree and differ in appearance and detail.

First Aid

There may come a time when you or another Navigator will encounter a situation requiring first aid. First aid should be a factor in planning every field trip and outdoor excursion, including conducting pre-trip research on the nearest available medical facilities and resource. Of course, the best way to deal with emergencies is to prevent them from ever happening in the first place. As you read about emergency first aid, play close attention to the prevention information. Navigators need to know that prevention is always the first and best defense against emergencies.

After prevention, the next best way to handle emergencies is to prepare ahead of time by learning correct information and by practicing current, sound procedures. When a Navigator is prepared with knowledge and practice, he or she is more likely to stay calm and react reasonably and intelligently in the face of even the most extreme emergency.

The best ways to prepare Navigators for emergencies is to:

1. Familiarize yourselves with the range of emergencies your chapter is likely to encounter and can effectively address. This information will be based on the age of your Navigators, the type, duration and nature of the experiences you plan on engaging in, i.e., how long you will be gone and how much you will be “roughing it”, and the availability of emergency medical assistance in each situation.

2. Obtain the first aid supplies you will need to address these emergencies.

3. Put standard first aid procedures in place to help address many of the emergency situations you may encounter in your Navigator adventures. It is important that you and your chapter learn and practice these procedures. (Standard first aid booklets and manuals can help, and one or more of these should be included in the group's first aid kit.)

It is equally important to realize that when it comes to emergency first aid, new and better treatments and procedures are discovered all the time. The easiest way to stay current is to schedule regular consultations with an emergency medical expert stationed at a local hospital or emergency rescue organization during the course of the year. He or she can then present the latest techniques to you and your chapter.

You might also consider enrolling your chapter in a first aid course, or at the very least, scheduling times for Navigators to view first aid training DVDs. That way, Navigators can become familiar with the supplies and procedures they would use in a host of real-life emergency situations.

Even if you do everything right and administer first aid with care, a victim may need additional medical attention. If you are not sure if a victim needs more help, it is best to be on the safe side and seek medical attention.

First Aid Kits

Part of being prepared is having emergency supplies organized and ready to go. That is the purpose of a first aid kit, but it is not enough to have one or more kits in place. You'll also need to know how to use all the supplies inside the kit so you can help in many different emergency situations.

Here are a few tips:

- First aid kits should only contain supplies Navigators can identify and know how to use. (More on first aid kits later.)

- You will want to assemble different kinds of kits for different purposes. The first aid kits you assemble yourself are usually far better than pre-assembled commercial kits.

- Choose a brightly-colored waterproof container to work as your Chapter kit. Make certain all Navigators know what your kit container looks like, how to open it, and how to inventory contents. Make sure to review and restock your kit's contents on a regular basis. Keep a supply checklist in each kit.

There are many different types of first aid kits. Depending on your needs, you will want to have more than one in place. One way to familiarize Navigators with first aid kit supplies is to have them actively participate in shopping for and assembling (at least some of) the supplies you will need for each kit.

Here is a variety of basic first aid kits.

Personal First Aid Kit

Navigators can create small day trip kits consisting of simple supplies. These supplies can be stored in self-zipping plastic bags and can include the following:

- •Flashlight, extra batteries
- •Water bottle
- •Facial issues
- •Band-Aids and gauze (for simple cuts and scrapes)
- •Tape
- •Antibiotic ointment (for simple cuts and scrapes)
- •Insect repellent
- •Sunscreen and something to treat sunburned areas, such as burn ointment or aloe
- •Lip balm with sun block
- •Individually wrapped towlettes for cleaning your hands

TIP: Navigators should be instructed to use a whistle in the event they get separated from the group. A whistle is a commonly recognized signal for help, and it lets others know of the missing one's location.

Day Hike and Weekend First Aid Kit

These kits are good for those times when your Chapter is planning a day trip or overnight adventure.

Here are some things to consider including:

- First Aid Manual – Visit the American Red Cross website for current information available in books and quick reference booklets: http://www.redcross.org/index.html)
- Flashlight, extra batteries
- Water bottle
- Self-zipping plastic bags to store items and to carry water. (The corner of the bag can be pierced and then water can be squeezed through the hole to irrigate a wound.) They also work well as a non-stick dressing over wounds.
- Metal Match (adult use only) for starting fires, even in light rain
- Waterproof matches (TIP: Test before using as they are not always reliable)
- Knife, with blade less than 3" (larger is not necessary)
- All-purpose scissors, able to cut through different weights of cloth and tape
- Duct tape, for all purpose usage
- Temperature strips
- Bathroom tissue and facial tissue
- Band-aids (for simple cuts and scrapes)

•Antibiotic ointment (for simple cuts and scrapes)

•Bandages, gauze and tape for treating cuts, wounds and lacerations (Hint: As an alternative, look for easy-to-tear, self-adherent bandage material)

•Elastic bandage for sprains, pressure dressings and many other uses

•Safety pins, for makeshift slings and more.

•Tweezers, handy when caring for splinters or removing ticks

•Sun screen and aloe (to treat sunburned areas)

•Lip balm with sun block, to keep lips hydrated. (TIP: lip balm doubles as a fire-starter as it contains petroleum jelly. Saturate a small amount of cotton material in the lip balm before igniting)

•Insect repellent; insect bite topical treatment

•Over-the-counter medication (for adult self-use only) such as aspirin, antacid tablets and nasal spray

•Individual packets of hand sanitizer and/or premoistened cleaning towlettes

•Whistle (in addition, each Navigator should carry his or her own whistle)

Complete First Aid Kit

The following supplies can be kept in a container at Navigator Chapter meetings and updated with extra supplies, as necessary, when venturing out.

Of course if you have any extenuating circumstances (for example, Navigators with ongoing medical needs or allergies that may require medicine or devices, such as an inhaler or blood sugar meter) you need to know this information ahead of time so you know how to properly administer medication and/or treatment. Caution: Make sure you have permission and authority to administer medication to Navigators.

When planning an extended Navigator camping excursion, you will need to plan for a more extended variety of emergencies. When making your list of first aid supplies and procedures, take into consideration the climate and terrain you will be exploring. If the area will be new to you, consider contacting local emergency services for preparation guidance. Ask them for recommendations on emergency supplies and procedures specific to that area.

As always, remember to know how to use your supplies and to make certain you have replenished your kit before leaving. Here is a basic list to get you started:

- First Aid Manual–Visit the American Red Cross website for current information available in books and quick reference booklets: http://www.redcross.org/index.html
- Flashlight, extra batteries
- Water bottle

•Self-zipping plastic bags to store items and to carry water. (The corner of the bag can be pierced and then water can be squeezed through the hole to irrigate a wound.) They also work well as a non-stick dressing over wounds.

•Metal Match (adult use only) for starting fires, even in light rain

•Waterproof matches (TIP: Test before using as they are not always reliable)

•Knife, with blade less than 3" (larger is not necessary)

•All-purpose scissors, able to cut through different weights of cloth and tape

•Duct tape, for all purpose usage

•Bathroom tissue and facial tissue

•Band-Aids (for simple cuts and scrapes)

•Antibiotic ointment (for simple cuts and scrapes)

•Medicine cup or dispensing syringe for measuring dosages of liquid medicines

•Sterile eyewash, such as saline solution, for rinsing foreign objects from eyes

•Temperature strips

•Cotton swabs, for everting eyelids (turning them inside-out) and for looking for foreign bodies

•Insect repellent; insect bite topical treatment

•Calamine lotion

•Chemical ice pack

•Chemical hot pack

•Over-the-counter medication (for adult self-use only,) such as aspirin, antacid tablets and nasal spray

•Splints

•Topical steroid cream for bites and rashes.

•Gloves for treating open, bleeding wounds

•Mouth guards for administering mouth-to-mouth resuscitation

•Oral rehydration salts, for treating dehydration caused by diarrhea.

•Water purifier, either through filtration or tablets

•Superglue

•Petroleum jelly

•Paper tape

•Sterile dressings

•Bandages, gauze and tape for treating cuts, wounds and lacerations (HINT: As an alternative, look for easy-to-tear, self-adherent bandage material)

•Individual packets of hand sanitizer and/or pre-moistened cleaning towlettes

•Elastic bandage for sprains, pressure dressings and many other uses

•A 24” or so square of plain linen that can be

used to create a makeshift sling

•Safety pins, for makeshift slings and more.

•Tweezers, handy for when caring for splinters or removing ticks

•Sun screen and aloe (to treat sunburned areas)

•Lip balm with sun block, to keep lips hydrated. (TIP: lip balm doubles as a fire-starter, because it contains petroleum jelly. Saturate a small amount of cotton material in the lip balm before igniting)

•Insect repellent; insect bite topical treatment

WHISTLE: Each Navigator should carry his or her own whistle.

REQUIREMENTS FOR SHADOW

NAME_____

	INITIALS/DATE
1. Memorize Moral Compass and Cardinal Points.	_____/_____
2. Explain the meaning of the Oath and Slogan.	_____/_____
3. Explain and participate in your Chapter's "Navigation Contract."	_____/_____
4. Explain what "Minimum Impact Camping" means and list the impact rules. Participate in a hike, and demonstrate "leave no trace" at lunch.	_____/_____
5. Pack a daypack with essentials for a half-day hike. Explain why you have selected each item. Take a hike of at least four miles.	_____/_____
6. Give examples of "tinder," "kindling," and "fuel" for a wood fire.	_____/_____
7. Tie a square knot and a granny knot. Why is the square knot better?	_____/_____
8. Discuss how to avoid getting lost and what to do if it should happen.	_____/_____
9. Discuss the correct and safe way to use a pocketknife.	_____/_____

10. Know how to be sure one's drinking water is safe. What are 3 methods of purifying questionable water? Demonstrate. _____/_____

11. Demonstrate how to read a road map. _____/_____

12. Participate in a 5-mile hike. _____/_____

13. Do sit-ups and push-ups [from knees] four weeks and chart progress: _____/_____

1wk_____sits_____push

2wk_____sits_____push

3wk_____sits_____push

4wk_____sits_____push

14. Play one nature game that helps you understand ecology. _____/_____

15. Final review by adult leaders of Shadow requirements. _____/_____

Chapter 4:
The Tracker

How To Have a Successful and Safe Camping Adventure

Camping can be a wonderful adventure. It's a great chance to learn and display your newly learned skills. As we will see, however, camping does require a great deal of preparation and planning.

Preparing for Your Trip

When planning for your trip, there are three main things to consider:

1. Where you're going

2. For how long

3. What you'll need to bring

Besides all your camping gear, such as a tent, pocketknife, compass and clothing, you'll need to bring food.

If you're going on a short trip, where you'll be driving to the site and not walking great distances, consider bringing fresh fruits, meat and milk.

If you're going to be carrying your food on your back and will be gone for more than a few days, stick to non-perishables that do not require refrigeration.

Sample Grocery List

Here's a sample list of key food items to bring for each meal:

Breakfast

- Hot cereal (requires hot or boiling water, fruit optional)
- Cold cereal (plus milk, dried or fresh)
- Hard-boiled eggs (requires boiling water)
- Fried eggs (requires butter or margarine, a pan, spices; cheese optional)
- Bacon/ham/other meats (requires a cooler to keep meat fresh, as well as a pan and butter or oil to cook)
- Fresh or dried fruit
- Pancakes (a special treat when you have time to fuss; requires preparation time, mixing bowl or container, pan to cook, pancake mix and other ingredients, butter or margarine, fresh fruit or syrups)
- Drinks (cocoa, milk either dried or fresh, fresh juices or fruit juice powders)

Lunch

- Bread for sandwiches
- Peanut butter & jelly
- Cold cuts
- Cheese

- Canned tuna
- Hard-boiled eggs for egg salad
- Canned soup
- Crackers and small cans of pre-packaged food

Dinner

- Fresh or canned meat for stew
- Vegetables for grilling
- Grilled chicken or fish
- Canned beans

Food planning and preparation is a great opportunity for sharing responsibilities across the group. Like everything else, do your grocery shopping in advance. Allow enough time to plan your menus, make the shopping list and safely pack the food.

Keep in mind how many campers are attending and how long your trip will last. Agree in advance on a budget and stick to it, so that everyone knows their share of the costs.

There is nothing more frustrating than fried eggs sizzling on a campfire with no spatula in sight. To avoid such a situation, you'll need to pack all the kitchen utensils you may need, such as pots and pans, mixing spoons and spatulas, etc.

To be fully prepared, decide first on exact meals you'll be making. Then determine what you will need to make each one. Don't forget a spoon and fork for each camper.

Choosing a Campsite

Deciding where to set up camp can be tricky, especially for first-time campers. Your first goal is to locate a safe, secure spot, one that does not cause the natural surroundings to be disturbed or damaged.

That's why your campsite may not be the prettiest spot in the park. You may have to sacrifice scenery for safety's sake in order to preserve the natural setting. For example, you would not want to set up camp at the edge of a steep cliff when doing so would put your campers at risk of falling, nor would you want to set up camp in a patch of wildflowers, if doing so would disturb the plants.

Even experienced campers can get swept up in the beauty of a particular spot and forget about being responsible to themselves and nature. As navigators, it is our responsibility to make sure we choose sites that are smart choices for those camping and cause the least impact to the area. If we want to return to our sites year after year, it's essential to choose wisely.

