

# NATIONAL CAMPING SCHOOL

## BOY SCOUTS OF AMERICA



Outdoor Skills/First-Year Camper  
**REFERENCE MATERIALS: DAY 1-6**

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## *Reference Materials Day 1*

# OUTDOOR SKILLS QUESTIONNAIRE

SKILL CATEGORY	SKILL	Can Teach	Have Knowledge	Need Help
	General First Aid			
	Prevention and Treatment for Blisters			
<b>HEALTH AND SAFETY SKILLS</b>	Treatment for Cold and Heat Related Injuries			
	Recognizing and Treating Shock			
	Lightning Precautions			
	Camp and Trail Sanitation			
	Proper Care and Use of Knife			
<b>WOODS TOOLS SKILLS</b>	Proper Care and Use of Camp Saw			
	Proper Care and Use of Axe			
	Preparing Tinder and Kindling			
<b>BASIC ROPEWORK SKILLS</b>	Fusing and Whipping			
	Square Knot, Two Half Hitches, Taut-line Hitch			
	Bowline, Sheet Bend, Clove Hitch, Timber Hitch			
	Using Half Hitches			
	Round, Square, Tripod, and Floor Lashings			
	Shear, and Diagonal Lashings			
<b>PIONEERING SKILLS</b>	Rope Tackle			
	Anchors			
	West Country Whipping			
	Knowledge and Care of Lashing Ropes			
	Knowledge and Care of Spars			
	Planning and Building Pioneering Structures			
	Building and Feeding a Fire			
<b>FIRE SKILLS</b>	Types of Fires			
	Fire Safety			
	Extinguishing and Cleanup			

## Reference Materials Day 1

SKILL CATEGORY	SKILL	Can Teach	Have Knowledge	Need Help
	Campsites			
<b>CAMPING</b>	Tents			
<b>SKILLS</b>	Dining Flies			
	Clothing			
	Hiking Methods			
<b>HIKING AND</b>	Gear and Equipment			
<b>BACKPACKING</b>	Packing			
<b>SKILLS</b>	What to do if Lost			
	Bear Country			
	Compass Use			
<b>NAVIGATION</b>	Maps			
<b>SKILLS</b>	Measuring Height and Width			
	Finding Directions without a Compass			
	GPS			
	Menu Planning			
	Food Stuff Pre Trip Preparation			
	Cookware and Utensils			
	Cooking Fires			
<b>COOKING</b>	Stoves			
<b>SKILLS</b>	Foil Cooking			
	Dutch Oven Cooking			
	Backcountry Cooking			
	Cleanup Procedures			
	Cooking without Utensils			
<b>OUTDOOR</b>	Leave No Trace Principles			
<b>ETHICS</b>	Leave No Trace Skills			
<b>SKILLS</b>	Leave No Trace Games			

## Reference Materials Day 1

Skill Category	Skill	Can Teach	Have Knowledge	Need Help
WILDERNESS	Signalling			
SURVIVAL	Water			
SKILLS	Fire without Matches			
	Shelter			

Notes:

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## *Reference Materials Day 1*

# SETTING UP THE OUTDOOR SKILLS AREA

By virtue of what it represents, the main outdoor skills area, often referred to as the Scoutcraft area, should impressively example Scouting's unique and timeless attraction. Here's where Scouting's traditions are brought to life, and here's where some of the the most awesome illustrations of campcraft and Scout engineering can be experienced. It should be situated in a natural setting where it's readily seen and where units have easy access to it. The outdoor skills area should serve as a model of the basic skills that embody Scouting's quintessential aspect.

This kind of setup should not be difficult to deliver. Presenting an impressive outdoor skills area is actually a very straightforward and simple process. For a conscientious staff, building the site is a cooperative opportunity to put their skills into action. Remember, everything contained in the outdoor skills area should epitomize outdoor skills in their best and most revealing light. Erect a really cool gateway at the entrance.



## Reference Materials Day 1

### PREREQUISITES

- Patrol flies are tight and free from sagging.
- Stakes for patrol flies are substantial and provide a dependable hold.
- Correct lashings are neatly applied, all knots are correctly tied, and all ropes are properly whipped.
- Wooden uprights, ridge poles, poles for hitching racks, tool racks, and other [camp gadgets](https://scoutpioneering.com/favorite-projects/) are appropriately sized and skinned.
- A permanent structure adjacent to or in the vicinity of the area is desirable for storing materials. Otherwise, suitable shelter should be erected providing weather protection and accessibility.

### MAIN OUTDOOR SKILLS AREA

- Fire sites are properly proportioned and in proximity to a [single](https://scoutpioneering.com/2014/05/05/single-fire-bucket-holder/) or [double fire bucket holder](https://scoutpioneering.com/2012/12/25/fire-bucket-holder/).
- [Trash bag holders](https://scoutpioneering.com/2012/12/31/garbage-bag-holder/) are erected and situated conveniently throughout the area.
- At least [one hand wash station](https://scoutpioneering.com/2013/01/01/wash-station/) is always desirable as a functioning example of an ideal First Class camp gadget.
- There needs to be areas earmarked for outdoor skills instruction and various outdoor skill merit badges. Each of these should have a separate patrol fly, and since this is the area depicting outdoor skills, it's most desirable to feature flies, either canvas or nylon, that are erected with metal or wood uprights and ridge poles, and properly secured with guy lines. A table with benches should be situated in the center of each.



CAMPING



BACKPACKING



PIONEERING



WILDERNESS SURVIVAL



ORIENTEERING

- The main outdoor skills area needs to have a flat, open place for Scout skill challenges and troop and patrol competitions. There also needs to be space where pioneering projects can be built.
- Definitely consider adding one or more attractions like:



## Reference Materials Day 1

- a [Floating Flagpole](https://scoutpioneering.com/2016/06/17/skylon-floating-flagpole/) <https://scoutpioneering.com/2016/06/17/skylon-floating-flagpole/> flying a special flag,
- a [Double A-Frame Monkey Bridge](https://scoutpioneering.com/2012/12/27/double-a-frame-monkey-bridge/) <https://scoutpioneering.com/2012/12/27/double-a-frame-monkey-bridge/>
- a [Camp Seesaw](https://scoutpioneering.com/2014/08/08/see-saw/) <https://scoutpioneering.com/2014/08/08/see-saw/>
- a [Scout Swing](https://scoutpioneering.com/2015/05/16/scout-swing/) <https://scoutpioneering.com/2015/05/16/scout-swing/>

Note: The main outdoor skills area needs to be staffed during times when attractions like bridges and playground structures are available. When unsupervised, the area needs to be well closed off. (Links to the above projects are included in the PDF file on the flash drive.)

Notes:

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# SETTING UP THE FIRST-YEAR CAMPERS AREA

Often, the first-year camper program is located in a completely separate area, though it can easily be in direct proximity to or share the same space as the campwide Scoutcraft area.

- The first-year camper area should have a separate, properly erected patrol fly for each patrol with a table and benches placed underneath. The flies should be secured with correctly-tied and properly-positioned taut-line hitches at the stakes and two half hitches at the grommets. (For a more secure configuration, bowlines and rope tackles can be utilized.)
- A permanent structure adjacent to or in the vicinity of the area is desirable for storing materials. Otherwise, suitable shelter should be erected providing weather protection and accessibility.
- Each patrol should have access to a horizontal hitching rack in proximity to their fly.
- Each patrol should have their own fire site, properly proportioned and in proximity to a [single](https://scoutpioneering.com/2014/05/05/single-fire-bucket-holder/) or [double fire bucket holder](https://scoutpioneering.com/2012/12/25/fire-bucket-holder/).
- A proper axe yard should be roped off containing solid chopping blocks properly spaced apart at a safe distance.
- There should be a nearby supply of wood for sawing, splitting, and shaving, properly protected from inclement weather.
- A [tool rack](https://scoutpioneering.com/2012/12/29/tool-rack/) should be built in proximity to the axe yard.
- A troop flagpole with halyard should be setup in a central position.
- [Trash bag holders](https://scoutpioneering.com/2012/12/31/garbage-bag-holder/) are erected and situated conveniently throughout the area.
- At least one [hand wash station](https://scoutpioneering.com/2013/01/01/wash-station/) is always desirable as a functioning example of an ideal First Class camp gadget.
- There should be plenty of open space for patrol activities and competitions.

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## **BUDDY SYSTEM - SAFETY MOMENT**

### **SUMMARY**

In a crowded pool full of raucous Scouts splashing and swimming, the justification for frequent buddy checks appears self-evident. But do Scouts really need to get a friend for a quick trip to the latrine or when they meet with a merit badge counselor?

Simply put, yes. Scouting's buddy system calls for Scouts to pair up with a friend or two for all activities. This helps ensure safety and accountability, and teaches Scouts to have responsibility for others. The buddy system is a key part of Scouting's Barriers to Abuse.

### **GENERAL INFORMATION**

Looking out for one another anywhere and everywhere is the keystone to the buddy system. Just because you're in a populous place doesn't mean you can't get overlooked by those around you. Buddies are there to watch you when others may not. They stay nearby to monitor you, alerting a safety team if help is needed.

Adults are not exempt from any these safety measures. Scouters should have buddies during all Scouting activities, too.

- The buddy system should be used at all times, not just for aquatics. Horseback riding, cycling, canvassing the neighborhood during a fundraiser...you name it, you need a buddy.
- It's recommended that buddies know and be comfortable with each other. No youth should be forced into or made to feel uncomfortable by a buddy assignment.
- It is strongly encouraged to pair Scouts of similar abilities, ages and maturity. Buddy pairs should be no more than two years apart in age and should be single gender. There are no boy-girl buddy pairs in any programs, including Venturing and Sea Scouts.
- A buddy team may consist of three Scouts when necessary, like an odd number in a group.

## **POPULARIZING OUTDOOR SKILLS AT CAMP**

- \* Present a centrally-located and great-looking outdoor skills area, replete with attractive pioneering and campcraft displays, for demonstrations, training, and participation.
- \* Provide specialists who can train unit leaders in colorful and effective methods of instruction.
- \* Include outdoor skills in camp special events and contests, and encourage every unit to participate in these events.
- \* —> Create incentives for individual, patrol, and unit excellence in outdoor skills, with a different “skill of the day” contest each day. Offer attractive prizes for first, second, and third place like free goodies at the trading post.
- \* —> Create competition in skills with attractive awards or recognition which individual Scouts, patrols, and troops can practice throughout the week. Schedule a time each day to evaluate the efforts of participants.