Not sure if a spot is the right one? Here are some spots to avoid:

- Meadows or wetlands, even those that are dry in the late summer
- Scenic overlooks
- Desert areas consisting of crusty soil, as this is in danger of being eroded if treaded on roughly.
- Vegetative areas, where a great amount of plant or animal life exists

- Sandy washes in the desert; they're unsafe in case of a flash flood.
- Forest areas with low-growing plants
- Standing dead trees

If camping on a **plain**, choose a dry area with as little vegetation as possible. **Desert** camping is best done on slick rock.

The best spot in a **forest** is usually away from well-traveled trails and paths. Look for pine-needle duff or deciduous leaves matted along the forest floor.

Setting Up a Camp

Once your group arrives at your chosen campsite, your work has just begun.

The kitchen is usually the center of any home, and it is the same with your home outdoors. It will be the first place you will want to set up. Because you will be both cooking and eating here, this space will get a lot of use. People will be coming and going in this area all the time.

Choose a location where the ground can sustain a lot of foot traffic and there is plenty of space to move about. Just like in your kitchen at home, you'll use your camp kitchen to cook, eat and clean your cookware and utensils. Even though you are in the great outdoors, you'll want to keep your kitchen and everything in it as clean as possible.

Here are some tips to keep in mind:

1. Proper cleaning keeps utensils and cookware rust-free and usable. Food left on cups, plates and cookware can spoil and rot, which attracts unwanted rodents and insects.

2. Sterilize your pot daily by boiling water in it. Dip your utensils in the boiling water to sterilize those as well.

3. Do not wash your utensils or pots in a stream or lake, as doing so will pollute the water.

4. Dirty dishwater should be carried at least one hundred feet from streams or lakes and scattered on the ground.

5. If there are leftovers that will not be eaten soon, they should be thrown away or placed in storage right away.

6. Sometimes you might have to "double bag" the leftovers to prevent leaks. This is especially true if you will be carrying them in your backpack with your other items.

7. If necessary, place food in a plastic bag (doubled, if necessary.) Close bag securely and place into framed backpack. Suspend the backpack from the branch of a tree located just outside the edge of the campsite, but not so far away that it is difficult to retrieve. This helps keep food dry and protected from animal "visitors".

Setting Up Your Tent

Now it's time to identify a place to pitch your tent. Firm, even ground is always a good choice—the flatter the better. Your tent will be the least trafficked area—mostly folks only go there to sleep—so choose a relatively soft spot, if you can find one. Your tent should be located in an area near your kitchen area, but not too close to the area where you store your waste.

Waste Management

Sometimes you will be lucky enough to have outdoor bathrooms or bathhouses nearby.

If not, you will have to pick an area for your waste. You will either create a latrine or dig a “cat-hole”. Cat-holes are holes about six to eight inches deep. Dig them at least two hundred feet from your water source and campsite. When you are finished using the hole, cover it with soil and replace any vegetation or covering (just like a cat!). Make sure to mark the spot with some pebbles, perhaps, so other campers do not dig in the same spot.

A latrine is a good idea for larger groups staying in the same area for two or more nights. A latrine is a large trench, dug about one foot wide and three or four feet long. The hole should be no deeper than the topsoil. After you use the latrine, place a layer of soil over the trench to keep the odor down and flies away.

When your group is done with the campsite, cover the latrine completely with the soil you originally dug out.

Tying Knots and Hitches

In our modern electronic world, knots may seem like an old-fashioned thing of the past. However, out in the wilderness, knots are NOT out of date! In the great outdoors you can use them for many things from making sure your tent doesn't fly away to docking your boat in one spot.

Besides knots, there are hitches, temporary fastenings that can be easily undone in a pinch. Knots, if tied correctly, need some work to untie.

There are two kinds of S**topper Knots**: overhand and figure eight.

A **Half Hitch** is tied to the end of ropes holding boats (or animals) to rings or poles.

A **Taut Line Hitch** is used to control the tension and tightness of the lines that hold your tent in place.

Some, but not all, tents come with a pre-formed loop and metal fastener already in place for you. If your tent doesn't have such a loop, you'll need to create one. Even if it does, you may need a longer line than the one provided. In that case, you'll also need to tie a taut line hitch.

To create an **OVERHAND** stopper knot:

STEP 1: Make a loop in the end of the rope.

STEP 2: Push the free end in and out of the loop.

STEP 3: Pull the rope tight and you'll have an overhand knot. If you're able to tug the knot out, it means you tied it too close to the end of the rope.

To create a **FIGURE EIGHT** stopper knot:

STEP 1: Make a loop in the end of the rope, as you did for the overhand knot.

STEP 2: Pass the free end of the rope once around the standing end and back on top of itself before you push it through the loop.

STEP 3: You should see a figure eight. Pull the free end tight to secure the knot.

To create a **HALF HITCH**:

STEP 1: Pass the free end of the rope behind a pole or through a ring and around the front again, then under the standing end.

STEP 2: Bring the free end up and in front of the standing end, then tuck it into the bend.

STEP 3: Make another half hitch on the standing end of the rope, away from the pole or post.

Now you've got two half hitches, which make a sliding knot. These can be moved up and down the standing part of the rope, and will hold once they are snugly against the pole or ring.

To create a **TAUT LINE HITCH**:

STEP 1: Use two half hitches to tie one end of a piece of rope (2 or 3 feet long) to a fixed object—something strong and sturdy like a tree.

STEP 2: Push a tent stake into the ground about 2/3's of the length of the rope away from the tree. As you push, make sure the stake is tipped slightly away from the fixed object.

STEP 3: Pass the end of the rope around the tent stake, and pull tight, so it doesn't slip off.

STEP 4: Make 2 or 3 overhand knots around the standing end toward the immobile object. Pull this knot tight.

STEP 5: Make another overhand knot around the standing end toward fixed object. Pull this knot tight.

TAUT LINE HITCH

How to Cut Wood With a Bow Saw

A bow saw is one of the most efficient tools for cutting the wood you will use for cooking and camp fires. As safety is always a top priority, there are several areas where special care is required. The first rule of learning the proper method for using a bow saw is to have a leader or adult review basic safety rules, as well as proper use of the sharp saw.

IMPORTANT SAFETY NOTE: When passing the saw to someone else, never let go until the other person acknowledges they have it in their hand. A good way to do this is to have the person receiving the saw say "I got it," before the person passing the saw lets go of it. This will prevent the saw from slipping accidentally out of anyone's hands.

Here are some basics:

1. Find a suitable area to do the cutting. It is good to rope off this area and have just one entrance, which will limit access to the space, while also alerting all campers that the area is reserved for use of the sharp cutting tools and should be approached with caution.

2. Prepare the cutting space itself by procuring a large log to support the wood you intend to cut. Place a sup-

port at one end to raise it up off the ground, to prevent the saw from getting pinched by the log when the weight of the cut end opens the cut, allowing the saw to move freely as it is cutting through the wood. (A nearby rock or another short log work well as supports.)

3. It is most important to create a cutting surface that is stable and will not allow the log you are cutting to wobble. An unsteady log can slip, which is an unsafe situation.

4. Once you have one end of the log raised off the ground and stabilized, hold the saw with one hand and place the other hand on the log to be cut. Place yourself close to the support object that the log is resting on.

5. Now place the saw on the log at least 8 inches away from the hand that is holding the log. Aim the teeth of the saw toward the top of the log.

6. Pull the saw back toward your body a few times in the same place in order to create a small groove. The groove will help you steady your saw for the bigger cutting job ahead of you.

7. With the groove in place, start sawing the wood with even, steady strokes back and forth. Let the saw do the work; never push down on it: that will make the teeth of the saw get stuck in the fibers of the wood, which makes it harder to saw and dulls the saw blade.

8. Having sawed all the way through the wood, carefully place the saw on the ground and advance the log you are cutting forward, as appropriate, so that you can cut another piece.

9. Continue this process until you have cut all the logs into usable pieces.

Minimizing Campfire Impacts

Nothing says camping like a crackling campfire. A campfire can keep you warm, purify water, cook your food, provide light at night, and just create a relaxing atmosphere for sharing stories, songs and s'mores around the circle.

At the same time, fire is an awesome natural phenomenon that requires close, cautious attention. An improperly handled fire can be very destructive and put you and your fellow campers at risk, not to mention the devastating effect a forest fire can have on a natural setting.

Navigators always try to leave a site in the same, if not better, condition than it was when they arrived. Here are some **Basic Rules**:

1. An established fire ring is a designated spot in which fires are accepted in order to prevent destruction of other areas. Most campsites have a pre-existing fire ring. If your site has one, always use it for your campfires. If there is no fire ring, do not make one. Instead, build a mound fire, as described in the section below.

2. The size of the fire can effect the surrounding environment. The larger the fire, the more fuel, i.e., natural resources, will be required to keep it going, so never build a fire that is larger than what you need.

3. Gather firewood carefully, with a mind toward what will work most efficiently. It is always best to use wood that has fallen to the ground; leave limbs on standing

trees, even if they appear to be dead. Choose wood that is smaller in diameter than an adult's wrist and can be broken by hand, limiting the need for saws or axes. This will also leave the larger logs and limbs for the habitat and to decompose into the soil.

TIP: Because many people gather wood close to their campsites, a good strategy is to hike out a bit away from camp to gather wood. (Let others know where you are going or, better still, bring someone along.) You'll find good burning material and preserve the area of the campsite to support that habitat.

4. Once you've got the fire going, it is important to burn all wood to ash; stop adding fuel to the fire well before departure or bedtime, so it has time to burn itself out. Using proper tools, carefully push unburned ends of wood into the fire as it burns down, so it is all consumed. Burning all the wood to ash prevents having to disperse chunks of partially burned wood.

5. When the coals have burned to ash, soak the fire area well with water, making sure all embers have been completely extinguished. Use water, rather than dirt, to put out the fire, then collect the cold ash and scatter it over a large area well away from the camp site.

6. Cleaning up after the fire is a must. Scatter unused wood as naturally as possible. Bear in mind that fires built directly on the ground will overheat the organic soil and kill the creepy- crawlies living in it. It may take a very long time for anything to grow in the spot where a fire was built.

In the absence of fire rings, there are steps you can take to minimize the damage to the area. Rather than creating a fire directly on the ground, insulate the organic soil from the heat of your fire by using a camp stove, fire pan, or mound fire. Fire pans and mound fires are described below.

Fire Pans

A collapsible fire pan looks similar to a back yard grill. It will allow you to place it above the ground propped in a few rocks and will prevent the fire from scorching the ground since all the coals and fire are kept within the metal fire pan.

Mound Fires

Mineral soil, sand, or gravel do not support the thriving life that organic soil does, so in cases where a fire pit does not exist, building a fire on this mineral soil will help to protect the natural environment.

This is called a mound fire because you first create a mound with a few inches of mineral soil and then build the fire on that. Mineral soil is found underneath the top layer of rich, darker, organic soil.

To create a **MOUND FIRE**, follow these steps:

STEP 1: With a small shovel or trowel, gather sand or mineral soil into a bag. Good places to look are the root ball of a blown-down tree or a dry creek bed. The bag can be a stuff sack turned inside out to keep the inside clean.

STEP 2: To make clean up easier, lay a ground cloth on the spot where the fire will be built. Some sparks will land on the cloth and it will be worn and dirty from the ground, so use something sturdy and expendable.

STEP 3: Pour the sand onto the ground cloth. Flatten the top of the pile so the mound is at least 4 inches thick and bigger around than what the fire will be.

After cleaning up the campfire, return the remaining mineral soil to its original location. Cean away and spills at the fire site.

Using a Topological Map

A useful type of map when camping is a topographical map, called “topo” for short. **A topo map** is drawn with curved lines that show locations of hills, valleys and rivers. The lines also show how high or low these areas are.

Contour lines show elevation changes of 20, 40 or 80 ft. Every fifth line is drawn heavier than the others.

- On maps with 20 ft. contour intervals, the elevation difference between dark lines is 100 feet.
- On maps with 40 ft. contours, the difference is 200 feet, etc.

On the bottom of most maps you will find a little box in the corner . This box is called **the map key** or **map legend**. The legend has information about the contours shown on that map.

The legends on contour maps show the size any given area would be in real life. For example it might tell you that one inch on the map is the same as one mile on the ground (or water). On topo maps, if the scale is 1:24,000 (for example), it means that one inch on that map equals 24,000 inches or 2,000 feet of ground (or water).

Typically, topo maps come in three scales:

1:24,000 which means one inch equals 2,000 feet

1:62,500 which means one inch equals one mile

1:250,000 which equals about one inch four miles

The legend also contains icons or symbols that tell you how to read that map. There can be symbols that show cities, landmarks, trails, parks, etc. A legend can tell what a dirt road looks like as compared to a highway; it can also assist you in figuring out mileage from one place to another.

NOTE: Contour lines might appear in different colors. The different colors indicate different land and water formations: brown for land, blue for water, green for vegetative areas and white for rocks, glaciers and snowy areas.

Using a Compass

Your map is not your only tool for finding your way. A compass is a great tool to use along with your map.

A compass is a device with a magnetic needle that always points North. If you look at the circle on the case of the compass you can tell which way you are facing: North, South, East or West. There is also a circle marked off in 360 parts call “degrees”. Zero degrees is North, 90 degrees = East, 180 degrees = South, 270 degrees = West.

Compasses made especially for use with maps have a see-through transparent base (so you can place the compass on the map and read the map through the compass). These compasses also have a circular “housing” that looks a bit like a clock. It lists degrees and can be turned, as necessary.

Finally, there is an arrow that shows your direction of travel. You aim this in the direction you want to go.