Some examples:

- [Rope Toss Log Lift](https://www.programresources.org/knot-tying-skill-activities/#tosslift) <https://www.programresources.org/knot-tying-skill-activities/#tosslift> Solo Challenge
- [Crossing the Alligator Pit](https://www.programresources.org/lashing-skill-activities/#aligator) <https://www.programresources.org/lashing-skill-activities/#aligator> Patrol Challenge
- [Hitching Race](https://www.programresources.org/pre-opening-gathering-period-activities/#hitching) <https://www.programresources.org/pre-opening-gathering-period-activities/#hitching> Solo Challenge
- [Square Lashing Race](https://www.programresources.org/pre-opening-gathering-period-activities/#square) <https://www.programresources.org/pre-opening-gathering-period-activities/#square> Solo Challenge
- [15-foot Scout Stave Flagpole](https://www.programresources.org/lashing-skill-activities/#flagpole) <https://www.programresources.org/lashing-skill-activities/#flagpole>
- [Scout Stave Launcher](https://www.programresources.org/lashing-skill-activities/#slaunch) <https://www.programresources.org/lashing-skill-activities/#slaunch> for Distance Patrol Challenge
- [Supreme String Burning Race](https://www.programresources.org/general-outdoor-skill-activities/#supstring) <https://www.programresources.org/general-outdoor-skill-activities/#supstring> Solo or Patrol Challenge

# OUTDOOR CLOTHING LISTS

— From *Field Book* Fifth Edition —

## ***Basic Warm-Weather Clothing List***

- *T-shirt*
- *Hiking shorts (or convertible hiking pants)*
- *Long pants (or convertible hiking pants)*
- *Underwear*
- *Socks*
- *Long-sleeved shirt (nylon or synthetic blend)*
- *Sweater or jacket (fleece or wool)*
- *Brimmed hat*
- *Bandana*
- *Rain Gear*

## ***Basic Cold-Weather Clothing List***

- *Long sleeved shirt (wool or synthetic blend)*
- *Long pants (nylon or other synthetic fabric)*
- *Sweater (fleece or wool)*
- *Long underwear (synthetic blend)*
- *Socks (synthetic blend)*
- *Insulated parka or jacket (synthetic shell and synthetic or down insulation)*
- *Stocking hat (fleece or wool)*
- *Mittens or gloves (fleece or wool) with water resistant shells*
- *Bandanas*

# **RANK-RELATED OUTDOOR SKILLS**

The following requirements can be presented in conjunction with a First-Year Camper program. It is entirely up to the outdoor skills director as to which requirements will be featured and in what context. As much as possible, during the course of the program, the presentation of these skills should be activity-based and reinforced with competitive challenges that are fun, engaging, and illustrate how the skills are used. The role of the first-year camper staff is to present these skills, NOT to vouchsafe whether or not a Scout has completed the requirements. It is the responsibility of the unit leader to decisively evaluate whether or not a Scout is qualified to be signed off.

## Color Key

Morning

Morning with Overnighter

Morning and Afternoon with Overnighter

## **SCOUT RANK**

- 4a. Show how to tie a square knot, two half-hitches, and a taut-line hitch. Explain how each knot is used.
- 4b. Show the proper care of a rope by learning how to whip and fuse the ends of different kinds of rope.
- 5. Tell what you need to know about pocketknife safety.

## **TENDERFOOT**

- 1a. Present yourself to your leader, prepared for an overnight camping trip. Show the personal and camping gear you will use. Show the right way to pack and carry it.
- 1b. Spend at least one night on a patrol or troop campout. Sleep in a tent you have helped pitch.
- 1c. Tell how you practiced the Outdoor Code on a campout or outing.
- 2a. On the campout, assist in preparing one of the meals. Tell why it is important for each patrol member to share in meal preparation and cleanup.
- 2b. While on a campout, demonstrate the appropriate method of safely cleaning items used to prepare, serve, and eat a meal.
- 2c. Explain the importance of eating together as a patrol.
- 3a. Demonstrate a practical use of the square knot.
- 3b. Demonstrate a practical use of two half-hitches.
- 3c. Demonstrate a practical use of the taut-line hitch.

## *Reference Materials Day 2*

3d. Demonstrate proper care, sharpening, and use of the knife, saw, and ax. Describe when each should be used.

4a. Show first aid for the following:

- Simple cuts and scrapes
- Blisters on the hand and foot
- Minor (thermal/heat) burns or scalds (superficial, or first-degree)
- Bites or stings of insects and ticks
- Venomous snakebite
- Nosebleed
- Frostbite and sunburn
- Choking

4b. Describe common poisonous or hazardous plants; identify any that grow in your local area or campsite location. Tell how to treat for exposure to them.

4c. Tell what you can do while on a campout or other outdoor activity to prevent or reduce the occurrence of injuries or exposure listed in Tenderfoot requirements 4a and 7a.

7a. Demonstrate how to display, raise, lower, and fold the U.S. flag.

### **SECOND CLASS**

2a. Explain when it is appropriate to use a fire for cooking or other purposes and when it would not be appropriate to do so.

2b. Use the tools listed in Tenderfoot requirement 3d to prepare tinder, kindling, and fuel wood for a cooking fire.

2c. At an approved outdoor location and time, use the tinder, kindling, and fuel wood from Second Class requirement 2b to demonstrate how to build a fire. Light the fire. After allowing the flames to burn safely for at least two minutes, safely extinguish the flames with minimal impact to the fire site.

2f. Demonstrate tying the sheet bend knot. Describe a situation in which you would use this knot.

2g. Demonstrate tying the bowline knot. Describe a situation in which you would use this knot.

3a. Demonstrate how a compass works and how to orient a map.

3b. Using a compass and map together, take a 5-mile hike

3c. Describe some hazards or injuries that you might encounter on your hike and what you can do to help prevent them.<sup>2</sup>

3d. Demonstrate how to find directions during the day and at night without using a compass or an electronic device.

## *Reference Materials Day 2*

4. Identify or show evidence of at least 10 kinds of wild animals (such as birds, mammals, reptiles, fish, or mollusks) found in your local area or camping location. You may show evidence by tracks, signs, or photographs you have taken.

6a. Demonstrate first aid for the following:

- Object in the eye
- Bite of a warm-blooded animal
- Puncture wounds from a splinter, nail, and fishhook
- Serious burns (partial thickness, or second-degree)
- Heat exhaustion
- Shock
- Heatstroke, dehydration, hypothermia, and hyperventilation

6b. Show what to do for “hurry” cases of stopped breathing, stroke, severe bleeding, and ingested poisoning.

6c. Tell what you can do while on a campout or hike to prevent or reduce the occurrence of the injuries listed in Second Class requirements 6a and 6b.

6d. Explain what to do in case of accidents that require emergency response in the home and backcountry. Explain what constitutes an emergency and what information you will need to provide to a responder.

### **FIRST CLASS**

3a. Discuss when you should and should not use lashings.

3b. Demonstrate tying the timber hitch and clove hitch.

3c. Demonstrate tying the square, shear, and diagonal lashings by joining two or more poles or staves together.

3d. Use lashings to make a useful camp gadget or structure.

4a. Using a map and compass, complete an orienteering course that covers at least one mile and requires measuring the height and/ or width of designated items (tree, tower, canyon, ditch, etc.).

7a. Demonstrate bandages for a sprained ankle and for injuries on the head, the upper arm, and the collarbone.

7b. By yourself and with a partner, show how to:

- Transport a person from a smoke-filled room.
- Transport for at least 25 yards a person with a sprained ankle.

7c. Tell the five most common signals of a heart attack. Explain the steps (procedures) in cardiopulmonary resuscitation (CPR).



# Using Chemical-Fuel Stoves Safely

Follow these guidelines for the safe use of chemical-fuel stoves:

1. Use compressed or liquid-gas stoves only with knowledgeable adult supervision and only where and when permitted. At home, store fuel containers in a shed, garage, or uninhabited structure.
2. Read and understand the manufacturer's instructions before lighting any stove. Follow the instructions exactly.
3. Keep liquid fuels in well-marked, approved containers only and never in a glass container. Store fuel in a ventilated, locked box, a minimum of 20 feet from buildings and tents. Keep all chemical-fuel containers away from stoves and campfires and store them below 100 degrees.
4. Let a stove cool completely before changing cylinders or compressed gases, refilling from containers of liquid gas, and storing the stove. For long-term storage, (a month or more) empty the fuel tank.
5. Refill liquid-gas stoves a safe distance from any flames, including other stoves, campfires, and personal smoking substances. For safety and performance, use a commercial camp stove fuel. Pour through a filter funnel, and recap both the device and the fuel container before igniting.
6. Never use a stove inside or near a tent, adirondack, or lean-to; always do this in the outdoors. Do not operate a stove in an unventilated structure.
7. Place the stove on a level, secure structure before operating. On the snow, place insulated support under the stove to prevent melting and tipping.
8. Before lighting a compressed-gas or pressurized liquid-gas stove, check the fittings for leakage by coating them with a soap solution. If gas is leaking, the leaking gas will cause the soap solution to form bubbles, signaling a leak and its general location.
9. To avoid possible fires, locate gas tanks, stoves, etc. down hill from tents since heavy leakage of gases will flow downhill.
10. Keep your head and body to one side of the stove when lighting it. Open the stove valve quickly for two full turns and light carefully with head, fingers, and hands to the side of the burner, then adjust the valve down.
11. Never leave a burning stove unattended.
12. Do not overload a stove with heavy pots or large frying pans. Instead, set up a grill with legs to hold the pot, and place the stove under the grill.
13. Pack out empty fuel containers for proper disposal back home. Keep empty fuel bottles and canisters away from sources of heat, which can cause the empty containers to explode.

## **WEATHER-RELATED SAFETY - SAFETY MOMENT**

### **SUMMARY**

Robert Baden-Powell once said the definition of the Scout motto Be Prepared is this: “A Scout must prepare himself by previous thinking out and practicing how to act on any accident or emergency so that he is never taken by surprise.”

Baden-Powell also advocated that young men spend a lot of time learning in and about the out-of-doors, as he said, “The open-air is the real objective of Scouting and the key to its success.” However, we still need to be aware of our surroundings and their changing conditions, including what is happening with the weather.

### **GENERAL INFORMATION**

Severe weather hazards, such as tornadoes, lightning, hail, flash flooding, and downbursts, can be dangerous. Each requires a basic understanding of what to do so that you can protect yourself and your Scouts. The scale of weather conditions can seem daunting—ranging from high heat with no humidity to torrential downpours with possible flooding. However, some key basic principles can help everyone prepare. Here are a few for you to consider:

1. Know the weather forecast before you set out on your trip.
2. Prepare for the types of weather hazards that are associated with your destination, such as tornadoes, lightning, snow, torrential rains, and high winds. The BSA’s online Weather Hazards training (available through [My.Scouting.org](https://my.scouting.org)) is a great resource in this area and should be renewed every two years.
3. Double-check weather conditions immediately upon arrival to verify forecasts.
4. The weather can be integral in becoming lost or injured. If visibility becomes limited, respond quickly to gather the Scouts in your care.
5. Inquire about the location of any designated emergency shelters in the area.

You may never encounter a severe weather hazard. Your chances of being hit by lightning in your lifetime are 1 in 700,000, and the chances of your home being destroyed by a tornado (if you live in tornado alley) are 1 in 150,000. By learning and following these key principles, you can move forward with confidence and provide every opportunity to your Scouts to participate in Baden-Powell’s outdoor laboratory.

# Health and Safety Skills

*What are some ways to prevent blisters on the feet?*

- Stop walking or hiking at the first signs of irritation and cover the hot spot with some tape to temporarily eliminate the friction on that area.
- Make sure footwear is well-broken in before actual use.
- Wear thin, synthetic socks under heavier hiking socks so the rubbing will be against the thin sock and not directly against the skin.