How to Use a **COMPASS:**

STEP 1: Hold it out in front of you with the direction-of-travel arrow pointing straight ahead.

STEP 2: To find North, turn the compass until North is on the direction-of-travel arrow.

STEP 3: Now slowly turn your body. When the red arrow is pointing in the same direction as the direction-of-travel arrow you will be facing North. East will be to your right, West will be to your left and South will be behind you.

Your compass, along with your map, is used with directions that are given in degrees. Some hiker's compasses today also have scales in inches or millimeters. This helps measure distances on a map.

To use your compass and map together, you'll need to take a bearing.

How to Take a **COMPASS BARING:**

STEP 1: Take your compass in hand and turn your body with the compass until the arrow points at the feature you want to measure (a lake, cabin, patch of land or landmark).

STEP 2: Keep the direction of travel pointed at your destination and rotate the housing until the orienting arrow is directly under the magnetic needle.

STEP 3: Read the bearing at the index line.

STEP 4: Now place the compass on the map, align the North arrow on the compass with North on the map.

STEP 5: Put the destination arrow on the landmark. Mark the line formed by the destination arrow and draw the line on your map. You are somewhere on this line.

STEP 6: Take a bearing from another landmark using the same method and draw another line. Your position is exactly where the two lines cross.

Your map and compass can easily help you map out a route from Point A to Point B.

Imagine you're walking along a trail and have the location of the point you'd like to reach. You can take a bearing of your location and, with your map in hand, plan out the best path to take. Look for landmarks or features on the map. You can use those to guide you, too.

TIP: In some open areas, you may be able to see Point B. This isn't always guaranteed, however, so it's best to map out the exact route.

First Aid Basics

Navigators and leaders alike need to know how to immediately treat and care for injuries and other uncomfortable situations and conditions. You never know when a serious (or not-so-serious) emergency may arise. You never know when your first-aid skills will come in handy to ease some pain or even save a life.

As part of your trip preparation, pack a first aid kit. This handbook describes different types of kits for different occasions. Make sure any kit you use is stocked with all the supplies you will need, and that you know what every item is for and how to use it properly.

Here's a list of the more common emergencies known to campers, plus some basic first aid steps and skills Navigators need to know for each one:

Simple Cuts

Cuts and scrapes are common. When it comes to cuts, the goal is to lower the chance of infection and reduce the chances of scarring. Here are some steps to follow:

STEP 1. Stop any bleeding by applying firm pressure to the wound using gauze or a clean cloth or towel.

STEP 2. Clean the wound by rinsing with clean water. This will help remove any dirt, gravel or glass. Pat the wound gently with sterile gauze.

STEP 3. Apply a topical antibiotic to the wound then cover it with a dressing. This will help prevent an infection.

STEP 4. Close the wound by applying a small bandage or butterfly-shaped steri-strips that hold the edges of the cut together so they can heal.

STEP 5. If the edges of the skin will not close, the cut may need stitches from a medical professional.

You should also seek medical help if the wound is deep or the edges of the cut are jagged and torn. Wounds to the eyes and face, puncture wounds, wounds exposing protruding fat and gaping wounds also need medical attention.

Sunburn

The best way to treat sunburn is to prevent it in the first place. Limit exposure to the sun, especially 12 noon –3pm when the sun is strongest. If you plan on spending time in the sun, wear sun block protection. Wear a hat and tee shirt while in the sun. Apply lip balm with built-in sunscreen protection.

If you do get sunburn, pat a bit of aloe or burn ointment on the affected area. You can also find spray-on ointment.

Sprains

Treat a sprain with rest and an ice pack. You may also compress the joint by wrapping it with a bandage and raise it to reduce swelling.

If swelling persists, have the injured area x-rayed.

Insect Bites

Insect bites are generally harmless. Itching can be relieved by the use of a topical itch cream.

If the bite swells and becomes infected, wash with warm soapy water and consult a doctor for more treatment.

Blisters

After a long day of walking or hiking in the heat, foot blisters are common. You can prevent foot blisters by wearing shoes that fit. You should also change socks if they become wet or sweaty.

Take care of small blisters before they become larger. Here's how:

1. Secure some moleskin, which is a soft fabric made to cushion sore spots. Cut a piece of moleskin large enough to cover the blister.

2. Cut a hole in the moleskin the same size as the blister. It should resemble a doughnut.

3. Cut several more of these and stack them onto the first.

4. To drain the blister fluid, wash the blistered skin with soap and water. Sterilize a needle by running it through a flame. Pop the blister with the needle tip, at the lower edge of the blister and press the liquid out.

5. When the area is clean and dry, put the moleskin over the blister site.

6. Apply a sterile pad or bandage to wound and surround with more moleskin cut into a doughnut shape.

Burns

A burn is an injury caused by heat, cold, electricity, chemicals, or radiation. Burns can be mild or serious. When we talk about how serious a burn is, we talk about it in degrees:

1ST DEGREE BURN means the skin is red and the victim feels a small amount of pain right at the spot.

2ND DEGREE BURNS are more serious than 1st degree burns. With 2nd degree burns, a blister usually forms on the burn spot.

With **3RD DEGREE BURNS**, most of the skin is lost. If the burn is not painful and appears white, it may be a 3rd degree burn. 3rd degree burns do not hurt, because the skin's nerve endings have died. These burns are particularly serious because there is a great risk of infection. 3rd degree burns can scar skin. These burns are quite serious and demand prompt medical attention.

Here's what to do in case of a burn:

1. Remove victim from the source of the burn.

2. If the victim has stopped breathing, has no heartbeat or is bleeding, treat any of those major injuries before treating the burn.

3. Try to decide how serious the burn really is.

If it's a mild 1st degree burn, treat it by passing it under cool water or applying a wet, cool compress until the pain lifts a bit.

4. You can spot a 2nd degree burn by the formation of a blister. Again, run under cool water until pain is gone, and then attach a sterile gauze pad. Do not apply ointments as they can slow the healing process.

WARNING!

Burns can cause serious health risks.

A 3RD DEGREE BURN requires immediate medical assistance. If you suspect or are not sure whether the burn is of the 3rd degree variety, immediately transport the victim to a medical facility or call 911.

The victim may not feel the pain as nerve endings in the skin may have been affected.

DO NOT attempt to remove the victim's clothing as you may cause additional damage.

DO NOT apply ointment or creams.

DO wrap the victim in a clean sheet and get medical help immediately.

Remain calm and keep the victim as calm as possible as well.

Poison Ivy

Poison ivy and other common plant varieties, such as poison oak and poison sumac, can cause skin rashes and irritations. Poison ivy and poison oak can grow both as vines and shrubs. Poison sumac grows in standing water.

The oil in the sap of these plants causes the rashes and skin irritations. These rashes are allergic reactions to the oil. The allergies occur after repeated exposure to the oil. The skin rash itself is a “weepy” (oozy) rash and causes intense itching.

Here's what to do in case a Navigator comes in contact with **POISON IVY**, **POISON OAK** or **POISON SUMAC**:

STEP 1: Wash all exposed areas with cold running water as soon as possible. (No need for soap because water alone is all you need to inactivate the oil.)

STEP 2: Wash all clothing outside before bringing it inside. Handle the clothing as little as possible until it is soaking wet.

STEP 3: Be aware of anything (shoes, tools, gear, etc.) that came in contact with the oil itself because the oil can remain active for a long time—even years!

STEP 4: If a rash develops, soothe the itch with cool showers.

STEP 5: Use cotton balls to dab calamine lotion on affected areas.

STEP 6: In severe cases, or when the rash is on the neck or any sensitive skin areas, such as on the face or eyes, it's important to consult a doctor who may be able to prescribe oral medication to help manage the rash and reduce the swelling.

POISON IVY

REQUIREMENTS FOR TRACKER

NAME_____

	INITIALS/DATE
1. Participate in an over-night camping trip. Properly set-up and take down a tent. Wash your personal dishes in an approved manner. Help with chores: firewood gathering, cooking and washing of cooking gear.	_____/_____
2. Plan the meals, buy and repackage the food for an overnight trip for at least four persons with at least three meals.	_____/_____
3. Demonstrate how to tie two half hitches, a stopper knot, a slipknot, taut line hitch, and a figure eight knot. Tell when you might use each.	_____/_____
4. Demonstrate use of a bow saw by cutting a firewood pile 2' x 2' x 2'.	_____/_____
5. Discuss ways to minimize campfire impacts. (using existing fire rings, fire pans, building on sandbars, mound fires, etc.)	_____/_____
6. Describe how a "cat hole" should be made for human waste. Where it should be located? Discuss under what conditions toilet paper should be packed out, burned or left.	_____/_____
7. Demonstrate how to keep yourself clean on a trip. Show a trip hygiene kit to carry on your first trip.	_____/_____

8. Tell how you would select a campsite in a wilderness area. _____/_____

9. Travel a mile in 12-14 minutes by alternating running and walking. _____/_____

10. Demonstrate how to orient a map with a compass. Demonstrate how to take a bearing, a back bearing, and how to relate it to your topographic map. _____/_____

11. Identify all of the map symbols on a topographical map. Explain contour lines, map scale, declination and what to do about it, true north and magnetic north. _____/_____

12. Using a topo map, determine a hypothetical route from “point A” to “point B.” _____/_____

13. Prepare and display your own 10 essential kit as a “Go-Bag” for day trips and display it. The “Go-Bag” will have enough gear for you to survive one night stranded lost in the wilderness. Explain how the “Go-Bag” changes according to the trip, and the season. _____/_____

14. Explain how to treat blisters on the foot, third degree burns, simple cuts, poison ivy. _____/_____

15. Teach a game that requires teamwork and cooperation. _____/_____

16. Devote at least two hours to a leader approved service activity. _____/_____

17. Final review by adult leaders of Tracker requirements. _____/_____

Chapter 5:
The Pilot

All About Camp Stoves

Camp stoves cause less harm to the environment than campfires. They also let you to prepare a hot meal with less work. They are definitely worth the looking into when you are preparing for a camping trip.

After reading through the information here, you will want to visit a store that sells camping equipment. That way you can evaluate the different models and features in person, ask questions about each one, compare prices and ultimately make the best choice for you and your group.

Which Camp Stoves and Fuel Are Best?

Camp stoves come in different models and designs. Each design is based on the type of fuel it uses. There are five basic types of fuel available: solid fuel, alcohol, white gas/automotive fuel, kerosene, and butane/propane. To make matters even more confusing, fuel is sold in solid, liquid, and pressurized forms.

When deciding which stove/fuel is the one for you, it's best to have a sense of your needs and limitations. Each model has something to offer, and each model also has drawbacks.

Ask yourself—and then ask the friendly camping equipment salesperson—questions such as:

1. What are our limitations in terms of weight and bulk? How much are we willing to carry?

2. How long/far will we be traveling?

3. Will we be able to supply the fuel we need without too much trouble?

4. Will our stove make it through airport security? (Check with your airline. It's always illegal to bring fuel on an aircraft, but rules vary about transporting stoves.)

5. What kind of cooking will we be able to do with this stove/fuel?

Shopping for Stove Fuel

Here's a little guide to stoves fuels. Take it with you when shopping for stoves. It will help you determine the set up that best suits the needs of your group.

SOLID FUEL: This is best if you need to travel light or travel a long distance. Fuel tablets are lightweight, compact, and convenient to use. On the down side, they provide no flame control and not a lot of heat.

ALCOHOL: Best if you need to travel light or travel a long distance. This liquid fuel is clean, fairly safe to use and it evaporates quickly should you spill any. It's also very easy to find. The downside is that it doesn't generate a lot of heat.

WHITE GAS: Good for long trips in all kinds of weather. It's clean, efficient, and a good heat-producer. Can be used to melt snow, which is good to know if you camp in the colder climates.

Very volatile, however, which means it can flare up fast, and stoves must be primed to pressurize fuel before each use. Can be found in many areas.

KEROSENE: Good for expeditions. Throws off as much heat as white gas, but is a bit safer to use, as it's harder to light. Also must be pressurized before use. Can be found in many areas.

BUTANE/PROPANE: Best for short periods of time. Sold in canisters. Pressure decreases during use, so efficiency decreases as well. It is the easiest fuel to use, however, as it provides good flame control. Canisters not always easy to find.

The Total Camping Experience: Planning, Preparation, Execution

When you plan a camping trip, there is much to remember and much to do. It's wise to create a master list of equipment and supplies, as well as a roster of duties to be assigned to different navigators.

Rotating responsibilities across the group gives each participant the opportunity to acquire new skills in all areas of the experience. Taking on a job that is a bit out of your comfort level is a great way to gain a sense of achievement and boost self-confidence.

Throughout your whole camping experience—in the beginning, the middle and the end—there will be tasks and responsibilities and details to remember, and these will change as you go along.

Planning for every detail cuts down on the chance that you will end up in the middle of nowhere with 40 hot dog buns and no hot dogs.

TIP: Pairing an experienced camper up with a less experienced person on the tougher jobs provides one person a chance to practice leadership, while the other gets to learn a new skill.

Check your Checklists

Your exact checklists of supplies and task assignments will depend on the type and length of your trip. You would not plan the same way for a weekend in the mountains in October as you would for a week at the beach in June.

That said, here are some main categories you'd do well to include in your planning:

ORAGNIZATION AND PAPERWORK: You must file any necessary paperwork or secure any necessary permits and permission slips to allow you to take navigators on the campgrounds.

MEAL PLANNING AND PREPARATION: Plan the meals for the entire trip, including a quantity of ingredients sufficient to prepare each meal and feed everyone. Be mindful of special needs and/or food allergies, which in the case of nut allergies may include products that have been prepared with certain oils or even in areas where nuts have been used in the preparation of other foods.

KITCHEN GADGETS AND GIZMOS: You must think about the tools and utensils you'll need to prepare each meal.

NAVIGATORS ON WHEELS: Plan for pickup/drop-off points, as well as transportation to and from the campsite.

LIST MANAGEMENT: Campers have to think about and make lists so they can recall what

they each will need on the trip.

PACK IT IN: Devise a plan for packing items for the group, including how you will fit everything—including each person's gear—into the vehicle(s).

TASK MASTER: Anticipate what tasks will be performed, i.e., setting up camp, cooking, cleaning, recycling, breaking camp down, etc., and determine who will do each task each time.

From those broad categories, develop a series of detailed sub-lists to serve as your master plan. This will prevent you from feeling overwhelmed and under prepared.

TIP: Once you have this down to a science, you may want to store your lists in page-protectors and place in a binder for future reference.

Here's a typical checklist for the food management part of the trip. (Notice the attention to detail.)

1. Decide together on your food budget and how you will fund the food; collect any monies needed.

2. Ask the group to suggest favorite camp foods and recipes.

3. Choose foods that represent the basic food groups (protein, dairy, grains, fruits and vegetables.)

4. Find out about any food allergies or special dietary needs. Select foods that are not difficult to

digest and not too perishable. Some examples are tinned meat; powdered milk and eggs; oatmeal, pasta, and rice; peanut butter and honey; dried fruit and shelled nuts; carrot sticks; and apples.

5. Make sure that you have enough food and beverages for everyone on every day of the trip.

6. Store packages so they will not break or leak.

7. Investigate whether you will have access to water for cooking and cleaning, If not, determine how you will transport it.

8. Establish a fire safety system and communicate it to everyone. Never leave the stove or campfire unattended. Make sure you have enough fuel!

9. Have a plan for dealing with trash. You can burn food scraps, but not plastics. Don't bury or toss leftovers. Human food is unhealthy for animals and might also attract them to the camping area.

10. If it's not possible to clean with hot water, try to bring bleach or another disinfectant to add to the rinse water.

You can see that list preparation is vital for a successful camping trip. Even seasoned campers consult their lists!

Finding Your Way in the Wilderness

Many of us have a sense of which way is “North”. We sometimes remember that the sun rises in the East and sets in the West, or we may recognize a few star constellations. When hiking or camping we can use this knowledge. Even without a compass, we can determine our direction and reach our destination. We can even tell time without a watch!

Using Your Compass

As we learned on page 81, compass works because the metal “arrow” is attracted to a magnetic field that runs through the Earth from one end to another.

The field is strongest at the Magnetic North Pole, which is about 800–1,000 east of what we call True North or Geographic North.

When using a compass, make sure there aren’t any metal objects nearby (belt buckle, pocket knife, stove.) These can cause interference and may give you a false “North”.

Wishing on a North Star

If you don't have a compass, you can wait until night to get your bearings.

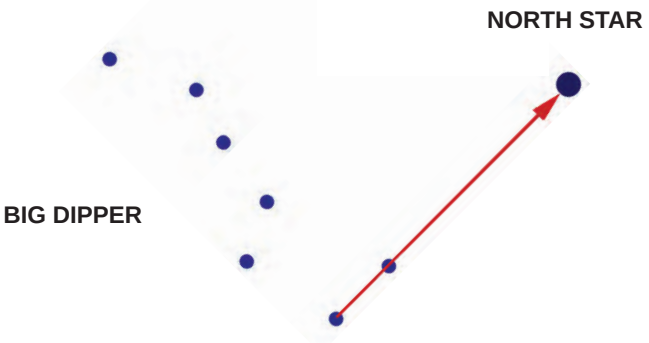
Here's how to find a North Star:

STEP 1: Choose a clear, dark night and stand in a place where your vision of the night sky is not blocked.

STEP 2: Locate the group of stars know as "The Big Dipper". Look for the two stars that make up the right side of the dipper. These point up to a brighter star. This is the North Star.

STEP 3: Look directly at the North Star with your head and eyes facing exactly forward. Now you are facing North.

STEP 4: Raise you arms straight to your sides at shoulder level. Your left hand is pointing West. Your right hand is pointing East. South is directly behind you.



Dialing Up a Sun Clock

Long before there were clocks and watches, people used the sun to tell time. You can try making your own sun clock, or sundial.

Here's how to make a sun clock:

STEP 1: Just after sunrise find an area with no shade.

STEP 2: Insert a stick straight up in the ground. This makes a simple sundial.

STEP 3: Mark off the point in the ground where the sun's shadow is the longest (just after sunrise) in the morning.

STEP 4: When the sun appears to be in the middle of the sky and shadow is at its shortest, make another mark.

STEP 5: Later that afternoon, just before sunset make a third mark at the point where the sun's shadow is the longest.

STEP 6: Now make a line connecting the marks you made in early morning and late evening. This line runs East to West.

STEP 7: Stand on the short line you made about noon. Face the stick. If you look right over the stick that will be South.

Can you tell which is East and West?

Ways to Estimate Distances and Heights

When camping you might find yourself in a situation where you have to decide a distance or a height without any real measurement tools. For example, you might have to know how far 100 yards is from the campfire so you can pitch a tent there, or you might need to measure line so you have enough to throw over a tree branch to hang food supplies. In these cases, you will have to come up with creative ways to measure.

Measuring Distance

One way to measure distance is to use the length of your foot as a ruler. You can figure your foot is about 12 inches (like the foot on a ruler), then walk heel-to-toe (with one foot placed right in front of the other) between the two points you want to measure. If your walk took 10 steps, you measured out about 10 feet. If your walk took more or fewer steps–do the math!

(**TIP**: Measure your foot length ahead of time to see how close actually comes to standard measurement of 12 inches or one foot. If your foot is only 10 inches long, then multiply the number steps you took by 10 [25 steps X 10 inches = 125 inches]. Then divide by 12 inches to see how many feet were in your 125 inches [125 inches ÷ 12 inches = 10.41 feet]. This is camping, not a math test, so you could say your trip was about 10 feet long.)

Measuring Height

There are a couple of ways to estimate height. Believe it or not, a Navigator friend can prove to be the perfect measurement tool. It helps to know how tall your friend is. Let's say he or she is 5 feet tall. Let's also say you need to find our how much rope you need to hang something from a tree branch.

Here's what you would do:

STEP 1: Have the Navigator stand near the tree.

STEP 2: Hold a pencil or stick an arm's length away from your body. Keep the pencil or stick positioned straight up and down.

STEP 3: With one eye closed, look at the Navigator. Line up the top of the pencil with the top of the Navigator.

STEP 4: Move your thumb until it lines up with the navigator's feet.

STEP 5: Keeping your arm straight and your thumb in the same place, move your arm so your thumb is now lined up with the tree base rather than with your friend's feet.

STEP 6: As you hold your hand in place, notice where your thumb is and where the pencil point appears to end on the tree trunk. This distance is approximately 5 feet.

STEP 7: Move your thumb up to where the pencil point ended on the tree trunk. Now you

have measured two 5-feet segments or 10 feet in all.

STEP 8: Continue moving the pencil up this way and counting increments until you arrive at the tree branch you want to use. You will be able to tell how high the tree branch is from the ground, and then you will be able to tell how much rope you need to throw over that branch so there is enough to hang down the other side.

There's another fun way to estimate height by yourself, but it requires a bit of physical dexterity.

STEP 1: Stand with your back to the tree, pretty close.

STEP 2: Bend over and look through your legs.

STEP 3: In this position, start to walk away until you can just see the top of the tree through your legs. Your line of sight is now approximately 45 degrees to the ground, makes your distance from the tree roughly equal to the height of the tree.

STEP 4: Stand up, turn around and walk heel-to-toe back to the tree, counting your steps as described in the previous section.

Knots and Lashings

There are many, many kinds of knots and lashings that people use when sailing, camping, mountain climbing, and rock climbing.

These are some basic knots and lashings:

Bowline

This knot is a great knot that you can make a large loop that will not collapse. This allows this loop to be wrapped around a person and it will not tighten on them. The navy uses this knot to help save people that fall over board and allows them to lift them back onto the ship.

Sheet bend

This knot allows you to tie two ropes of different sizes or a rope to a corner of a sheet or tarp.

Timber hitch

This is a knot that allows you to tie a rope around a log and will grip the log so you can drag it through the forrest.

Clove hitch

This knot is a great way to start your lashings. It allows you to tie a knot around a pole or stick and allows it to rotate around it but will not come undone.

Lashings are very useful rope work that allows you to build structures for habitation, cooking or whatever else you can think of. There are three main types of lashing that can help you build most structures you can think dram up.

Square Lashing

Diagonal Lashing

Tripod Lashing

Clothing and the Layering System

Outdoor sports are great, but not when you are too hot, too cold, or uncomfortably wet. To stay comfortable outdoors, you need to learn the layering system.

There are three basic layers:

- The **BASE LAYER**
- The **CORE** or **MID-LAYER**
- The **OUTER** LAYER.

The **BASE LAYER** is the one closest to your skin. It keeps you dry because it wicks away moisture. Comfortable materials for your base layer include fabrics such as silk, wool, or synthetics, which absorb moisture and dry quickly.

The **CORE** or **MID-LAYER** is the layer you wear over the base layer but under the outer layer. The mid-layer wicks away moisture to keep you warm and dry and sometimes it blocks wind as well. Good mid-layer choices include wool or fleece as they keep you warm even when wet. Fleece also dries quickly. Other choices include down, which keeps you warm but does not have wicking capabilities. Synthetic windproof shells can also be used as core or outer layers.

The **OUTER LAYER** is waterproof to keep you dry, so it protects you from rain and snow. The outer layer is also breathable; moisture vapor permeable (MPV) fabrics work best as they are designed to keep moisture out as they let air in.

A Cautionary Word about Cotton

Cotton is very popular choice for clothing because it's a natural, strong, and comfortable fabric. But cotton is not good in the layering system. It gets heavy when damp or wet, and it takes a long time to dry. Damp or wet cotton lowers your body temperature, which can be dangerous if you're in the cold. Cotton is fine, however, if it is hot and you're not going to exert yourself.

Hats Off to Hats!

To top things off, a hat is better than a hood. A hood blocks ventilation from the collar area, and can cut off your peripheral (side) vision.

On the other hand, no matter the weather, hats are head-friendly. Wool or fleece hats keep you warm when the temps drop, while a cap with a brim keeps the sun off your head and face when it's hot.

You can never have too many hats!

First Aid

It's important that Pilots continue to expand their knowledge of first aid. As a Pilot, you will learn about the following emergency situations and what to do for each one:

- Bleeding
- Possible spine injury
- Heat stroke or heat exhaustion
- 2nd and 1st degree burns
- Shock
- Animal and insect bites

Bleeding

The sight of blood can be scary, but it does not necessarily indicate a very serious injury. As with any and all emergency situations, when bleeding occurs, it's best to **STAY CALM** and carefully take stock of the situation. Then you can decide how serious the bleeding is, what needs to be done immediately, as well as what needs to be done in the future.

Bleeding from small wounds will usually stop if you press gauze or other clean material directly on the area.

If the bleeding does not stop on its own, follow these steps:

STEP 1: Ask the victim to lie down.

STEP 2: Remove any loose visible objects from the wound. Do not attempt to clean out the wound.

STEP 3: If treating a wound belonging to someone else (not yourself), use latex gloves before applying pressure to the wound. No gloves? Place several layers of gauze, fabric or plastic bags between your hand and the wound. Clothing (yours or the victim's) will also work in a pinch. Only if there is nothing else available, should you use your bare hands to apply pressure.

STEP 4: Place gauze, a clean cloth, or the cleanest material available, over the wound. If there is an object, such as a stick or glass, imbedded in the wound do not try to remove that object. Instead, apply pressure around the object, not directly over it.

STEP 5: Apply steady pressure for a full 15 minutes without lifting the cloth. If blood soaks through, leave the first one in place and apply another one. Release. If the bleeding has slowed to a minimal level (oozing) then reapply pressure to wound for another 15 minutes. Repeat once more if necessary for a total of 45 minutes of pressure.

STEP 6: If bleeding has not slowed or stopped considerably after 15 minutes, contact a health professional. In the meantime, elevate (as much as possible) the area that is bleeding and continue to apply firm pressure.

STEP 7: If bleeding continues, watch for signs of shock including restlessness, confusion, signs of fear, and shallow, rapid breathing. Shock can be a serious life-threatening situation so it requires immediate medical attention.

Spinal Injury

It is likely a victim has a spinal injury if:

- There is injury to the head and the victim's level of consciousness changes
- The victim complains of severe pain in the area of the neck or back, or complains of weakness, numbness or paralysis
- The neck or back is badly twisted or appears oddly positioned
- The victim can't move his or her neck
- As a result of the injury, the victim experienced substantial force to the back or head
- The victim cannot control his or her limbs, bladder, or bowels.

If you believe a victim has suffered injury to the back or neck (spine),

DO NOT MOVE THE VICTIM!

Serious complications, including paralysis, can result.

If you suspect someone has a **SPINAL INJURY**:

STEP 1: **Dial 911** or call for emergency medical assistance to help transport the victim to a medical facility.