*What are some ways to treat blisters on the feet?*

- Cover them with some tape.
- Place a circle of moleskin around them so the surrounding area is raised to the extent the rubbing won't be felt at the blister site.
- If the blister is painfully large and needs to be popped, do so with a sterilized needle on the side—not the top.

*What are the signs of hypothermia?*

- Feeling cold and numb
- Incoherent mumbling
- Feeling tired and unable to think straight
- Shivering uncontrollably
- Becoming irritable
- Stumbling and falling
- Losing consciousness

*How can hypothermia be treated?*

- Move the person to a shelter.
- Replace wet clothing with warm dry clothing.
- Wrap them in sleeping bag, blankets, jackets
- Give warm liquids (NO beverages that contain caffeine!)
- Wrap water bottles filled with warm water and place under armpits and against groin.

*What are some signs of frostbite?*

- Complaints that the feet, fingers, ears, or nose hurt or feel numb
- Grayish white patches on the skin

*How can frostbite be treated?*

- Move the person to a shelter.
- Warm cheeks or ears with palm of hand (gloves off).
- Slip a frostbitten hand under clothing against warm skin.
- Place dry, sterile gauze between fingers or toes and cover with a loose bandage.
- Rewarm the injured area with warm water (not hot) until normal color returns.

*What are signs of heat exhaustion?*

- Severe lack of energy

## *Reference Materials Day 3*

- Feeling faint
- Severe sweating
- General weakness
- Headache
- Nausea
- Cool, pale, moist skin
- Rapid pulse

*What steps should be taken to treat heat exhaustion?*

- Remove excess clothing and lie in a cool shady place with feet raised.
- Fan the body and apply cool, wet cloths.
- Drink some water. Rehydrate.

*What are signs of heatstroke?* — Medical emergency, call for medical assistance. —

- Hot, sweaty or dry, red skin
- Vomiting
- Confusion and disorientation
- Rapid pulse
- Seizures
- Unconsciousness
- Shallow breathing

*What steps should be taken to cool the victim?*

- Move person to air conditioned or shady area
- Loosen tight clothing, cool skin by fanning and applying wet cloths.
- Apply wrapped ice packs under armpits and against neck and groin.
- Immerse person in shallow pool of water.
- If person can drink, give small amounts of cool water.

*What are the signs of dehydration?*

- Increased to severe thirst
- Dark urine or decrease urine production
- Feeling tired or weak
- Decreased sweating
- Dry skin and lips
- Nausea
- Fainting
- Loss of appetite
- Headache, body aches
- Muscle cramps
- Confusion
- Dizziness

*What can be done to treat dehydration?*

- Drink fluids.
- Rest
- In hot weather, get to a shaded or air conditioned place.

## *Reference Materials Day 3*

*What can be done to prevent dehydration?*

- Drink plenty of water before feeling thirsty.
- Take in enough fluids so urine is clear.
- Avoid caffeinated drinks.

*What are the signs of shock?*

- Restlessness or irritability
- Weakness
- Confusion
- Fear
- Dizziness
- Clammy, cool, pale skin
- Quick, weak pulse
- Shallow, rapid, irregular breathing
- Nausea and vomiting
- Extreme thirst

*What is the first aid for shock?*

- Call for help.
- Speak to them in a calm voice.
- Try to eliminate the cause(s) of shock by treating hurry cases: severe wounds, control bleeding, restore breathing and circulation.
- Have the person lie down and raise the feet about 12 inches if no back, neck, head injuries, or fractures of the hip, legs or pelvis are suspected.
- Keep the victim warm by surrounding their body with blankets, coats, etc.

*What precautions should be taken during a thunder storm?*

- If near safe buildings, stay inside until 30 minutes after the last rumble of thunder is heard.
- If out on the water, quickly head to shore if you hear thunder.
- In the backcountry, avoid open fields, hilltops, and ridge tops.
- Spread the group out 100 feet from one another.
- Stay away from tall, isolated trees and other tall objects.
- In a forest, stay near a lower stand of trees.
- Stay away from water, wet items, and metal objects.
- Stay clear of shallow caves and overhanging cliffs.

*What treatment should be provided if a person is struck by lightning?*

- If the person has stopped breathing, administer CPR.
- After assessment, treat injuries.
- Always seek medical attention.

*What can be done to reduce the likelihood of tick bites?*

- Wear long pants and long-sleeved shirts in woodlands and fields, button the collar and tuck the cuffs into your boots or socks.
- Apply a good insect repellent.
- In tick country, check for ticks twice daily.

## *Reference Materials Day 3*

*What's the recommended method to remove a tick and treat the bite area?*

- Use a tweezer to grasp an embedded tick and gently pull all of it out of the skin.
- Wash the area and your hands with soap and water.
- Treat the bitten area with an antibiotic salve.

*How do we treat the sting from a bee or hornet?*

- Never squeeze the area around the stinger.
- Remove the stinger by scraping it with a knife blade.
- Apply an icepack to reduce pain and swelling.
- If breathing becomes difficult, seek medical attention and treat for anaphylactic shock by administering epinephrine.

*What should we do for a spider bite?*

- See a doctor a.s.a.p. if symptoms show up such as swelling, redness, pain, difficulty swallowing, nausea, vomiting, muscle pain, or joint pain.
- Wash the bite with soap and water.
- Apply an ice pack.
- Treat for shock.

*How to we treat the bite from a nonvenomous snake?*

- Same as a puncture wound.

*What steps should be taken to treat the bite from a venomous snake?*

- Keep the victim calm.
- Wash the wound site.
- Remove any jewelry in the area of the bite before swelling occurs.
- Restrict movement by splinting, if the bite is on an extremity.
- Keep the bite site at the approximate level of the heart.
- Do not:
  - apply ice
  - cut the skin
  - suck out venom
  - apply a tourniquet
- Take steps to get the victim medical help as soon as possible.
- Treat for shock, but don't elevate the affected limb.

# **BACKPACKING MERIT BADGE**

(Pamphlet Printing 2017)

1. Discuss the prevention of and treatment for the health concerns that could occur while backpacking, including hypothermia, heat reactions, frostbite, dehydration, insect stings, tick bites, snakebite, and blisters. (Refer to “Health and Safety Skills Handout”)
2. Do the following:
  - a. List 10 items that are essential to be carried on any backpacking trek and explain why each item is necessary. (page 39 in pamphlet)
    - Pocket Knife
    - First-Aid Kit
    - Extra Clothing
    - Rain Gear
    - Water
    - Flashlight
    - Trail Food
    - Fire Starters
    - Sun Protection
    - Map and Compass
  - b. Describe 10 ways you can limit the weight and bulk to be carried in your pack without jeopardizing your health or safety. (page 54 in pamphlet)
    - Do a shakedown before each trip to “shake out” everything you won’t need.
    - Divide crew gear so that each Scout carries a fair share.
    - Gradually replace your heavier equipment with lighter items.
    - Choose lightweight hiking boots over stiff, heavy footwear.
    - Prepare one-pot meals featuring pasta, powdered sauce mixes, and other ingredients that are dry, easy to pack, and not very heavy.
    - Match cookware with menus.
    - Get used to the hiking clothes that will be worn repeatedly throughout the trip.
    - Share personal items that will be enough for more than just one person.
    - Carefully consider not bringing anything that is not essential.
    - Review your gear after the trip to figure what you might have done without.
3. Do the following:
  - a. Define limits on the number of backpackers appropriate for a trek crew. (page 15 in pamphlet)
    - The size of the group influences the impact on the land, on the group’s safety, and on the quality of the wilderness experience.
    - Philmont Scout Ranch recommends seven to twelve individuals on a trek—the best number for sharing gear, food and chores.
  - b. Describe how a trek crew should be organized. (page 16 in pamphlet)
    - Make up a duty roster so that everyone has an equal chance to cook, clean up after meals, manage food storage, and take care of other camp tasks.

## *Reference Materials Day 3*

- c. Tell how you would minimize risk on a backpacking trek. (page 19 in pamphlet)
    - Get in shape.
    - Adjust clothing layers to match changing weather.
    - Drink plenty of water.
    - Take care of gear.
    - Communicate with the crew regarding concerns or difficulties.
    - Train in first-aid and deal appropriately with health issues and injuries.
    - Watch where you step.
  - d. Explain the purpose of an emergency response plan. (page 15 in pamphlet)
    - An emergency response plan provides the crew with important information to use if it encounters backcountry difficulties.
4. Do the following:
- a. Describe the importance of using Leave No Trace principles while backpacking, and at least five ways you can lessen the crew's impact on the environment. (page 59 in pamphlet)
    - The principles of Leave No Trace help us live up to the responsibility of caring for the environment.
    - Travel and camp on durable surfaces.
    - Dispose of waste properly.
    - Leave what you find.
    - Minimize campfire impacts.
    - Respect wildlife.
  - b. Describe proper methods of handling human and other wastes while on a backpacking trek. Describe the importance of and means to assure personal cleanliness while on a backpacking trek. (pages 61-62 in pamphlet)
    - Select a wash site at least 200 feet away from water sources.
    - Use a strainer to remove food particles out of dishwater and put the particles in a plastic bag with other bits of leftover food.
    - Urinate on rocks or bare ground away from trails, camps, and other gathering places.
    - Dig a cathole or pack out solid waste, checking with the land management agency for the preferred method.
  - c. Tell what factors are important in choosing a campsite. (page 60 in pamphlet)
    - Whenever possible, choose an established campsite.
    - Camp at least 200 feet from lakes or streams.
    - Keep campsites small and conduct activities where vegetation is absent.
5. Do the following:
- a. Demonstrate two ways to treat water and tell why water treatment is essential. (pages 81-82 in pamphlet)
    - Boiling
    - Chemical Treatment
    - Filtering
    - Water from natural sources may contain invisible microorganisms such as protozoa, bacteria, and viruses that can cause illness.
  - b. Explain to your counselor the importance of staying well-hydrated during a trek. (page 23 in pamphlet)



## *Reference Materials Day 3*

- Staying well-hydrated is essential to every bodily function. Heat exhaustion, heat stroke, and hypothermia may all be caused in part by dehydration.
6. Do the following:
- a. Demonstrate that you can read topographic maps. (pages 67-69 in pamphlet)
  - b. While on a trek, use a map and compass to establish your position on the ground at three different locations OR use a GPS receiver to establish your position on a topographic map and on the ground at three different locations. (pages 71-72 in pamphlet)
  - c. Explain how to stay found, and what to do if you get lost. (page 73 in pamphlet)
    - Make a trip plan and leave it with those at base camp.
    - Carry a topographic map and refer to it frequently.
    - Continuously try to match up points on the map with features around you.
    - If you cannot determine your position, don't panic.
    - Use the map and think about the way you came.
    - If you think you are lost, stay put and make yourself comfortable.
    - Erect a shelter. Build a safe campfire.
    - Three blasts of a whistle a minute a part can help a search party find you.
    - Be patient.
7. Tell how to properly prepare for and deal with inclement weather. (pages 24 and 86, in pamphlet)
- Keep your eye on the sky.
  - In a thunder storm:
    - Get off a mountain top before lightning begins. Find a low spot.
    - Do not stand in open areas or near lightning targets.
    - Remove and keep your distance from any metallic frame packs.
    - Avoid outcroppings, overhangs, and flood zones.
    - Squat down on the balls of your feet. Make yourself a small target.
    - If possible, take shelter in a steel-framed building or hard-topped motor vehicle without touching metal parts.
    - Stay away from objects using electrical power.
    - If boating, get to land immediately.
8. Do the following:
- a. Explain the advantages and disadvantages of the different types of backpacking stoves using at least three different types of fuel. (page 51 in pamphlet)
    - White-Gas Stoves - efficient in cold weather, fuel is highly volatile.
    - Canister Stoves - safety and convenience, loses efficiency as the temperature drops.
    - Alcohol Stoves - transportable and easy to use, does not produce as much heat as white-gas and canister stoves.
  - b. Demonstrate that you know how to operate a backpacking stove safely and to handle fuel safely.
    - Refer to "Using Chemical Fuels Safely" handout.
  - c. Prepare at least three meals using a stove and fuel you can carry in a backpack. (pages 75-80 in pamphlet)

## *Reference Materials Day 3*

d. Demonstrate that you know how to keep cooking and eating gear clean and sanitary, and that you practice proper methods for food storage while on a backpacking trek.