STEP 2: While you wait for professional to arrive, keep the victim still and in the position you found him or her. Stabilize the head and neck area by placing heavy towels or rolled-up newspapers along both sides of the neck. You can also gently hold the head and neck in place to prevent movement.

STEP 3: Offer as much first aid as possible without moving the victim's head or neck.

If the victim shows no signs of circulation (breathing, coughing or movement) you will need to begin cardiopulmonary resuscitation (CPR), but do not tilt the head back to open the airway. Instead, use your fingers to gently grasp the jaw and lift it forward.

(**TIP**: Use a protective mouth guard whenever administering mouth-to-mouth resuscitation.)

STEP 4: If the victim is vomiting, choking on blood or in danger of further injury, you will need to roll him or her to one side to clear the airway. In this case, work with another Navigator who can help you keep the person's head, neck and back aligned as you roll the victim to one side.

Heat Exhaustion and Heat Stroke

Heat exhaustion and heat stroke are caused when the body overheats. Heat exhaustion is a warning that the body is getting too hot. But with a heat stroke, body organs begin to overheat. If they get hot enough, the organs will begin to shut down. If not treated, a heat stroke can result in serious health consequences.

Mild forms of **HEAT EXHAUSTION** are easily treated. You can recognize heat exhaustion from these signs and symptoms:

- The victim has normal, low, or only slightly elevated body temperature and weak or rapid pulse.
- The victim's skin is cool, clammy and pale. He or she may be sweating.
- The victim complains of a dry mouth and is thirsty. He or she may also complain of fatigue, weakness, dizziness, headache, nausea, and muscle cramps; the victim may vomit.

HEAT STROKE, on the other hand, is a serious medical emergency. **Call 911** immediately if these symptoms (which can occur suddenly and with little or no warning) are present:

- The victim has a very high temperature (104ºF or higher)
- The victim's skin is hot, dry and red; there is no sweating
- The victim experiences deep breathing with fast pulse and then shallow breathing with weak pulse
- The victim appears confused and may experience hallucinations, convulsions and loss of consciousness.

Here's what to do for a mild case of **HEAT EXHAUSTION**:

STEP 1: Have the victim rest out of the sun in a cool, shaded area.

STEP 2: Have the victim drink cool fluids such as water or sports drinks. (These help replace salt that the body has lost through perspiration. Salty snacks can be helpful as well.)

STEP 3: Loosen or remove the victim's clothing.

STEP 4: Do not use an alcohol rub or give the victim any drinks containing caffeine or alcohol.

If you suspect a victim is suffering from **HEAT STROKE:**

STEP 1: **Dial 911** or call for emergency medical assistance to help transport the victim to a medical facility.

STEP 2: While you wait for professional to arrive, move the victim to a cooler environment, or place him or her in a cool bath of water. The victim can stay in the water as long as he or she remains conscious. Do not leave victim unattended.

STEP 3: Moisten the skin with lukewarm water then use a fan to blow cool air across the skin. Repeat.

STEP 4: If the victim is alert and can tolerate it, offer cool beverages without caffeine or alcohol.

First Aid for Burns

As discussed in previous chapter, a burn is an injury caused by heat, cold, electricity, chemicals, or radiation. Burns can be mild or serious. When we talk about how serious a burn is, we talk about it in degrees:

1ST DEGREE BURN means the skin is red and the victim feels a small amount of pain right at the spot

2ND DEGREE BURNS are more serious than first-degree burns. With 2nd degree burns, a blister usually forms on the burn spot.

3RD DEGREE BURNS in which most of the skin is lost. If the burn if not painful and appears white, it may be a 3rd degree burn. 3rd degree burns do not hurt because skin nerve endings have died. These burns are particularly serious because there is a great risk of infection. 3rd degree burns can scar skin. These burns are quite serious and demand prompt medical attention.

Here's what to do in case of a burn:

STEP 1: Remove victim from the source of the burn.

STEP 2: If the victim has stopped breathing, has no heartbeat or is bleeding, treat any of those major injuries before treating the burn.

STEP 3: Try and decide how serious the burn really is. If it is a mild first-degree burn, treat it by passing it under cool water or applying a wet, cool compress until the pain goes down a bit. You can spot a 2nd degree burn by the formation of a blister. Again, run under cool water until pain is gone, and then attach a sterile gauze pad. Do not apply ointments as they can slow the healing process.

First Aid for Shock

A person experiences shock when their circulatory system is not working properly and fails to distribute oxygen and nutrients to the body tissues.

There are two main situations when shock is likely to occur. The first is in the case of a heart attack, where the heart has stopped pumping blood. The other type of shock happens when there is a drop in the volume of fluid circulating around the body. This can happen when a victim experiences bleeding, or the loss of other bodily fluids through severe diarrhea, vomiting, heatstroke, allergic reactions, severe infection, poisoning. or burns. In both situations, the blood supply moves away from the surface of the body to the core of the body, and the victim experiences shock.

If you suspect shock, **dial 911** or send someone to seek emergency medical attention.

A shock victim may be conscious or unconscious, and can display a variety of signs and symptoms such as:

- •Sweating, cold and clammy skin that may also appear pale or gray, especially inside the lips
- •A weak, thready, and rapid pulse
- •Slow and shallow breathing, or hyperventilation (rapid or deep breathing); victim may yawn and gasp for air
- •Lower than normal blood pressure
- •Thirst
- •Eyes that appear dull; the pupils may be dilated; the eyes can seem to stare.

In addition, the victim may complain of feeling faint or weak; he or she may also be giddy, confused or overly excited, anxious, or aggressive.

If you suspect **SHOCK**, even if the victim seems normal after an injury:

STEP 1: **Dial 911** or call your local emergency number.

STEP 2: If possible, have the person lie down on his or her back. Elevate the feet higher than the head. If raising the legs tends to cause pain or further injury, allow the victim to lie flat and still.

STEP 3: Check for signs of circulation (breathing, coughing or movement). If absent, begin cardiopulmonary resuscitation (CPR).

STEP 4: Keep the victim warm and comfortable; place a covering under and over the victim. Loosen any tight clothing, including belts, straps, and neckties. Give nothing by mouth, even if the victim complains of thirst.

STEP 5: If the victim vomits or bleeds from the mouth, roll the victim on his or her side to prevent choking

STEP 6: Seek treatment for injuries, such as bleeding or broken bones.

Animal and Insect Bites

When out in the wilderness, you will naturally be sharing space with the animals and insects who live there. As mentioned before, it is always wise to find out what creatures are indigenous to the region where you will be camping so you can be prepared to use first aid to treat any bites or stings.

The first line of treatment is prevention. Insect repellent, proper clothing and proper storage of food items go a long way toward protecting skin from unwanted bites and stings. That said, here's a rundown of some of the more common animals and insects you might encounter in your travels, the signs and symptoms of bites, and how to treat them if they occur.

Common Insect Bites and Stings

Bites or stings from fire ants, hornets, honeybees, yellow jackets and wasps often result in allergic reactions. Your first aid kit should contain commercial remedies for such bites and stings.

Reactions to bites or stings can range from minor to serious. It's helpful to know how to recognize the signs and symptoms of insect bites and stings, which may include:

- Redness, swelling, itching, and/or pain around the affected area
- Hives, difficulty breathing, trouble swallowing, abdominal cramps, and flushing
- Signs of shock or even death may occur in the most extreme cases.

Depending upon the nature and severity of the bite or sting—and the reaction of the victim—the following steps can help treat the injury and its symptoms:

STEP 1: Have the victim lie down, and stay as calm and still as possible; keep the victim warm.

STEP 2: Immobilize the wound; keep the affected area at or just slightly below the level of the heart.

STEP 3: If possible, remove any clothing or jewelry from around the affected area.

STEP 4: Use the edge of a plastic utensil to scrape any stingers away from the wound. Do NOT use tweezers to remove a stinger.

STEP 5: Carefully wash and rinse the affected area twice with soap and water.

STEP 6: Reduce pain and swelling by placing a cold pack or cold compress on the affected area.

STEP 7: Check to make sure the victim is breathing and that his or her airway is unobstructed. Check pulse for circulation, and treat any complications.

STEP 8: If reaction is severe, or if you are uncertain how serious the reaction is, **call 911** and get professional medical assistance as quickly as possible.

Scorpion Stings and Spider Bites

Scorpions and some spiders are capable of inflicting very serious, painful and life-threatening injuries. Bites from the black widow spider and the brown recluse spider can be as or more dangerous than the bite of a poisonous snake.

Navigators should exercise extreme caution and avoid these creatures whenever possible.

In all cases of severe bites, **call 911** or seek medical help immediately.

BLACK WIDOW

BROWN RECLUSE

The Black Widow

The black widow is a small, jet-black spider with a red hourglass-shaped marking on the underside of its abdomen. Spiders with a similar-looking white marking on their backs are often mistaken for them, but they are NOT black widows.

A black widow bite may produce these symptoms and signs:

- Pain and spasms in the chest, shoulders, back and abdominal muscles (within 30 minutes after a bite)
- Abdominal rigidity
- Rashes and sweating
- Nausea, vomiting, anxiety, fear.

If you believe a victim experienced a black widow bite, take these steps immediately:

STEP 1: **Dial 911** or call your local emergency number.

STEP 2: Apply cold packs—NOT ice—to the affected area.

STEP 3: Watch airways, breathing and circulation; treat any complications that arise.

STEP 4: Watch for shock and treat accordingly.

STEP 5: Transport the victim (and the spider, if possible) to the nearest professional medical treatment center.

The Brown Recluse

The brown recluse is a spider whose color ranges from yellow to dark brown. It has long legs and a marking on its upper back that resembles a violin. The bite of a brown recluse is very serious.

The bite causes an injury that will not heal on its own; it requires skin grafts to repair. Contact with the brown recluse should be avoided whenever possible. Navigators should take extreme caution in remote areas where professional medical treatment is not immediately available.

A brown recluse bite will produce distinctive symptoms and signs such as:

- A white area surrounded by a blue “bulls-eye”; the blue area eventually turns red.
- Within 24 hours the victim will experience nausea, vomiting, chills, fever and joint pain.
- Within 10 days, an ulcer will occur.

If you believe a victim experienced a brown recluse bite, take these steps immediately:

STEP 1: **Dial 911** or call your local emergency number.

STEP 2: Watch airways, breathing and circulation; treat any complications that arise.

STEP 3: Watch for shock and treat accordingly.

STEP 4: Transport the victim (and the spider, if possible) to the nearest professional medical treatment center.

Tick Bites

Ticks are insects that come in a wide variety of sizes and shapes. Most ticks are harmless to humans, though it is always best to remove them as soon as you spot them. Ticks are bloodsuckers; they carry well-known diseases such as Lyme disease, Rocky Mountain spotted fever, and many other bacterial diseases.

These diseases are transmitted directly into the bloodstream. The most serious of illnesses, Lyme Disease, is transmitted by a very tiny tick species known as a deer tick.

Navigators camping in areas known to have tick populations should always wear hats with brims, long pants with elastic bottoms, and long sleeve shirts with elastic cuffs so ticks have less chance to latch on.

(**TIP**: Pets taken into tick territory should be pre-treated to repel tick bites. Ask your veterinarian for advice.)

Here are some symptoms and signs of **LYME DISEASE**:

- A reddish circular "bulls eye" rash, sometimes with a crusty border around it
- Chills and fever
- Blurred vision, fatigue
- Stiffness and difficulty moving
- Symptoms of arthritis, including joint and muscle pain.

Here are some symptoms* and signs of **ROCKY MOUNTAIN SPOTTED FEVER**:

- Nausea
- Vomiting
- General weakness and abdominal pains.

*Note: These symptoms and signs usually appear about 10 days after the bite.

Treatment for any tick bites is as follows:

STEP 1: Use tweezers to grasp the tick as close to the skin as possible; pluck the tick out of the skin.

STEP 2: Wash the affected area with soap and water.

STEP 3: Note the date on which the bite was received. Contact a physician for directions on how to monitor symptoms that may develop over time.

Snake Bites

Snakes may be encountered in certain wilderness areas. Most are harmless but some may pose a danger.

It is important to keep the following in mind when caring for a person with a **SNAKE BITE**:

1. Try to identify the type of snake, if it can be done safely.

2. Wash the bite affected area with soap and water.

3. Immobilize the area and keep it lower than the heart. Because there may be considerable swelling, remove any rings, jewelry, or restrictive clothing from the affected area.

4. **Call 911** and seek immediate medical help

5. If medical help is more than 30 minutes away, wrap a bandage 2-4 inches above the bite to slow the venom but be sure that it is not too tight (a good rule of thumb is to make the band loose enough so that a finger can slip under it).

There are some treatments for snakebites that have been used in the past but may be harmful and are not recommended:

• No ice or any other type of cooling on the bite. Research has shown this to be potentially harmful.

• No tourniquets. This cuts blood flow completely and may result in loss of the affected limb.

• No incisions in the wound. Such measures have not been proven useful and may cause further injury.

Wild Animal Bites

When in the wilderness, Navigators on hiking, exploring, or paddling adventures sometimes encounter biting animals that pose a very real threat. Such feral animals may include dogs, cats, raccoons, skunks, rats, bats, or any number of other animals that live in areas on or near rivers.While in the wild, animals should generally be observed but not approached.

Animal bites can be very serious. Depending on the type and severity of the bite, they can sometimes lead to crippling diseases or even death.

One of the worst diseases resulting from animal bites is **RABIES**. As with any other serious health threat, wild animal bites require prompt medical attention.

CAUTION: If you suspect an animal is rabid, i.e., it behaves strangely, aggressively, or if it is foaming around the mouth—and you can do so without endangering yourself or others--capture or kill it and transport it to the medical facility along with the victim. If transport is not possible, mark the spot where the animal is and report the location to the authorities.

To determine the presence of rabies, authorities must examine the animal's brain. If rabies is detected, appropriate treatment for the victim must begin as soon as possible.

In the event a victim suffers an **ANIMAL BITE**, take the following steps to treat the injury and/or to prevent permanent damage or death:

STEP 1: **Dial 911** or call your local emergency number.

STEP 2: Elevate the wound, if possible, and use direct pressure to control the bleeding. (Do NOT use a tourniquet, except as a last resort.)

STEP 3: Wash the affected area thoroughly with soap and water; rinse, then apply a sterile bandage.

STEP 4: Transport victim to the nearest medical facility as soon as possible.

REQUIREMENTS FOR PILOT

NAME_____

	INITIALS/DATE
1. Discuss the advantages and disadvantages of different types of camp stoves. Demonstrate how to handle liquid fuel and stove safely.	_____/_____
2. Plan a two-night overnight trip. Carry out the cooking and cleaning of six meals [four hot], consider nutritional needs, spoilage and quantities. Package and divide the food and cooking equipment.	_____/_____
3. Show how to find North, South, West and East using the stick and shadow method and by the stars.	_____/_____
4. Tell how to estimate distance and heights. Measure off 100 yards by pacing.	_____/_____
5. Show that you can prepare food in at least three of the following ways: boiling, baking, frying, grilling, or roasting.	_____/_____
6. Use a compass to make a simple map of an outdoor area.	_____/_____
7. Identify plants, animals and insects in your area which may be harmful to people. How can they be avoided and treated if necessary?	_____/_____

Chapter 6:
The Navigator

A Compass Course

A compass course is created when you plot a a series of clues that require you to use your compass to travel from one point to the next in order to reach a final destination. Navigators enjoy planning and playing compass course games or challenges because they help develop compass skills and imaginations for both those following the clues and also the folks who create them.

Begin by having leaders (and older, more experienced navigators) lay out a compass course using five changes of direction. At each change of direction, there should be a clue players discover that tells them the directions to the next spot.

When creating a compass course, it is best to work carefully and in teams. You'll want to make sure the directions are clear and that they actually work to guide players to the places you want them to stop. Have someone double check your clues to make certain everything will go smoothly.

You can create a compass course anywhere. If you are in a small park or in a place where everything is out in the open, hide the next clue to provide more of a challenge.

You can create a compass course using a map or not. Use a map if you are in an area where you or those following your course might get lost.

Steps to creating a compass course:

STEP 1: Choose where you will have your course. (Your chapter leader may decide on a place for everyone to practice.)

STEP 2: Choose a starting point. It should be a familiar spot marked with a familiar object, such as building, a statue or a piece of park equipment. For example, in the town park you can choose to begin at the playground slide. Write the starting point down on a note card. “Starting Point: The playground slide.”

STEP 3: Find your next stop on the compass course. Take a good look around you. You might choose something like the flagpole or the large rock next to the tree to be your next stopping place.

STEP 4: Take a compass bearing (or the direction of travel) in the direction of your first stop. (Remember: To take a bearing, aim the travel arrow on your compass in the direction you want to go. Make sure the compass needle on the housing is pointed north. Your bearing will be the degrees that fall in line with your direction of travel arrow.) Write down the bearing like this: “Destination #1: Take 45 degree bearing.”

STEP 5: Walk to your next stop counting your paces. (Two steps = one pace). After you get to your chosen stopping point, write down the number of paces it took you to get there. Record this number under Step 2. Also decide on a clue to let players know they’ve found the right place. For example: “Directions to Destination #1: Take 45 degree bearing. Walk 50 paces and you will find something to sit on.” (park bench)

STEP 6: Look around and choose another place. Repeat steps three through five four more times till you have five changes of direction.

When you are all finished your compass course might look like this:

Start Point: The playground slide.

Destination #1: Take 45 degree bearing. Walk 50 paces to find something to sit on.

Destination #2: Take a 210 degree bearing. Walk 70 paces and hit rock bottom.

Destination #3: Take a 70 degree bearing. Walk 25 paces and run into a curly haired friend.

Destination #4: Take a 120 degree bearing. Walk 45 paces and stop on square 1.

Destination #5: Take a 50 degree bearing. Walk 90 paces to finish at the place where you can walk over water.

Answers:

1. Bench
2. Boulder
3. Statue of a person
4. First square on a hopscotch board painted on the path
5. Tiny bridge over a stream

To play the game, Navigators use their compasses to follow the directions that have been planned.

(**TIP**: Before the game begins, try planting small surprises at each destination spot for navigators to enjoy when they arrive at each one.)

Smart Camping in Extreme Weather

When in the wilderness, your body will give you clues as to how safe and healthy you are, as well as the conditions around you.

Camping in warm, temperate climate is a breeze. But when the temperature soars or dips—not to mention when other natural weather elements like wind, rain or snow start to stir—staying healthy and comfortable outdoors can be a real challenge, especially if you and your group are miles from the nearest shelter.

Any extreme heat, cold, wetness, and wind can cause you and your fellow campers problems. Pay attention to how your fellow campers look and act. Sometimes you will be able to tell that someone has a problem long before they even realize it themselves.

Emergency Care in Hot Weather

When it is hot outside you should be sure to wear light clothing, a hat, and drink lots of cool water. Realize that when the temperature climbs, you will tire more easily. Respect the signals your body is sending you. Let your energy level decide how far you and your group will continue to travel. While hiking in heat, drink plenty of water and take lots of breaks in the shade, if possible.

Effects of Heat

As noted earlier, a person who begins to suffer the effects of heat, the body may become flushed and sweaty. That is the body's way of saying it need time to rest and cool down.

Any person affected by the heat should sit in the shade and drink lots of cold water. This will give the body time to get back to normal.

Fanning the body will help as well; the moving air will help evaporate the sweat from the body thus releasing the body heat into the air. Then cooler air can reach the body.

Heat stroke is caused when body temperature rises to a dangerous level and the body can no longer regulate its own temperature. Heat exhaustion and heat stroke are very serious. Both need immediate medical attention.

Symptoms of Heat Stroke

Become familiar with the following list of heat stroke symptoms so you can recognize and treat them when they arise in you or a fellow navigator:

- •Pale skin
- •Fatigue
- •Upset stomach
- •Dizziness
- •Fainting
- •Headache
- •Weakness
- •Muscle cramps.

Someone suffering from heat stroke may also act strangely and be confused. The victim needs to be treated immediately. **SEND FOR HELP** while applying basic first aid.

FIRST AID for Heat Stroke

1. Have the person lie down in the shade with feet slightly raised.

2. Cool the person by applying wet cloths or water to the body. Apply wet cloths to neck and wrist. Fan the person to improve evaporation, which will cool the body.

3. If the person is alert, offer a drink of cool water with a pinch of salt.

Emergency Care in Cold Weather

Cold weather camping poses a whole different set of concerns than camping in hot weather. When out in the cold, bodies need to stay warm and dry. You also need to make sure you are well fed and have had enough to drink.

During colder seasons, it is important that you bring along warm sleeping bags and waterproof tents. Also, when hiking in cold weather, be sure to take lots of breaks. When your body is working hard, it loses heat more quickly than when you are at rest. Be aware of how the weather is affecting you and your friends.

Frostnip

Frostnip is when your skin freezes on the surface. It is a mild condition where the skin may appear waxy or numb. When you return to the warmth of the indoors, or even when you cover the exposed skin, your skin will easily go back to normal. The skin may remain red for a couple of hours, but it will heal quickly.

Frostbite

Frostbite occurs when exposed areas of skin begin to freeze. With frostbite, patches of skin lose color. The victim of frostbite may feel a sharp tingling sensation, but still not realize what is happening. Keep an eye on your fellow campers because you might be able to spot frostbite even before they do.

Frostbite is not as easy to recover from as frostnip. If your skin freezes, your blood vessels might not be able to bring new blood to the frozen areas. This serious condition needs to be treated by a medical professional immediately.

Hypothermia

Hypothermia is caused when the body temperature drops so low that the body can no longer keep itself warm. How can this happen? Severe weather conditions contribute to hypothermia. So does dampness. Both cause the body to lose heat.

A high wind can create a wind chill. Wind chill is when the wind drives the heat of your body away faster than it can produce more, causing the temperature to feel colder than it is. The body loses heat and places the camper in danger of developing hypothermia.

With hypothermia, a victim's body loses more heat than it can produce. Some of the effects of hypothermia are that any exposed skin, such as on the face, and flesh farthest from the center of the body, like fingers and toes, are at danger of freezing.

A person suffering from hypothermia may experience poor coordination. The victim may stumble. They may also have trouble using their hands to do simple tasks, such as buttoning up a jacket, tying shoes, or holding a map.

In addition, the victim may feel cold and numb in places. The cold may cause him to shiver a great deal. The victim may not be able to think or speak clearly.

If the body temperature continues to drop, the person will begin to suffer from severe hypothermia. By this time, the victim will find it hard to stand or walk. They may seem confused or angy. As hypothermia progresses, the victim will stop shivering and may become unresponsive. The person needs immediate medical attention.

Severe Hypothermia

Treating severe hypothermia is more complicated than regular hypothermia. The victim needs immediate medical attention. If travel to a doctor or hospital is necessary, move the victim carefully. Insulate them against the cold. Wrap them in sleeping bags and set them on sleeping pads, since body heat can be lost easily when against cold ground. Wrap hot water bottles in several socks or extra fabric and place these under the armpits and against the groin.

How to Treat MILD HYPOTHERMIA

1. Move the victim into a cabin or a tent. Make sure they are in a dry and warm area so that any body heat produced is not lost.

2. Help the victim put on more layers of clothing. If possible, top off the layers with a protective shell, such as a nylon windbreaker or jacket. The shell will help keep away the moisture in the air, but also will help the body keep in heat.

3. Cover the person's head and neck to prevent heat loss. A warm cap and scarf work well.

4. Help the victim move around in place to create more heat. For example, have the victim work the leg muscles; this will cause the body parts furthest away from the heart to boost circulation and create more body heat.

5. Give the victim lots of fluids and some food. Warm cocoa provides some sugar and some heat. Water will help the body digest. Burning calories will help produce heat. Calories are units of energy, which need to be burned to produce heat. Feeding the victim carbohydrates, like bread, or pretzels will also help.

6. If the person cannot move, insulate the individual. Other group members can snuggle with the camper to share body heat. You can also place hot water bottles at feet or in hands. Do not place sources of heat directly against bare skin.

Altitude Sickness

Altitude sickness can occur when you change elevation—that is, when you move from one level on the earth to a higher level on the earth. For example, when hiking from a low altitude to above 8000 feet you may experience some symptoms of mild altitude sickness, because air at high altitudes has less available oxygen than in lower areas.

Symptoms of mild altitude sickness include:

- Fatigue
- Headache
- Nausea and loss of appetite
- Shortness of breath while exercising
- Difficulty sleeping.

The first rule to prevent altitude sickness is to gain height slowly. Plan on ascending, or going up the mountain, no more than 1,000 feet a day. Drink lots of fluids to keep hydrated.

Another suggestion is to stop and camp for several days at an altitude (around 6,000-8,000 feet) before going higher. This gives the body time to get used to being at a higher altitude before moving on.

Once you begin to experience symptoms of altitude sickness you should not go up any higher until the symptoms subside. If symptoms continue for two days, the person should go back down the mountain.

Emergency Signals

It's a good idea for your group to devise an emergency signal you will use to call to each other in case of danger.

If you are lost or need help, there are several types of emergency signals you can use. Some are available at camping supply stores.

There are basically two types of signals to consider:

1. **AUDIO SIGNALS** that can be heard
2. **VISUAL SIGNALS** that can be seen

Audio Signals

Whistles are a popular audio signal. You can use a whistle to help someone who is looking for you find you. Whistles are easy to carry—just tie it to your jacket or pack—and easy to use. The only problem with whistles is that they won't work on a windy day as the sound may be diverted.

Air horns are generally used by boaters. They are usually louder than a whistle and easier to hear at greater distances. However, like other audio signals, they may not be effective on a windy day.

Visual Signals

Fires, flares, water dyes, smoke signals, strobe lights, and signaling mirrors are all examples of visual signals. A fire is easy to spot at night. During the day, a smoky fire also might alert someone that you are in danger.

To get a fire to smoke, add wet wood or leafy branches to the flames. Flares are best used in open water as their flames shoot up high and are a bit unstable.

Signaling mirrors work on sunny days. If stranded on water, you can tilt the mirror in the direction of a plane and move it back and forth to reflect the sun's rays.

No mirror on hand? You can use anything shiny to reflect light, like your eyeglasses, your belt buckle, or your watch face.

Another thing you can do to signal for help in the daylight is to tie a rope to a tree and pull. The branches and leaves will move, and will be able to be seen in the distance.

Also, most people will recognize three blasts of a horn, whistles, or puffs of smoke from a fire as a sign that you are lost or in danger. Remember this while signaling to increase your chances of getting help.

Dressing for the Outdoors

As discussed on page 110, dressing for all kinds of weather means wearing layers. With layers you can adapt your clothing to changing conditions. If you get warm, you can take something off. If you get cold you can add another layer.