- Dishwashing system (page 62 in pamphlet)
- Backcountry Food Handling and Storage (page 83 in pamphlet)

9. Do the following:

- a. Write a plan that includes a schedule for a patrol/crew backpacking hike of at least 2 miles.
- b. Conduct a prehike inspection of the patrol and its equipment. (page 55 in pamphlet)
- c. Show that you know how to properly pack your personal gear and your share of the crew's gear and food. (page 56 in pamphlet)
- d. Show you can properly shoulder your pack and adjust it for proper wear. (page 57 in pamphlet)
- e. While using the plan you developed for requirement 9a, carry your fully loaded pack to complete a hike of at least 2 miles.

(10.) Using Leave No Trace principles, participate in at least three backpacking treks of at least three days each and at least 15 miles each, and using at least two different campsites on each trek. Carry everything you will need throughout the trek.

(11.) Do the following:

- a. Write a plan for a backpacking trek of at least five days using at least three different campsites and covering at least 30 miles. Your plan must include a description of and route to the trek area, a schedule (including a daily schedule), a list of food and equipment needs, a safety and emergency plan, and a budget.
- b. Using Leave No Trace principles, take the trek as planned in 11a that is at least 5 full days, and, while on the trek, complete at least one service project approved by your merit badge counselor..
- c. Keep a daily journal during the trek that includes a day-by-day description of your activities, including notes about what worked well and thoughts about improvements that could be made for the next trek.

# **CAMPING MERIT BADGE**

(Pamphlet Printing 2019)

1. Do the following:

- a. Explain to your counselor the most likely hazards you may encounter while participating in camping activities and what you should do to anticipate, help prevent, mitigate, and respond to these hazards. (pages 15-18 in pamphlet)  
(Refer to "Health and Safety Skills Handout")
  - Complete Tenderfoot through First Class first-aid requirements and First-Aid merit badge.
  - Managing Risk
    - Stay in good physical shape.
    - Know where you are going and what to expect.
    - Adjust clothing layers to match changing conditions.
    - Drink plenty of water.
    - Protect yourself from:
      - exposure to the sun.
      - biting insects.
      - poisonous plants.
  - Altitude Sickness AMS (Acute Mountain Sickness) (Page 17 in pamphlet)
    - Preventive Measures
      - Climb high, sleep low.
      - Drink plenty of fluids.
      - Ascend gradually.
    - Symptoms
      - Headache
      - Nausea
      - Tiredness
      - Loss of motivation
    - Treatment
      - Descend to a lower elevation
      - Rest, fluid, and food.
  - Hyperventilation (Page 18 in pamphlet)
    - Preventive Measures
      - Addressing causes of stress and anxiety
    - Symptoms
      - Quick, shallow breathing
      - Light-headedness
      - Feeling faint
      - Tingling or numbness in fingers and toes
    - Treatment
      - Relax and slow breathing
      - Remove causes of anxiety by moving or talking through the situation.
  - Allergic Reactions (Page 18 in pamphlet)
    - Preventive Measures for Food Allergies

## *Reference Materials Day 3*

- Create a safe environment by eliminating the food a Scout is allergic to.
  - Preventive Measures for Asthma or Allergies to Bee Stings and Other Agents
    - Group leaders should be informed regarding individual conditions and treatment procedures.
    - Scouts should share treatment procedures and treatment kits with group leaders.
  - b. Discuss with your counselor why it is important to be aware of weather conditions before and during your camping activities. Tell how you can prepare should the weather turn bad during your campouts. (pages 57-58 in pamphlet)
    - Weather conditions dictate what measures need to be taken in order to assure everyone's comfort and safety.
    - When the weather turns bad:
      - Take steps to keep warm and dry and be on the lookout for signs of hypothermia.
      - Secure your camp.
      - When setting up camp, the first thing that goes up are patrol flies to shelter gear while tents are pitched.
      - Heat a pot of water and prepare hot drinks, soup, etc.
      - Be patient and accepting.
    - In an electric storm:
      - Avoid open fields, hilltops, and ridge tops.
      - If possible, spread the group out 100 feet from one another.
      - Stay away from tall, isolated trees and other tall objects.
      - If camping in an open area, set up in a valley or other low area, but avoid flood prone areas.
      - Stay away from water, wet items, and metal objects.
  - c. Show that you know first-aid for and how to prevent injuries or illnesses that could occur while camping, including hypothermia, frostbite, heat reactions, dehydration, altitude sickness, insect stings, tick bites, snakebite, blisters, and hyperventilation. (Refer to "Health and Safety Skills Handout")
2. Learn the Leave No Trace principles and the Outdoor Code and explain what they mean. Write a personal and group plan for implementing these principles on your next outing. (pages 19-21 in pamphlet)
- Leave No Trace Principles
    - Plan ahead and prepare.
      - Know the regulations and special concerns for the area you'll visit.
      - Prepare for extreme weather hazards and emergencies.
      - Schedule your trip to avoid times of high use.
      - Visit in small groups where possible. Consider splitting into smaller groups.
      - Repackage food to minimize waste.
      - Use a compass to minimize the use of marking paint, rock cairns or flagging.
    - Travel and camp on durable surfaces.

## *Reference Materials Day 3*

- Durable surfaces include established trails and campsites, rock, gravel, dry grasses or snow.
- Protect areas near water by camping at least 200 feet from lakes and streams.
- Good campsites are found, not made. Altering a site is not necessary.
- In popular areas, use existing trails and campsites. Walk single file in the middle of the trail, even when it is wet or muddy. Keep campsites small. Focus activities in areas where vegetation is absent. In pristine areas, spread out to prevent the creation of campsites and trails. Avoid places where impacts are just beginning.
- Dispose of waste properly (pack it in, pack it out).
  - Inspect your campsite and rest areas for trash and spilled foods. Pack out all trash, spilled foods, and litter.
  - Deposit all waste in catholes dug 6 to 8 inches deep at least 200 feet from water camp, and trails. Cover and disguise the cathole when finished.
  - Where necessary, pack out toilet paper and hygiene products.
  - To wash yourself or dishes, carry water at least 200 feet away from streams or lakes, and use small amounts of biodegradable soap. Scatter strained dishwater.
- Leave what you find.
  - Preserve what you find; examine but do not touch cultural and historic structures and artifacts.
  - Leave rocks, plants, and other natural objects as you find them.
  - Do not build structures or furniture, or dig trenches.
- Minimize campfire impacts.
  - Campfires can cause lasting impacts to the backcountry. Use a lightweight stove for cooking and enjoy a candle lantern for light.
  - Where fires are permitted, use established fire rings, fire pans, or mound fires.
  - Keep fires small. Only use sticks from the ground that can be broken by hand.
  - Burn all wood and coals to ash. Put out campfires completely then scatter cool ashes.
- Respect wildlife.
  - Observe wildlife from a distance. Do not approach them.
  - Never feed animals. Feeding them damages their health, alters natural behaviors, and exposes them to predators and other dangers.
  - Protect wildlife and your food by storing rations and trash securely.
  - Avoid wildlife during sensitive times: mating, nesting, raising young, and during winter.
- Be considerate of other visitors.
  - Respect other visitors privacy and property.
  - Be courteous. Yield to other users on the trail.
  - Camp away from trails and other visitors.
  - Let nature's sounds prevail. Keep the noise down.

## Reference Materials Day 3

- The Outdoor Code reminds Scouts of the importance of caring for the environment. The code's ideals have special meaning whenever you are camping, hiking, or taking part in other outdoor activities.
  - As an American, I will do my best to:
    - Be clean in my outdoor manners,
    - Be careful with fire,
    - Be considerate in the outdoors, and
    - Be conservation-minded.

3. Make a written plan\* for an overnight trek (page 24 in pamphlet) and show how to get to your camping spot by using a topographical map (page 47 in pamphlet) and one of the following:

- a. A compass
- b. A GPS receiver\*\*
- c. A smartphone with a GPS app

\*To complete this requirement, you may use the Scout Planning Worksheet at <https://filestore.scouting.org/filestore/boyscouts/pdf/512-505-2016-Scout-Planning-Worksheet.pdf>

\*\*If a GPS-equipped device is not available, explain how to use one to get to your camping spot.

4. Do the following:

- a. Make a duty roster showing how your patrol is organized for an actual overnight campout. List assignments for each member. (pages 28-29 in pamphlet) Refer to [troopleader.scouting.org/patrol-duty-roster](http://troopleader.scouting.org/patrol-duty-roster)
- b. Help a Scout patrol or a Webelos Scout unit in your area prepare for an actual campout, including creating the duty roster, menu planning (pages 25-28 in pamphlet), equipment needs, general planning, and setting up camp.

- Equipment Needs (pages 30-33 in pamphlet)
  - Scout Basic Essentials (page 31 in pamphlet)
    - Pocketknife
    - First-aid Kit
    - Extra Clothing and Rain Gear
    - Water Bottle
    - Flashlight
    - Trail Food
    - Matches and Fire Starters
    - Sun Protection
    - Map and Compass
  - Personal Overnight Camping Gear (page 32 in pamphlet)
    - Clothing for the Season
    - Backpack
    - Rain Cover for Backpack
    - Sleeping Bag
    - Ground Cloth and Sleeping Pad
    - Eating Kit: Spoon, Bowl, Cup
    - Cleanup Kit (Personal Hygiene)
    - Personal Extras (Optional)
  - Group Overnight Camping Gear (page 32 in pamphlet)

## *Reference Materials Day 3*

- Tents
- Dining Fly
- Nylon Cord (50 Feet)
- Backpacking Stoves and Fuel (for backpacking overnigheters, Coleman 2-burner type for front country overnigheters)
- Patrol Cook Kit
- Patrol Cleanup Kit (Mealtime)
- Repair Kit
- Group Extras
- General Planning (pages 49-50 in pamphlet)
  - Selecting a Campsite
  - Safety
  - Size
  - Terrain
  - Privacy
  - Permission
  - Water
- Setting Up Camp (page 51 in pamphlet)
  - Set up Dining Fly first.
  - Pitch your tents. (page 37 in pamphlet)
    - Choose a level site that drains well
    - Remove stones and sticks but try not to disturb the ground cover
  - Establish a plan for personal sanitation. (page 52 in pamphlet)

### 5. Do the following:

- a. Prepare a list of clothing you would need for overnight campouts in both warm and cold weather. Explain the term “layering.” (page 33 in pamphlet)

- For Warm Weather Camping
  - T-shirt or lightweight short-sleeved shirt
  - Hiking shorts
  - Underwear
  - Socks
  - Lightweight long-sleeved shirt
  - Lightweight long pants
  - Sweater or jacket
  - Brimmed hat
  - Bandannas
  - Rain gear
- For Cold Weather Camping
  - Long-sleeved shirt
  - Fleece or wool long pants
  - Fleece or wool sweater
  - Polypropylene long underwear
  - Wool or synthetic blend socks
  - Warm, hooded parka or jacket
  - Fleece or wool stocking hat

## *Reference Materials Day 3*

- Fleece or wool mittens or gloves with water-resistant shells
  - Fleece or wool scarf
  - Rain gear
  - Layering enables you to add or subtract layers of clothing, depending on how hot or cold you feel.
- b. Discuss footwear for different kinds of conditions and how the right footwear is important for protecting your feet. (page 34 in pamphlet)
- When walking in the backcountry or over rough terrain, hiking boots can provide comfort and support for feet and ankles.
  - Around camp, a pair of lightweight shoes can keep your feet comfortable and protected.
  - All footwear for camping should fit well and be properly broken in.
- c. Explain the proper care and storage of camping equipment (clothing, footwear, bedding).
- A place for everything, and everything in its place.
  - Organize clothing by placing it in separate storage bags according to type.
  - Have a separate bag for clothes ready for washing.
  - Clean footwear after the trip.
  - Treat footwear with a boot dressing or waterproofing agent according to manufacturer's recommendations.
  - Don't ever try to dry footwear by placing it too close to a fire.
  - Remove sleeping bags from their stuff sack between trips.
  - Store a sleeping bag by hanging it in a closet or by placing it in a large laundry bag.
- d. List the outdoor essentials necessary for any campout, and explain why each item is needed. (page 31 in pamphlet)
- Pocketknife - the all-purpose tool for the out-of-doors
  - First-aid Kit - Carrying a few first-aid items in a self-sealing plastic bag will allow you to treat minor injuries and provide initial care if more serious injuries arise.
  - Extra Clothing and Rain Gear - enables you to deal with extremes of weather —heat, cold, or storm.
  - Water Bottle - it is always important to drink plenty of fluids
  - Flashlight - helps you see in the dark
  - Trail Food - helps keep you going
  - Matches and Fire Starters - Be prepared to light a fire even in wet weather.
  - Sun Protection - Protect yourself from sunburn.
  - Map and Compass - Use them to find your way through unfamiliar areas.
- e. Present yourself to your Scoutmaster with your pack for inspection. Be correctly clothed and equipped for an overnight campout.
6. Do the following:
- a. Describe the features of four types of tents, when and where they could be used, and how to care for tents. Working with another Scout, pitch a tent.
- Tent Types (pages 38-39 in pamphlet)



## *Reference Materials Day 3*

- Tarps are most always used to set up a dining fly, but can be erected in many ways as a tent. With no floor and incomplete enclosure, they offer less protection from insects wind, and rain.
- The common A-Frame tents gets its name from its shape, comes in a wide range of sizes and is fine for general use.
- Dome tents have a dome shape. They can be spacious offering lots of headroom, stability and wind resistance. Usually larger than A-Frames, they can weigh more.
- Hybrids come in a variety of shapes and can combine the features of A-Frames and Domes.
- Wall Tents are large and most always for long term, front country camping.
- Tent Care (page 40 in pamphlet)
  - Take off your boots before crawling into a tent.
  - Apply seam sealer to new tents.
  - Try to avoid extended exposure to sunlight which can harm most tent fabrics.
  - Clean the tent's interior of litter and debris by sweeping, or if it's small, shaking it out.
  - Stow a tent in its storage sack by first putting in the collapsed poles and then, starting with a corner, stuffing the rest.
  - Allow a tent to dry completely before storage.
- b. Discuss the importance of camp sanitation and tell why water treatment is essential. Then demonstrate two ways to treat water.
  - Camp Sanitation (page 52 in pamphlet)
    - Sanitation is essential for both health and environmental reasons.
    - Where there are outhouses, use them.
    - Wash hands with soap and water or use a waterless hand cleanser when you are done.
    - Catholes - Dig a hole 6 to 8 inches deep at least 200 feet from campsites and trails. Fill it with earth when you're done and replace ground cover.
    - Latrines - A large group can lessen the impact by digging a shallow trench 3 to 4 feet long, using a shovel to sprinkle a layer of soil into the trench after each use.
- c. Describe the factors to be considered in deciding where to pitch your tent. (pages 19, 39, 49, 51 in pamphlet)
  - Pitch your tent on durable surfaces at least 200 feet from lakes and streams.
  - Choose a level site that drains well.
  - Don't pitch a tent under dead trees or limbs that might fall in a storm.
  - Stay out of gullies that could fill with flash floods.
  - Stay away from lone trees and other likely targets for lightning.
  - Camp some distance away from game trails.
  - Pitch tents at least 200 feet away from cooking area and from where food will be stored.
- d. Tell the difference between internal- and external-frame packs. Discuss the advantages and disadvantages of each. (page 36 in pamphlet)

## *Reference Materials Day 3*

- Internal-frame packs have an internal frame, and external-frame packs have an external frame.
- Internal-Frame Pack Advantages
  - Streamlined
  - Body-hugging fit
  - Easier to keep your balance
  - Fits better into canoes
- Internal-Frame Pack Disadvantages
  - Less outside pockets
  - Hotter on the back
- External-Frame Pack Advantages
  - Cooler on open trails
  - Easier to keep gear organized
  - Preferable for heavier loads
- External-Frame Pack Disadvantages
  - More cumbersome on narrow trails
  - Less comfortable fit

e. Discuss the types of sleeping bags and what kind would be suitable for different conditions. Explain the proper care of your sleeping bag and how to keep it dry.

Make a comfortable ground bed. (pages 34-35 in pamphlet)

- Kinds of Sleeping Bags
  - Down sleeping bags are lightweight and suitable for cold weather, but don't insulate when wet.
  - Synthetic filled sleeping bags can keep you warm even when wet.
- Keeping Sleeping Bags Dry
  - Stuff your sleeping bag into a plastic bag inside its stuff sack.
- Care of Sleeping Bags
  - Remove sleeping bags from their stuff sack between trips.
  - Store sleeping bags by hanging them in a closet or by placing them in a large laundry bag.

7. Prepare for an overnight campout with your patrol by doing the following:

- a. Make a checklist of personal and patrol gear that will be needed.
- b. Pack your own gear and your share of the patrol equipment and food for proper carrying. Show that your pack is right for quickly getting what is needed first, and that it has been assembled properly for comfort, weight, balance, size, and neatness. (page 45 in pamphlet)

- Arrange soft items in your pack so they will cushion your back.
- Keep items that need to be accessed quickly or easily near the top or in outside pockets.
  - rain gear
  - first-aid kit
  - flashlight
  - trail food
- Depending on pack, stow sleeping bag inside an internal-frame pack or strapped to the frame of an external-frame pack.

## Reference Materials Day 3

- Make sure any items strapped to the outside don't swing around or fall off.
8. Do the following:
- a. Explain the safety procedures for: using a propane or butane/propane stove, using a liquid fuel stove, proper storage of extra fuel.
    - Using Stoves Safely (page 43 in pamphlet)
      - Read and understand the manufacturers instructions before lighting any stove.
      - Make sure the stove is on level ground before use.
      - Never use a stove inside or near a tent.
      - Don't overload a stove with more weight than it can safely accommodate.
      - Never leave a burning stove unattended.
      - Always let a stove cool completely before you put it away.
      - Don't open the fuel cap of a hot stove or attempt to refuel a hot stove.
      - Store liquid fuel in well-marked metal fuel bottles designed specifically for that use.
      - Keep fuel bottles away from sources of heat, even if they are empty.
      - Don't store fuel containers inside your dwelling.
  - b. Discuss the advantages and disadvantages of different types of lightweight cooking stoves. (page 42 in pamphlet)
    - White Gas Stoves
      - Advantages
        - works efficiently in cold weather
        - most often can accommodate larger crew-sized pots
        - white gas is readily available and inexpensive
        - fuel containers come in convenient sizes
      - Disadvantages
        - some need to be preheated
        - more complicated to operate and maintain
    - Cartridge Stoves
      - Advantages
        - easy and convenient to use
      - Disadvantages
        - usually cannot accommodate larger pots
        - lose efficiency in colder weather
        - requires specific types of fuel canisters
  - c. Prepare a camp menu. Explain how the menu would differ from a menu for a backpacking or float trip. (page 25 in pamphlet) Give recipes and make a food list for your patrol. Plan two breakfasts, three lunches, and two suppers. (page 27 in pamphlet) Discuss how to protect your food against bad weather, animals, and contamination. (page 26 in pamphlet)
    - Menus can be more elaborate and take longer to cook on front-country outings, when weight is not a problem, and where a cooler with ice is possible.
    - For backcountry trips, use dehydrated and dry ingredients.
    - On those occasions when engaged in activities away from the campsite, menus should be planned to make meal preparation easy and quick.

## *Reference Materials Day 3*

- Repackage food in resealable plastic bags to reduce clutter and weight. On a piece of tape attached to each bag, write the contents and for which meal it will be used.
  - Generally speaking, select foods that will not spoil.
  - Meats and dairy products must be kept cold during storage. Once removed from protective wrappers, these items must be kept separate from other food. Uneaten cooked meat must be kept cold.
  - Pack all food safely away from animals and inclement weather.
- d. While camping in the outdoors, cook at least one breakfast, one lunch, and one dinner for your patrol from the meals you have planned for requirement 8c. At least one of those meals must be a trail meal requiring the use of a lightweight stove.
9. Show experience in camping by doing the following:
- a. Camp a total of at least 20 nights at designated Scouting activities or events. One long-term camping experience of up to six consecutive nights may be applied toward this requirement. Sleep each night under the sky or in a tent you have pitched. If the camp provides a tent that has already been pitched, you need not pitch your own tent.
- b. On any of these camping experiences, you must do TWO of the following, only with proper preparation and under qualified supervision.
- Hike up a mountain, gaining at least 1,000 vertical feet.
  - Backpack, snowshoe, or cross-country ski for at least 4 miles.
  - Take a bike trip of at least 15 miles or at least four hours.
  - take a non-motorized trip on the water for at least four hours or 5 miles.
  - Plan and carry out an overnight snow camping experience.
  - Rappel down a rappel route of 30 feet or more.
- c. On any of these camping experiences, perform a conservation project approved by the landowner or land managing agency. This can be done alone or with others.
10. Discuss how the things you did to earn this badge have taught you about personal health and safety, survival, public health, conservation, and good citizenship. In your discussion, tell how Scout spirit and the Scout Oath and Scout Law apply to camping and outdoor ethics. (page 61 in pamphlet)
- Patrols work together sharing responsibilities
  - Patrols put their energy into practicing outdoor skills and solving problems.
  - Campers increase their understanding and the need to remain aware of their personal health and safety.
  - Scouts practice good citizenship by caring for the land and contributing to the welfare of the group.
  - During the camping trip, Scout spirit is continuously manifested in abiding by the Scout Oath and Law in all things you do.