Pay attention to the types of fabric your clothing is made from. You can wear cotton in hot, dry, and warm weather. In cool, wet weather, cotton clothing takes a long time to dry, and would not be a good idea.

THE BASE LAYER is the layer of clothing that you wear closest to your skin. While hiking your body will sweat. Synthetic fabrics allow moisture to be wicked away from the body, helping your skin to stay dry. Other good base layer fabrics include silk and wool.

THE MID-LAYER in cold weather is a soft layer of clothing worn above a base layer, but below a warmer jacket. Sweatshirts, fleece shirts, or a sweater are common mid-layers.

THE OUTER LAYER is worn above the rest of your clothing. It is your final barrier against rain and cold. An outer layer could be as simple as a windbreaker in warm weather or it could be a down coat with hood in cold weather.

An outer layer should have a water-repellant surface in order to protect against rain or snow. Fabric that is water-repellant causes moisture to bead up on the surface of the fabric rather than soak through.

A list of clothing to take on a warm-weather trip might include:

- T-shirt
- Shorts
- Long pants (possibly sweat pants)
- A sweater or warm jacket (in case it gets cold)
- Socks and underwear
- Rain gear (could be a rain-proof jacket and possibly rain pants)
- A hat with a brim (to keep sun off of head and out of eyes)
- A bandanna might also be helpful (if it gets hot you can wet and wrap around your head)
- A bathing suit or swim trunks (if you plan on swimming)

A list of clothing to take on a cold-weather trip might include:

- Long pants (made of wool or another synthetic fabric)
- Sweater (possibly fleece or wool)
- Long underwear
- Socks and underwear
- Warm hat
- Mittens or gloves
- Rain gear

Boots and Footwear

Choosing the right boots and footwear for camping and hiking in different situations is as important as choosing the right clothing for the different weather conditions.

Think about the area you will be visiting, what the terrain or ground will be like and what you will be doing there. If you are going on a short trip and will be on even terrain, you can skip boots and wear athletic shoes with sturdy soles instead.

Types of Boots

LIGHTWEIGT HIKERS or **TRAIL BOOTS** are made of either fabric or leather. The sole is flexible, but sturdy enough to provide support to your ankles, and they are similar to athletic shoes. They are appropriate for day hikes or short hikes with light packs.

MID-WEIGHT HIKERS are designed for short hikes on even to slightly rocky ground. They provide more support than the lightweight kind, while still being flexible.

HEAVY- DUTY HIKING BOOTS are very stiff and will have a thick sole. They tend to go above the ankle to provide more support. These are worn on longer hikes with heavy packs.

Getting the Right Fit

When trying on boots, wear the type of sock you will be wearing when out on the trail. For light hiker you may only need one pair of sturdy socks. For more heavy-duty hiking shoes and for colder conditions you might wear a light liner

sock that will keep moisture away from the skin, and then a heavier sock for warmth.

Make sure to choose shoes that don't feel too snug. Do the toe-wiggle test. Can you move your toes in the boots? If so, good! Your toes should not reach the toe of the boot.

Also, do not buy boots if your feet are floating around in them. An experienced salesperson can help you make the right choice.

Once you have purchased your boots, wear them around the house for a few days to break them in. This helps to prevent blisters, which can result when skin rubs against another surface, making the skin raw. Wearing your boots around the house before the trip will give them time to mold to the shape of your foot. Therefore, there will be less rubbing between your foot and the boot.

In addition, always wear clean, dry socks to help prevent blisters.

Choosing Your Backpack

One of the best things about camping is that it lets you travel far away from cars, roads, noise and congestion. But you will also be far away from shops and stores and all the other comforts of home. Backpacks help you carry everything you need for your trip, from your tent to your food, to all your clothing and supplies.

The distance you must travel with gear on your back will give you a lot of information about the type of pack re-

quired. If you are going on a short overnight trip, a school backpack or napsack might be all you need. If you are going to be carrying gear with you throughout the day or for considerable distances, you will need a camping pack with more stability.

Types of Packs

There are two types of backpacks made specifically for camping and hiking:

1. INTERNAL FRAME PACKS are designed with metal bars inside

2. EXTERNAL FRAME PACKS, where the metal frame holding the pack together is on the outside. The metal frame keeps your stuff from shifting around as you move and helps to support your back.

Both internal and external frame packs come with belts that help you fasten the load to your back, so you can shift some of the weight closer to the center of your body. This way, your leg muscles, and not your back muscles, do most of the work.

Trying on Packs

It's best if you can get used to carrying your pack at home before using it on a real hike. You can do a "hiking rehearsal" by filling your pack much the same way you would if you were going to step out on the trail. Tighten the straps until you are comfortable, but not confined.

To avoid straining your back, lift with your knees. Keeping your back straight, bend your knees. Now take hold

of your pack and straighten up using your legs, rather than bending over to pick up a heavy pack.

Stuff Sacks

Before you begin to put items into your pack (for your rehearsal or for real) you will need to first get “stuff sacks”. Stuff sacks are smaller bags that will hold some of your items and make it easier to position everything inside your pack.

Use old bread bags, gallon size zip top bags, or fabric stuff sacks available at the camp store. Stuff sacks help keep things dry and they also make it easier to pack and unpack.

Packing Your Pack

When packing a frameless backpack, you need to arrange materials carefully so they don’t poke you in the back.

When packing a frame backpack you might still want to choose softer items, like sweatshirts, to cushion your back. Position harder and heavier items on either side of the cushion material, close to your middle, and then stack food and other things closer to the top.

Make sure to keep things that you might need throughout the day, like your flashlight, rain clothes, and first aid kit, close to the top.

Most backpacks are made with water resistant material, but you will still want to carry a plastic trash bag to cover your pack if it rains. Just make slits on the sides of the bag for the straps to come out.

Choosing Your Sleeping Bag

Choosing the right sleeping bag will make the sleeping part of your camping experience much more pleasant and comfortable.

The outside of the sleeping bag is known as the "**shell**". The shell is made of a durable and water-resistant cloth. You should check that the zippers on the shell are sturdy and move smoothly.

The inside of the sleeping bag is called the "**fill**". The fill is important because it traps air and keeps the camper warm. There are different types of fill to choose from.

A sleeping bag can be either be filled with down (the feathers of ducks or geese) or man made fibers.

A down sleeping bag is usually the most expensive of sleeping bags. It is also the warmest, the lightest, and the most long-lasting. But, there are many quality sleeping bags filled with synthetic fibers that are very similar the quality of down without the big price tag. Consider all the choices before buying anything.

How Does Your Bag Measure Up?

Another factor to consider when choosing a sleeping is the size. A close fitting sleeping bag will keep you warmer.

The bottom part of the sleeping bag is called the foot box. Many sleeping bags also come with a hood to keep your head warm. The mummy shaped sleeping bag fits the body closely.

Pay careful attention to the weight of a sleeping bag. It not only needs to be warm, but also needs to be light enough to carry on trips

How to Pack Your Sleeping Bag

Before packing your bag, open it up and give it a good shake. This will help shake off any leaves or dirt and make the bag lie flatter.

If you are going on a short trip and don't have much gear, you might be able to fit a tightly rolled sleeping bag at the bottom of a backpack. If not, wrap the sleeping bag in a plastic bag to keep it dry and clean and then strap it to your backpack frame or to the top of the pack.

You might want to practice arranging the bag in several positions to see which one is best before setting off on your hike.

Care and Cleaning of Your Sleeping Bag

AIR IT OUT: During the day, when you are not using your bag, air it out by turning it inside out.

Airing it out will help keep it dry. When you get home you should also air it out before putting it away.

KEEP IT CLEAN: The fill is easily damaged by water and also can be hard to dry, so keep your sleeping bag as clean as possible.

If you sleep in your clothes, you can minimize the amount of cleaning that needs to be done.

If your bag gets stained, try to get it out using a sponge to dab a small amount of water on the surface of the bag.

Washing your Sleeping Bag

1. Look for the tag on your bag that tells you the directions for its care. All sleeping bags are made differently, so each will react differently to washing.

2. Since sleeping bags are so large, you may need to use a commercial size washer (at a laundry) instead of your home washing machine. You can also improvise by using a large bathtub or sink.

3. When washing your sleeping bag, use soap and not detergent. Look for soaps designed to clean your bag's fabrics and filling. Use a gentle wash cycle and cold water.

4. Rinse thoroughly to remove soap. If you use a washing machine, you can run the wet sleeping bag through a second cycle without soap in order get the soap out.

5. To dry a sleeping bag made with synthetic fabric, hang it inside out in warm air. Sleeping bags that are too large to dry in a home dryer may need to be dried in an extra-large dryer located at commercial laundries.

6. Check the dryer periodically to make sure the bag is drying and in good condition. Putting a tennis ball in the dryer will help keep the fill from clumping.

7. Make sure your bag is thoroughly dry before putting it away.

(**TIP**: If you borrow rather than buy a bag, be sure to take good care of it and clean it before returning it to its owner. Navigators always treat others' property with respect and return things in good condition.)

Games and Activities

This section offers some games and activities for use in your meetings. Each activity appeals to senior Navigators, ages 11-18. Some are indoor activities, some are outdoor activities and some work well wherever you happen to be! Some activities are quick and instant, others take a bit more preparation and are completed over time, but they are worth the effort.

Don't Drop the Ball!

(Whole Group: Indoors or Outdoors)

You'll need:

1. Teams of 4 to 5 Navigators
2. A small rubber ball for each team

To do:

1. Have players in each team sit or stand in a circle.
2. Give each team a ball.
3. Tell team members they must pass the ball to each other without using their hands. They can use any other body parts - chins, elbows, knees, etc. to pass the ball around.
4. Anytime a team member drops the ball, the ball is returned to the player before the one who dropped it.
5. Each team continues to try and pass the ball around.
6. First team to pass the ball around the circle twice is the winner.

Memory Tease

(Two or More Players: Indoors or Outdoors)

To do:

1. Give players 30 seconds to observe the details in their surroundings.
2. Then, have them close their eyes.
3. Pose questions (depending on if you are indoors or outdoors) such as:

    How many windows are in this room?

    How many people are wearing sneakers?

    What color is my hat?

    What message is on my cap?

    What color are the walls?

    How many trees are right next to our tent?

    How many people are sitting around this campfire?

With practice, participants can pose questions to each other and to you.

Navigator Scrapbooks

(Whole Group/ Small Group/ Individual:

Indoors AND Outdoors)

You'll need:

1. Digital camera
2. Printer
3. Copy paper
4. Scissors

5. Stickers and markers from the dollar store

6. Inexpensive scrapbooks or photo albums from the dollar store

To do:

1. Have students take digital photos of their indoor and outdoor group experiences.

2. Print the photos on copy paper. If possible, print enough so that each Navigator can have his or her own set of photos. (Retain one set for yourself.)

3. Offer each Navigator a scrapbook or photo album.

4. Show Navigators how, before placing photos in the albums they can crop their photos in interesting ways (by trimming photo corners, by trimming photos into interesting shapes, by cutting people and animals from photo backgrounds, etc.)

5. Talk with Navigators about how they can add words to their pictures. Navigators who enjoy writing may want to add pages of handwritten words to accompany pictures. Others may simply choose to add quick captions or dialogue balloons so the people in the photos appear to be talking.

6. Offer Navigators stickers and markers to add colorful titles, doodles and decorations to their pages.

7. Have Navigators date their entries and add to them over time. Allow time for sharing their books with the group and their families.

TIP: Navigators can work on their books during the group meetings, or take them home to complete them.

Navigators to a TEE

(Whole Group Activity: Indoors AND Outdoors)

You'll Need:

1. Inexpensive, oversized white Tee-shirts (one per Navigator)
2. Tee Shirt Markers (from craft store)
3. Scrap paper and pencils

To Do:

1. Offer Navigators scrap paper and pencils so they can sketch Navigator USA tee-shirt designs to represent your group.
2. From your sketches, decide together on a design to try. (You may settle on a design created by one Navigator, or you may decide to combine efforts, using bits and pieces from all the individual designs .)
3. Draw your design on a large piece of chart paper or on a white board so all can copy it.
4. Offer Navigators tee-shirts and tee-shirt markers. Follow the marker package directions and have the Navigators draw the final logo on to their shirts. (Make a tee for yourself!)
5. Agree to wear your shirts to meetings or when camping.

Observational Drawings

(Whole Group/ Small Group/Individual:

Indoors AND Outdoors)

You'll Need:

1. Inexpensive sketch books from the dollar store or manila paper
2. Pencils

To Do:

1. Tell Navigators that one way they can better appreciate nature is to observe its beauty and capture what they see on paper.
2. Offer Navigators pencils and the books you purchased.
3. Choose a large tree for each of you to draw.
4. From where they sit or stand, have Navigators use their fingers to trace the outline of the tree in the air.
5. Ask Navigators to notice any large shapes or combination of shapes they notice that help create the outline of the trunk and branches of the tree, such as a triangle, a circle, a rectangle, etc.
6. Have them lightly sketch these shapes in their books. If a Navigator's outline is too pinched and small, encourage him or her to sketch another larger outline around the original.
7. Call student's attention to the lines that make up the inside of the tree's shape. Do Navigators notice these lines are straight, bent, round, curly? Is there a combination of

lines? What about the bark on the trunk? Are there straight lines? Are their rectangular patches of bark missing? Encourage Navigators to fill in the interior details with lines.