# WILDERNESS SURVIVAL MERIT BADGE

(Pamphlet Printing 2012)

1. Do the following:

- a. Explain to your counselor the hazards you are most likely to encounter while participating in wilderness survival activities, and what you should do to anticipate, help prevent, mitigate, or lessen these hazards. (pages 9-10 in pamphlet)
  - Not planning ahead or failing to prepare a trip plan
    - Match skill and fitness levels of the participants.
    - Get permission from land owners.
    - Research the terrain, elevation ranges, trails, campsites, and typical weather conditions.
    - Know where you're going and what to expect.
  - Not having good leadership in your group
    - Include a mature, conscientious adult at least 21 years old who is prepared to assume responsibility for the group's safety. One additional adult, at least 18 must accompany the group.
  - Being in poor physical condition or not eating enough or eating the wrong kind of foods
    - Keep fit and train for the trip.
    - Plan nutritious menus and eat healthily.
  - Wearing the wrong clothing or footwear, and being poorly equipped
    - Have the proper and appropriate equipment and protective clothing to suit the weather and environmental conditions of the trip.
  - Becoming too tired, too cold, too hot, or too thirsty
    - Don't overtax the body
    - Get proper rest.
    - Adjust clothing layers to match weather conditions.
    - Drink plenty of water.
  - Encountering unexpected changes in the weather or unexpected terrain
    - Keep an eye on weather conditions.
    - Refer to topographical maps and current trail maps for the area.
- b. Show that you know first aid for and how to prevent injuries or illnesses that could occur in backcountry settings, including hypothermia, heat reactions, frostbite, dehydration, blisters, insect stings, tick bites, and snakebites. (pages 51-59 in pamphlet) (Refer to "Health and Safety Skills Handout")

2. From memory, list the seven priorities for survival in a backcountry or wilderness location. Explain the importance of each one with your counselor.

- **STOP: Stop, Think, Observe, Plan:** The first thing to do is to stop yourself, stay positive and begin to take charge of the situation. (page 21 in pamphlet)
- **Provide First Aid:** Treat life-threatening injuries and illnesses immediately. (page 22 in pamphlet)
- **Seek Shelter:** Give the body shelter to maintain its ideal temperature without using more energy than necessary, (page 23 in pamphlet)

## *Reference Materials Day 3*

- **Build a Fire:** A fire can be important for maintaining body warmth, melting snow for water, drying out clothing, signaling for help, and raising your spirits. (page 29 in pamphlet)
  - **Signal for Help:** Signaling for help can aid rescuers in locating you, and can be important if you or others in your group are injured and can't be moved. (page 34 in pamphlet)
  - **Drink Water:** You can survive for days without food, but in hot weather, only hours without water. (page 38 in pamphlet)
  - **Don't Worry About Food:** Keeping warm in cold weather, cool in hot weather, finding shelter, drinking water, and signaling your location are all more important than finding something to eat.
3. Discuss ways to avoid panic and maintain a high level of morale when lost, and explain why this is important. (page 19 and side columns of 20-21 in pamphlet)
- Whatever is done while panicking will probably make matters worse.
  - Keep a positive attitude
  - Evaluate the resources with you and around you to determine what can be used to make the most of your situation.
  - After securing shelter, building a safe fire can raise your spirits.
4. Describe the steps you would take to survive in the following exposure conditions:
- a. **Cold and snowy** (page 41 in pamphlet)
    - Do all you can to keep yourself warm and dry.
    - Take steps to build a shelter and if possible to light a fire.
    - Drink plenty of fluids.
  - b. **Wet** (page 42 in pamphlet)
    - Do all you can to keep yourself warm and dry.
    - Consider moving to an open area if the need for signaling arises, marking your steps from where you were.
  - c. **Hot and dry** (page 42 in pamphlet)
    - Rest in a high, shady spot during the day.
    - Complete necessary activities in the cool of the evening or early morning.
    - Wear sun protection.
  - d. **Windy** (page 42 in pamphlet)
    - Wear a windproof outer layer.
    - Seek shelter on the calm side of a boulder or large tree.
    - Watch for signs of hypothermia.
  - e. **At or on the water** (page 43 in pamphlet)
    - Those who fall in the water need to get to dry land, get back into a watercraft, or stay afloat until help arrives.
    - If in cold water near the shore, get out of the water as soon as possible to help avoid hypothermia.
    - If far from shore:
      - get as much of your body out of the water as possible by climbing onto the capsized craft.
      - with pfd, float with legs drawn up close to your trunk.
      - huddle with others if you are not alone.

## *Reference Materials Day 3*

- If the situation involves a life raft, look for storage compartments containing an emergency kit.
- If stranded on the coastline of an ocean:
  - don't drink the salt water.
  - stay in the shade to keep from sweating away moisture.
  - try to locate sources of fresh water.
- If you need to ride out rapids in a river, before swimming to safety or catching a rescue line:
  - go downstream feet first.
  - use a backstroke to maneuver past obstacles.
  - watch for eddies that might protect you.

5. Put together a personal survival kit and explain how each item in it could be useful. (page 13 in pamphlet)

- In addition to the ten Outdoor Essentials:
  - Duct Tape - has a variety of uses.
  - Whistle - can be heard over longer distances and requires less energy than shouting.
  - Metal Mirror - for signaling.
  - Thin Wire - for repairs.
  - Heavy Duty Garbage Bag - to keep things dry and protected.
  - Fishing Line and Hooks - for making repairs and for fishing.
  - GPS Receiver - can pinpoint your location.
  - Mobile Phone - can be a convenient way to contact emergency response personnel.

6. Using three different methods (other than matches), build and light three fires. (page 31 in pamphlet)

- Butane Lighter
- Magnesium Rod
- Ferro Rod
- Flint and Steel
- Bow and Drill

7. Do the following:

- a. Show five different ways to attract attention when lost. (pages 36-37 in pamphlet)
  - Mirrors and Lights
    - flashlight
    - flares
  - Color and Motion
  - Fire and Smoke
  - Ground to Air Signals
  - Shadows
- b. Demonstrate how to use a signal mirror. (page 36 in pamphlet)
  - Sight a target through the hole in the mirror's center or by looking over the mirror's top edge. Form a "V" with the fingers of your free hand and extending your arm in line with the target, adjust the angle of the mirror until the reflected light illuminates the "V".

## *Reference Materials Day 3*

- c. Describe from memory five ground-to-air signals and tell what they mean. (page 37 in pamphlet)
- V = Require Assistance
  - X = Require Medical Assistance
  - N = No
  - Y = Yes
  - —> = Proceeding in this direction
8. Improvise a natural shelter. For the purpose of this demonstration, use techniques that have little negative impact on the environment. Spend a night in your shelter. (pages 24-28 in pamphlet)
9. Explain how to protect yourself from insects, reptiles, bears, and other animals of the local region. (pages 47-49 in pamphlet)
- For insects:
    - use insect repellent.
    - wear a hat, long sleeves and long pants.
    - tie a bandana around your face or an extra t-shirt to protect your head.
    - wear gloves or socks over your hands.
    - smooth a layer of mud over exposed skin.
    - build a fire and stay close in the smoke.
    - consider moving to higher ground.
  - For reptiles:
    - use a hiking stick to poke among stones and brush ahead of you in snake country.
    - watch where you put your hands as you collect firewood or climb over rocks and logs.
  - For bears:
    - make noise while hiking.
    - set up your sleeping area at least 200 feet from where you will cook and eat.
    - properly store all smellables.
    - clean up and pack out campsite trash and spilled food and food particles.
    - dispose of dishwater at least 200 feet from sleeping area.
    - avoid using scented toiletries.
    - wear separate sleeping clothes to bed.
10. Demonstrate three ways to treat water found in the outdoors to prepare it for drinking. (page 38 in pamphlet)
- Boiling
  - Chemical Treatment
  - Filtering
11. Show that you know the proper clothing to wear while in the outdoors during extremely hot and cold weather and during wet conditions. (pages 15-17 in pamphlet)
- For hot weather:
    - wicking underwear
    - lightweight, synthetic long pants and long-sleeved shirt
    - hiking shorts



## *Reference Materials Day 3*

- lightweight short-sleeved shirt
- brimmed hat
- bandana
- appropriate footwear
- For cold weather:
  - fleece, wool, or synthetic blend long-sleeved shirt
  - fleece, wool, or synthetic blend long pants
  - fleece or wool sweater
  - polypropylene long underwear
  - wool or synthetic blend socks
  - warm hooded parka or jacket
  - fleece or wool stocking hat
  - fleece or wool mittens or gloves with water resistant shells
  - wool scarf
  - appropriate footwear
- For wet weather:
  - breathable, loosely-fitting rain pants and rain jacket with a hood

12. Explain why it usually is not wise to eat edible wild plants or wildlife in a wilderness survival situation. (page 39 in pamphlet)

- In order to avoid intestinal distress and even poisoning, it's best to leave vegetation alone, unless you are absolutely sure of a plant's identity and know for certain it's safe to eat.

# Dutch Oven Apple Dumplings

12" dutch oven (+ additional oven for sauce)

2 whole Granny Smith Apples

2 cans (8 Oz. Cans) Crescent Rolls

2 sticks Butter

1-1/2 cup Sugar

1 teaspoon Vanilla

Cinnamon, To Taste

1 can (12 Oz.) Mountain Dew Soda

1. Peel and core apples.
2. Cut each apple into 8 slices.
3. Roll each apple slice in a crescent roll.
4. Place in a 12" buttered dutch oven.
5. In separate oven pot, melt butter, then add sugar and barely stir.
6. Add vanilla and stir, you want the mixture lumpy and grainy, so just barely stir.
7. Pour entire mixture over apples.
8. Pour Mountain Dew around the edges of the pan.
9. Sprinkle with cinnamon and bake at 350 degrees for 40 minutes, or until the tops are golden.
10. Serve with ice cream, and spoon some of the sweet sauces from the pan over the top.

Serves 8 (16 dumplings)

## **FIRE SAFETY WITH BACKPACKING STOVES - SAFETY MOMENT**

### **SUMMARY**

Stoves made for the outdoors can extend the range of your travels by giving you a reliable way to safely cook anywhere and in any weather. Typically, backpacking stoves use white gas, kerosene, propane, butane, or isobutane gas as a fuel. Ultralight trekkers also favor alcohol stoves.

### **GENERAL INFORMATION**

Here are some fire safety tips for the proper use of these types of stoves:

- Before attempting to use the stove, review the manufacturer's instructions for its proper use, the type of fuel, and how to safely light it.
- Never use large pots as a windscreen for your backpacking stove, because enclosing the stove could lead to an explosion. Instead, use a manufacturer's windscreen that is designed to be attached to the backpacking stove for safe use in windy conditions. Also, do not place the stove inside a large pot, because overheating can occur.
- BSA policy prohibits use of homemade backpacking or alcohol stoves.
- Unleaded gasoline and liquid alcohol fuels (including isopropyl alcohol, denatured ethyl alcohol, and ethanol fuels) are not recommended for use, as noted in BSA policy (see "Resources" below) on the storage, handling, and use of chemical fuels and equipment.
- When transporting fuel for backpacking stoves, use the manufacturer's recommended containers. Many of the fuel bottles are metal and may have pouring spouts or funnels attached for dispensing. The caps on the fuel bottles should be liquid tight, to prevent leakage.
- In case of burns, make sure your first-aid kit is well kept, and know your local emergency response contacts and/or locations.

## **NCAP STANDARDS PERTAINING TO OUTDOOR SKILLS**

The National Camp Accreditation Program (NCAP) standard for SCOUTCRAFT, WOODCRAFT, AND OUTDOOR SKILLS PROGRAM (**PS-212**) states:

“If offered, Scoutcraft, woodcraft, and outdoor skills activities are led by qualified staff, meet safety standards, use maintained equipment, and provide opportunities for learning, growth, and advancement.”

### **Specific Requirements of the Standard:**

- A. Equipment used for this program area must be in serviceable condition and is checked to avoid potential injury.
- B. Appropriate safety equipment, skills training, and supervision are provided in the programs where risk must be managed.
- C. Pioneering projects where participants are elevated more than 6 feet above the ground are permitted only after review by the council enterprise risk management committee.

### **INTERPRETATION:**

- Scoutcraft, woodcraft, and outdoor skills activities include camping, outdoor cooking, wilderness survival, pioneering, and other Scoutcraft opportunities.
- Prepared staff will offer specific outdoor learning skills as selected by the program leadership.
- Scout camp structures such as monkey bridges, obstacle courses, and pioneering towers are expected to meet safety standards in equipment and supervision comparable to COPE, but are not subject to COPE standards, do not require COPE inspection, and do not require an on-site COPE Level II Instructor.

### **VERIFICATION:**

- Observation of procedures in practice
- If a project has participants elevated over 6 feet above the ground, evidence of council enterprise risk management approval. This approval may be part of the general program design review in Standard PD-112.

The standard under OTHER PROGRAM STAFF QUALIFICATIONS (**SQ-412**) states:

“All camp activity leadership staff is qualified by age and training of acceptable experience to safely lead a quality program. Supporting staff meets age and training requirements as necessary.”

### **Specific Requirements of the Standard:**

## *Reference Materials Day 4*

- If an outdoor skills program is offered, the outdoor skills director is at least 18 years of age and holds a valid certificate of training from the Outdoor Skills section of the National Camping School or equivalent skills.
- If a first-year camper program is offered, the first year camper director is at least 18 years of age and holds a valid certificate of training from the First-Year Camper section of the National Camping School or equivalent skills.

### **INTERPRETATION:**

- Outdoor skills—“Equivalent life skills” may include but are not limited to Scouting experience as a Scouts BSA leader, earning merit badges offered in outdoor skills area, or completion of college courses in outdoor skill topics.

### **VERIFICATION:**

- Documentation of age
- Relevant certificates on file (may be submitted with declaration)
- Authorization for approved alternatives
- Interviews with camp director and staff leadership
- Observation of program implementation during assessment

Notes:

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## **Foil Cooking Patrol Quiz - 200 Points**

**1)** For a patrol's first meal, they're having hamburger patties with potatoes, carrots and onions, cooked in a foil package. There will not be any patrol tables for their use at the campsite.

- What can be done to make this meal easier to prepare?
- Besides the chopped meat, potatoes, carrots and onions, what supplies and patrol equipment will they need to enhance the meal?

(50 points maximum)

**2)** What is the most important thing to remember when using the drug store wrap to make a foil cooking packet? (10 points)

**3)** If everyone in the patrol were to use their own amounts of potatoes, carrots, onion, and cream of mushroom soup, and fold their own packets using the drugstore wrap, how can the cook best keep track of whose foil packet is whose, while they're on the coals? (10 points)

**4)** Describe the best way to set up their cooking pit for foil cooking.

- What is the best size, shape, and design for the pit?
- What equipment will they need?
- How will everything be laid out for the most convenience and safety?

(100 points maximum)

**5)** The head cook for the patrol wants to save time by pre-slicing the potatoes for use in foil cooking. What will they have to do to keep the raw potatoes from turning brown? (10 points)

**6)** What are two good reasons to prepare food using foil cooking?

(20 points maximum)

# Foil Pack Chicken Nachos

(Serves 4)

## INGREDIENTS

1 bag tortilla chips  
16-ounces of canned white meat chicken  
1/2 cup red enchilada sauce  
1 (15-oz.) can chopped fire-roasted tomatoes, drained  
1 cup canned black beans, drained  
12-ounces shredded cheddar  
12-ounces shredded Monterey Jack  
Freshly chopped cilantro, for garnish (optional)  
Sour cream, for serving (optional)

## DIRECTIONS

- In a large bowl, toss together chicken, enchilada sauce, tomatoes, and black beans.
- Divide tortilla chips between four large pieces of foil, then top chips with chicken mixture. Top each with cheeses, then fold to seal into packets.
- Place packets on coals and cook until cheese has melted and chicken mixture is warmed through, about 15 minutes.
- Garnish with cilantro and dollop sour cream on top, if using.

# **Rolo Stuffed Bananas**

## **INGREDIENTS**

4 bananas, peeled  
1 cup Chopped Rolos  
1 cup mini marshmallows  
1/4 cup crushed graham crackers  
Caramel, for drizzling

## **DIRECTIONS**

- Make a crosswise slit in each banana, then stuff with Rolos and marshmallows.
- Wrap bananas in foil then place over coals and cook until the candy and marshmallows are melty and the bananas start to caramelize, 10 to 15 minutes.
- Remove from heat and carefully unwrap foil. Sprinkle with crushed graham crackers and drizzle with caramel. Serve warm.



## *Reference Materials Day 4*

# HIKING MERIT BADGE

(Pamphlet Printing 2017)

### 1. Do the following:

a. Explain to your counselor the most likely hazards you may encounter while hiking, and what you should do to anticipate, help prevent, mitigate, and respond to these hazards. (page 45 in pamphlet)

- Waterborne Parasites
  - Only drink properly-treated water.
- Trouble with Wildlife
  - Store food out of their reach.
  - Eliminate odors from sleeping areas.
  - Keep campsites spotless.
- General Mishaps
  - Prepare a Trip Plan (page 24 in pamphlet)
    - Where are you going?
    - When will you return?
    - Who is hiking with you?
    - Why are you going?
    - What are you taking?
  - Watch where you step.
  - Pay attention to what you are doing
  - Take care of gear.
- Difficulties with Physical Demands
  - Stay in good shape.
  - Drink plenty of water.
  - Adjust clothing layers to match changing weather conditions

b. Show that you know first aid for injuries or illnesses that could occur while hiking, including hypothermia, frostbite, dehydration, heat exhaustion, heatstroke, sunburn, hyperventilation, altitude sickness, sprained ankle, blisters, insect stings, tick bites, and snakebite. (pages 47-59 in pamphlet) (Refer to “Health and Safety Skills Handout”)

- Sunburn (page 54 in pamphlet)
  - Preventive Measures
    - Limiting exposure to the sun
    - Wearing long sleeves and broad-brimmed hat.
    - Use sunscreen with a protective factor (SPF) of at least 15 and apply it often.
  - Treatment
    - Get person under shade. (If no shade available, cover exposed skin with sun-protective clothing.)
    - Apply cool wet cloths to sunburnt areas.
- Altitude Sickness AMS (Acute Mountain Sickness) (Pages 50-51 in pamphlet)
  - Preventive Measures
    - Drink plenty of fluids.

## *Reference Materials Day 4*

- Ascend gradually.
- Symptoms
  - Headache
  - Nausea
  - Tiredness
  - Loss of motivation
- Treatment
  - Descend to a lower elevation
  - Rest, fluid, and food.
- Sprained Ankle (Pages 48-49 in pamphlet)
  - Prevention Measures
    - Watch your step, especially over loose rocks, gravel, other debris and along a steep incline.
    - Stay within the boundaries of the trail and behind any protective railing.
  - Treatment on the trail
    - Leave the boot on.
    - Wrap the ankle, boot and all with an ankle bandage.

2. Explain and, where possible, show the points of good hiking practices including proper outdoor ethics, hiking safety in the daytime and at night, courtesy to others, choice of footwear, and proper care of feet and footwear.

- Outdoor Ethics and Hiking (pages 26-29 in pamphlet)
  - Adhere to the Principles of Leave No Trace
  - Plan ahead and prepare.
  - Travel on durable surfaces.
  - Dispose of waste properly.
  - Leave what you find.
  - Minimize campfire impacts.
  - Respect wildlife.
  - Be considerate of other visitors.
- Hiking Safety in the Daytime
  - Walk single file on the left side of the road facing traffic.
  - Heed all traffic signals.
  - When crossing a country thoroughfare, the whole crew should line up along the road and all cross at the same time.
  - Don't carelessly hurdle over large logs obstructing a path.
  - Don't poke a hiking stick in holes along a path.
- Hiking Safety at Night (Same as daytime)
  - On roadways, wear light-colored clothing or tie a light-colored bandana around your right arm.
  - Take extra care to keep members of the group together.
- Courtesy to Others
  - Greet people along the way.
  - Lend a hand whenever you can.

## *Reference Materials Day 4*

- On a mountain trail, give an oncoming crew on the downward side of a mountain the right of way.
- Choice of Footwear (page 32 in pamphlet)
  - Avoid heavy boots.
  - Short walks on easy terrain: most any kind of shoes
  - Hiking in good weather: lightweight boots with uppers made of nylon or other tough fabric
  - For added feet and ankle support and resistance against rain and snow: leather boots
- Care of Footwear (pages 32-33 in pamphlet)
  - Clean footwear after a hike.
  - Do not put footwear too close to a heat source.
  - Treat leather boots with protective ingredients that keep them flexible and water repellent.
- Care of Feet (page 33 in pamphlet)
  - Gradually break in boots before hiking.
  - Wash feet regularly during a long trek.
  - Treat for blisters at the first sign of a hotspot.
  - Wear socks made for hiking.
  - Wear a smooth, liner sock under a thick outer sock to reduce friction and wick moisture away from the feet.
  - Cut toenails straight across.

3. Explain how hiking is an aerobic activity. Develop a plan for conditioning yourself for 10-mile hikes, and describe how you will increase your fitness for longer hikes. (Pages 31-32 in pamphlet)

- Hiking is an aerobic activity because it increases your rate of breathing and your heartbeat.
- For conditioning, engage in aerobic activities like bicycling, jogging, and sports that require constant motion.
- Increase your fitness by pushing yourself each time to achieve a little more.