9. Have Navigators share their sketches and repeat the process by observing and sketching other plant and animal varieties.

Camp Cooking

Cooking with Aluminum Foil

Aluminum foil is a great material to cook with. It is light and easy to carry. It also is disposable. Once you use it, you can crunch it up in a ball and carry it with you out of the campsite. Foil keeps you from needing to scrub and wash pots and pans.

Before you set out on your trip, make sure you have the best aluminum foil for cooking. Buy the heavyweight foil. This will make a sturdier surface for cooking. When cooking food, you can either wrap food completely, but not too tight, or mold the tinfoil into a shape with an open top. If you leave the aluminum foil open at the top, you will have similar results to cooking in a pot or a pan.

Favorite Campfire Recipes and Treats

BREAKFAST

Egg Breakfast

Ingredients: Eggs, sausage or bacon, hash brown potatoes or sliced baked potato

Tools: Foil

1. Spread out a wide piece of foil. You might want to fold it over so to create a strong and sturdy bottom.
2. Place potatoes on the bottom of the tin foil.
3. Add sausage or bacon to potatoes.
4. Pour beaten eggs over the top of this mixture.
5. Fold foil around the mixture so that it is a square package. Make sure that the foil is carefully tucked and won't open up.
6. Add tinfoil to hot coals.
7. Cook for 15-20 minutes. Turn over mid way.
8. Remove carefully from coals and serve on plates.

LUNCH AND DINNER

Campfire Pizza

Ingredients: Can of pizza sauce, package of pita bread, package of sliced mozzarella cheese, toppings (sliced mushrooms, green peppers, and onions)

Tools: Fire with metal grate, foil

1. Make a little plate to hold pita.
2. Spread sauce over pita evenly.
3. Sprinkle cheese and toppings over sauce.
4. Place onto metal grate over coals or campfire.
5. Cook for ten to fifteen minutes until the cheese is melted.
6. Remove from grate and enjoy.

(Figure out how much of everything you'll need, based on number of campers and how many pizzas each camper is likely to eat.)

Campfire Stew

Ingredients: 1 lb. of ground meat (beef or turkey both work well), 1 lb. of chopped carrots, 1 chopped green pepper, 3-4 potatoes, large onion, salt and pepper

Tools: Tinfoil, metal grate for fire

1. Chop potatoes, carrots, green pepper, and onion. Slice up the potatoes.
2. Make six foil packets, one per person.
3. Add a patty size portion of ground meat to each foil package.
4. Top with green pepper, carrots, potatoes, onion, and salt and pepper.
5. Wrap foil packet tightly around stew.
6. Cook for 45 minutes or until meat is fully cooked.

(TIP: This recipe will feed about six campers.)

Corn on the Cob

Ingredients: Corn, butter or margarine

Tools: Tongs, foil

1. Husk the corn.
2. Add a little bit of butter to the corn.
3. Wrap in foil.
4. Use tongs to place foil wrapped corn directly onto the coals.
5. Cook for approximately ten minutes.
6. Remove carefully using tongs.

(TIP: Allow one per camper.)

DESSERTS

Baked Apples

Ingredients: Apples (Jonathan, Granny Smith, Golden Delicious, and most other apples will work), raisins, brown sugar, cinnamon, sugar, nutmeg, nuts (you can use some or all of these ingredients)

Tools: Tongs, foil, knife or apple corer.

1. Core or take out the center of the apple, but don't cut all the way through the bottom. Leave the skin intact on the bottom to help hold in the filling.
2. Add cinnamon, brown sugar, nuts to the center of the apple.
3. Wrap in foil.
4. Place on coals or on grill.
5. Bake until apple is a little soft.
6. Remove carefully using tongs.

(TIP: Allow one per camper.)

A Campfire Classic!

S'mores

Ingredients: Large marshmallows, graham crackers, chocolate bars

Tools: Skewers or twigs

1. Place large marshmallow or two onto the tip of the skewer. Hold in fire to light marshmallow on fire, blow out. You can also just melt the marshmallow by holding it close to the fire.
2. When toasted to your taste, remove from skewer and place on graham cracker.
3. Cover with piece of chocolate and then a second piece of graham cracker. Be careful when tasting, as treat will be hot.

(Tip: Skewers are thin metal rods normally used for cooking. Be careful to not get to close to the fire. Do not touch the metal part of a skewer that had been place in or near a fire.)

REQUIREMENTS FOR NAVIGATOR

NAME_____

	INITIALS/DATE
1. Lay out a compass course using five changes of direction. Identify bearings and distances at each change of direction. Successfully follow course that someone else has laid-out.	_____/_____
2. Explain the effects of heat, cold, wetness and wind on the body and explain how to recognize signs of problems in your body and those around you.	_____/_____
3. What can be done to prevent hypothermia? Cure it?	_____/_____
4. What are the symptoms of altitude sickness? How can it be minimized and treated should it occur?	_____/_____
5. Explain how you might use emergency signals to indicate you are lost or need help.	_____/_____

Chapter 7:
Achievement Awards

FIRST AID Achievement Award

Successful completion of an eight-hour (or longer) American Red Cross First-Aid course.

LIVESAVING Achievement Award

Successful completion and certification of a life saving course taught by either the YMCA or American Red Cross.

SWIMMING Achievement Award

Successful completion of a Red Cross advanced swimmer course or a YMCA “Fish” level course.

BACKPACKING Achievement Award

1. Explain the advantages and disadvantages of an internal frame pack as compared to an external frame pack.

2. Present your pack properly packed for a weeklong backpacking trip (minus food).

3. Participate in at least four two-day (or longer) backpack trips.

4. Following completion of #3, take a five- to seven-day backpacking trip, covering an average of five or more miles per day.

CAMPING Achievement Award

Spend a total of at least 22 days and nights sleeping out under the stars or in a tent you have set up.

Document the dates and places. These days may include outings participated in for other ranks or for achievement awards such as winter camping, backpacking and/or paddle sports.

BICYCLING Achievement Award

1. Successfully complete a bicycle safety course offered in your community.

2. Demonstrate your knowledge of bicycle maintenance and how to make minor adjustments and repairs, including how to change a tire.

3. Verify that you always wear a helmet when riding.

4. Submit records of at least five rides completed, for distances of 10 miles, 20 miles, 25 miles, 30 miles, and 40 miles.

5. Complete a three- or more day bike tour covering at least 100 miles.

WINTER CAMPING Achievement Award

1. Demonstrate knowledge of how to avoid and what to do about: (a) hypothermia, (b) frostbite, (c) carbon monoxide poisoning, (d) becoming lost in winter.

2. List and pack personal gear for an overnight camping trip in the snow.

3. Prepare a menu and food list for an overnight winter trip for at least six persons.

4. Demonstrate understanding of clothing and equipment needed for snow camping.

5. Cook at least three meals on a snow camping trip.

6. Demonstrate successful travel through snow, by either snowshoes or cross-country skis, to a campsite at least two miles from where your vehicle is left.

7. Camp at least four nights in a tent, igloo or snow cave in winter conditions.

PADDLE SPORTS Achievement Award

1.

a. While fully clothed and wearing a personal floating device (PFD), jump into deep water, tread water for three minutes and then swim 100 yards to shore.

b. Explain immersion hypothermia, its signs, symptoms and treatment.

c. Explain and demonstrate the various established safety and directional hand signals.

2.

a. Explain the importance of staying with an overturned boat.

b. Demonstrate how to do a water "right" of your boat and how to get it to shore after getting it up.

3. Know the names of the various parts of a canoe or sea kayak and the parts of your paddle.

4. Demonstrate the proper technique for launching a canoe or kayak from shore, paddling at least 100 yards in a straight line and landing the boat.

5.

a. Demonstrate the sea kayak paddle strokes, braces and boat management.

b. On an all-day trip with adult leadership, demonstrate your knowledge of appropriate strokes while paddling in both bow and stern positions.

6. On a chapter trip, help plan and participate in a two night or longer canoe or kayak camping trip with a minimum of 10 hours paddling on lake, river or bay.

CLIMBING AND MOUNTAINEERING Achievement Award

1. Demonstrate an ability to tie the following knots: bowline, bowline on a bight, figure eight on a bight, water knot and double fisherman's knot.

2. Demonstrate (a) knowledge of belaying with and without devises, (b) safe anchor recognition and setting, (c) route finding and (d) rappelling.

3. Demonstrate how to care for a climbing rope and knowledge of when it should be retired.

4. Demonstrate use of verbal signals while climbing.

5. Spend a total of five or more days climbing under a qualified leader or at an indoor climbing gym under instruction.

OUTDOOR COOKING Achievement Award

1. Demonstrate knowledge of appropriate hygiene practices associated with meal preparation and clean up.

2. Prepare menus and food lists for a group of six or more going on a three-day outing. Buy the food, repackage it, and head-up the cooking with assistance from others on the trip.

3. Cook a dinner for four or more on a wood fire using no cooking utensils.

4. Cook a main course and desert for four or more persons using either a reflector oven or Dutch oven.

5. Describe which foods can be considered hazardous when stored for too long without refrigeration. What steps can you take to reduce the risk of food-related illnesses?

HIKING Achievement Award

1. Describe how to take care of your feet while hiking.

2. List the items you should carry in your daypack in case you should get lost while hiking in a wilderness area.

3. Show that you know first aid for problems that could be encountered on a hike.

4. Document that you have gone on at least five hikes or backpack trips, which involved seven miles or more of hiking each day.

5. After #4 is completed, take a single day hike of 15 miles or more. Write a report on the experience.

ORIENTEERING Achievement Award

1. Join an orienteering club in your area and participate in at least three events. Write a report on each of these events, telling how you did and what you might have done better.

2. Set up an orienteering event for the members of your chapter. Direct the activity and critique it with the participants.

3. Triangulate your position using a topo map and compass while on a trip using remote landmarks.

4. Demonstrate the use of a GPS device for a trip (can include a car) and locate yourself on a topo map using the GPS unit.

5. Teach map and compass skills to newer members of your chapter.

SAILING Achievement Award

1. While fully clothed and wearing a PFD, jump into deep water, tread water for two minutes without signs of stress and then swim 50 yards with any stroke.

2. Know the various types of approved lifejackets and PFD's and the purpose of each.

3. Name a total of 15 parts of the hull and fittings, parts of the rigging, and parts of the sail.

4. Explain the differences between the following types of boats: sloop, ketch, yawl, cat rigged, schooner, dinghy, sailboat and keelboat.

5. Demonstrate the proper methods of launching and landing a boat from a dock and from a shoreline.

6. Correctly rig and derig a vessel.

7. While under guidance of a knowledgeable person, demonstrate the following:

   a. Maneuver the boat to and from a dock, mooring and beach.

   b. Demonstrate how to tack in both directions.

   c. Demonstrate a knowledge of Coast Guard regulations for boating.

   d. Demonstrate the ability to act equally as helmsman and crew.

   e. Demonstrate four different ways of signaling distress using various items around the boat.

   f. Tie and explain the use in sailing of the figure eight knot, bowline, reef knot, round turn, two half hitches and sheetbend.

8. With at least one other navigator and adult supervision, plan and take a two-night trip. You must travel a minimum of 12 hours and camp out two nights.

SURVIVAL Achievement Award

Prerequisite: completion of First Aid Achievement Award

1. Describe what you would do to survive in each of the following situations:

(a) Desert; (b) snowstorm; (c) lost in deep woods; (d) rainstorm. What items should you carry with you for each of the above possibilities?

2. Spend a night in either an improvised shelter you have built or a snow cave you have dug.

3. Spend 24 hours without food except for items found in nature such as berries, fish, shell fish, edible roots, etc.

4. Identify at least five ways you might signal for help if lost in the woods.

CONSERVATION AND ECOLOGY Achievement Award

1. Read and write a report on a book dealing with one or more issues such as global warming, population problems, pollution, endangered species, soil depletion or acid rain.

2. Meet with a leader of the Sierra Club or some other environmental organization to develop an understanding of a problem facing your community.

3. Meet with someone working for a federal, county or state agency such as Fish and Game, Forestry, Parks or Soil Conservation to get their views on problems facing your community at present and in the future.

4. Give a 10-minute talk to your chapter on a topic approved by your leaders with regard to a conservation issue important to your community that you have learned about through one or more of the above requirements.

5. Participate in a conservation project such as tree planting, creek or beach clean up or wildlife enhancement.

SUMMIT ACHIEVEMENT AWARD

When a Navigator is ready to work toward the SUMMIT ACHIEVEMENT AWARD, he or she meets with his or her chapter leader and together they decide on a series of tasks, goals and achievements that the navigator must complete to qualify to receive the SUMMIT ACHIEVEMENT AWARD.

The series of tasks, goals and achievements reflect the navigator's personal passions, skills and interests. For example, a navigator who's passionate about hiking might engage in a particularly strenuous hiking trip.

You'll find other ideas and suggestions for challenges throughout the rest of this book.

REQUIREMENTS FOR SUMMIT

NAME_____

	INITIALS/DATE
1. Complete the requirements for an additional five achievement awards.	_____/_____
2. Serve actively for at least a year in a chapter leadership position.	_____/_____
3. Complete at least a year of service at a community social agency such as serving meals at a soup kitchen, tutoring at a low-income-area school, yard and garden work at a church or temple or mosque, office work at a non-profit organization, assistant at a day care center, etc. Service should average at least twice a month and be approved in advance by the chapter leaders.	_____/_____
4. Final review by adult leaders of Summit requirements.	_____/_____

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Notes