(4.) Take the five following hikes, each on a different day, and each of continuous miles. These hikes MUST be taken in the following order:

- One 5-mile hike
- Three 10-mile hikes
- One 15-mile hike

You may stop for as many short rest periods as needed, as well as one meal, during each hike, but not for an extended period (example: overnight). Prepare a written hike plan before each hike and share it with your Scoutmaster or a designee. Include map routes, a clothing and equipment list, and a list of items for a trail lunch.\*

\*The required hikes for this badge may be used in fulfilling hiking requirements for rank advancement. However, these hikes cannot be used to fulfill requirements of other merit badges.

## *Reference Materials Day 4*

(5.) Take a hike of 20 continuous miles in one day following a hike plan you have prepared. You may stop for as many short rest periods as needed, as well as one meal, but not for an extended period (example: overnight).

(6.) After each of the hikes (or during each hike if on one continuous “trek”) in requirements 4 and 5, write a short reflection of your experience. Give dates and descriptions of routes covered, the weather, and any interesting things you saw. It may include something you learned about yourself, about the outdoors, or about others you were hiking with. Share this with your merit badge counselor.

# **GEOCACHING MERIT BADGE**

(Pamphlet Printing 2019)

1. Do the following:

- a. Explain to your counselor the most likely hazards you may encounter while participating in geocaching activities, and what you should do to anticipate, help prevent, mitigate, and respond to these hazards. (pages 67-73 in pamphlet)
  - **Lightening** (page 68 in pamphlet)
    - **Avoid open areas and lightening targets**
      - trees
      - flagpoles
      - wire fences
    - **Avoid contact with anything metal**
    - **If you are near a mountaintop, get down hill.**
    - **Take shelter in a steel-framed building or if you can, in a hard-topped motor vehicle, and avoid touching the metal parts.**
    - **Avoid water.**
    - **Avoid any contact with electronic devices.**
    - **If you cannot find shelter, crouch low with only the soles of your shoes touching the ground and at least 100 feet from your companions.**
      - **If you have a sleeping pad, use it for insulation by folding it and crouching upon it.**
- b. Discuss first aid and prevention for the types of injuries or illnesses that could occur while participating in geocaching activities, including cuts, scrapes, snakebite, insect stings, tick bites, exposure to poisonous plants, heat and cold reactions (sunburn, heatstroke, heat exhaustion, hypothermia), and dehydration. (pages 70-73 in pamphlet) (Refer to “Health and Safety Skills Handout”)
- c. Discuss how to properly plan an activity that uses GPS, including using the buddy system, sharing your plan with others, and considering the weather, route, and proper attire. (page 67 in pamphlet)
  - **Use the buddy system.**
    - **You can watch out for each other.**
    - **You have more eyes to spot your cache.**
  - **Plan ahead.**
    - **Know where you are going and what to expect.**
    - **Let someone know where you are going and when you will return.**
  - **Watch the weather.**
    - **Avoid dangerous weather situations.**
    - **Dress appropriately**
    - **Take plenty of water.**

2. Discuss the following with your counselor:

- a. Why you should never bury a cache (page 53 in pamphlet)

## *Reference Materials Day 4*

- Burying a cache can lead to too many holes being dug while searching for a container, since the accuracy of a GPS receiver never gets you to the exact spot (ground zero).
- b. How to use proper geocaching etiquette when hiding or seeking a cache, and how to properly hide, post, maintain, and dismantle a geocache
  - Geocaching Etiquette (page 46 in pamphlet)
    - Always carry a trash bag and remove litter along your route.
    - Follow Leave No Trace guidelines in the natural environment.
    - Be careful not to disturb the area around the cache.
    - Follow all laws and regulations. Never enter private property without permission.
    - Write an entry in the logbook at the cache.
    - Try to leave something of equal value when you take an item from the cache.
    - Respect other visitors around the area.
  - The Four Steps to Hiding and Seeking a Cache (page 54 in pamphlet)
    - Research.
      - Are there adequate places to hide your caches without risk to the environment when people are seeking them?
      - Are there too many other caches nearby?
      - Get permission from the land owner or land manager.
    - Safety. Don't put caches:
      - near busy intersections
      - near railroad tracks
      - on electric utility boxes
      - up high in trees
      - in places overgrown with poisonous plants
    - The Hunt.
      - Make sure geocachers can find your cache.
      - Post a hint online.
      - Can you get a good satellite signal so you'll be posting accurate coordinates for others to follow?
      - Can your cache be easily identified as a geocache?
    - The Actual Find.
      - Put the logbook in a waterproof bag along with a pencil and a welcome note.
      - Preload the cache with enough prizes for the first few people to find.
      - Cache items should be family oriented (suitable for all ages).
      - Do not include food items.
  - Submitting Your Cache
    - Log on to [www.geocaching.com](http://www.geocaching.com) filling out the online form on the "Hide & Seek a Cache" page.
  - Maintaining Your Cache
    - Monitor the online logs that are sent to you.
    - Return to the cache site as often as possible to check the condition of the container and the cache area.

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- If disturbed, change cache location and the online listing.
- Dismantling a Cache
  - Remove the cache if it can't be maintained by yourself or someone who takes over the responsibilities.
  - Physically remove the cache and all litter that may be around your hiding spot.
  - Go online and archive your cache listing.

c. The principles of Leave No Trace as they apply to geocaching (pages 31-32 in pamphlet)

- Plan Ahead and Prepare
- Travel and Cache on Durable Surfaces
- Dispose of Waste Properly
- Leave What You Find
- Minimize Campfire Impacts (not often relevant to geocaching)
- Respect Wildlife
- Be Considerate to Other Visitors

3. Explain the following terms used in geocaching: waypoint, log, cache, accuracy, difficulty and terrain ratings, attributes, trackable. Choose five additional terms to explain to your counselor. (pages 75-77 in pamphlet)

- Waypoint - A reference point for a physical location on earth defined by a set of coordinates.
- Log - A place for geocachers to write their name and the date they visited a cache, and sometimes to leave comments.
- Cache - (Short for geocache), a container hidden at specific coordinates that includes, at minimum, a logbook for geocachers to sign when they find the cache. Caches often include a "treasure" or items to trade.
- Accuracy - Freedom from error. No civilian GPS receiver has perfect accuracy, and the accuracy may be low due to interference affecting the satellite signals reaching the receiver.
- Difficulty - A ranking system from 1 to 5 describing how hard the cache is to find with 1 being the easiest.
- Terrain Ratings - A ranking system from 1 to 5 describing the land features and how easy or hard the cache is to get to with 1 being the easiest and 5 probably requiring special equipment.
- Attributes - The icons on a cache detail providing helpful information to geocachers who wish to find specific kinds of caches.
- Trackable - Anything with a tracking number or other unique identifier that can be followed as the item travels from cache to cache.

4. Explain how the Global Positioning System (GPS) works. (page 11 in pamphlet) Then, using Scouting's Teaching EDGE, demonstrate to your counselor the use of a GPS unit. (pages 19-21 in pamphlet) Include marking and editing a waypoint, changing field functions, and changing the coordinate system in the unit.

- GPS works by using signals from satellites orbiting Earth to determine specific locations on or near Earth's surface.
- Marking a Waypoint with a Garmin eTrex®

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- With a clear view of the sky, press the “mark” button which will program the spot into the GPS unit’s waypoint memory.
- Editing a Waypoint (Page 23 in pamphlet)
  - You can change the numerical designation of a waypoint by highlighting the number and typing in a name of your choice.
- Changing Field Functions
  - Refer to the manual to learn where specific buttons are like “nav,” “enter,” “escape” or “back,” “up,” “down,” “left,” and “right,” “mark,” “zoom,” “menu,” and “goto.”
- Going to a Waypoint with a Garmin eTrex® (page 22 in pamphlet)
  - Turn the GPS receiver on using the “power” button on the right side of the unit.
  - Locate the “enter” button and the “up” and “down” buttons on the left side used to change the menus and screens.
  - Push the “page” button repeatedly, on the right side of the unit, to get to the menu page.
  - Press the “down” button and highlight “waypoints.”
  - Press “enter” and the waypoints page appears.
  - Press “enter” again and the highlight will move to a waypoint (if there are some already recorded in the unit).
  - Press “enter” again and then highlight “goto.”
  - Press “enter” again and the pointer should appear for the waypoint.
- Changing the Coordinate System (page 11 in pamphlet)
  - Most GPS receivers have a simple setting to switch between various coordinate systems.

### 5. Do the following:

- a. Show you know how to use a map and compass and explain why this is important for geocaching. (page 27 in pamphlet)
  - Your batteries may die.
  - You can’t get good satellite reception.
  - You might accidentally program in the wrong coordinates.
- b. Explain the similarities and differences between GPS navigation and standard map-reading skills and describe the benefits of each. (page 28 in pamphlet)
  - Both a GPS receiver and a compass can tell you what direction you need to go.
  - A GPS receiver can provide the coordinates of a spot.
  - A map reveals the best route to take by displaying land’s features providing exact details and a large view of the area.

### 6. Describe to your counselor the four steps to finding your first cache. Then mark and edit a waypoint. (pages 43-46 in pamphlet)

- Research
  - Register for a membership at [geocaching.com](http://geocaching.com). Click on “Hide and Seek a Cache,” enter your zip code and click “search” or “go.”
  - Choose a geocache from the list and click on its name.



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- Enter the coordinates into your GPS device. (The owner's manual will show you how to manually enter coordinates into your device.) You will need a map to help you search.
- Safety
  - Let someone know where you are going and when you will return.
  - Use the buddy system.
  - Bring a first aid kit, compass, and extra batteries for your GPS receiver.
  - Bring water, some food, and extra clothing.
  - Be conscious of where you are walking being mindful of potential hazards.
- The Hunt
  - Mark your starting place as a waypoint to guide your return.
  - When you get within 300 feet or so, check the GPS signal strength and accuracy.
  - As you get closer to the final location, instead of relying on the GPS receiver's pointer arrow, concentrate more on the final distance decreasing.
  - Look around for likely hiding spots.
- The Actual Find
  - Sign the cache's logbook with your name, the date, and some comments.
  - If you exchange an item for trade, it should be of equal or better value.
  - Use the waypoint you created to guide your return.

7. With your parent's permission\*, go to [www.geocaching.com](http://www.geocaching.com). Type in your city and state to locate public geocaches in your area. Share with your counselor the posted information about three of those geocaches. Then, pick one of the three and find the cache.

8. Do ONE of the following:

- a. If a Cache to Eagle® series exists in your council, visit at least three of the locations in the series. Describe the projects that each cache you visit highlights, and explain how the Cache to Eagle® program helps share our Scouting service with the public.
  - Providing exposure to actual examples of the community service rendered by Eagle candidates provides testimonies of Scouting's positive contribution to society.
- b. Create a Scouting-related Travel Bug® that promotes one of the values of Scouting. "Release" your Travel Bug into a public geocache and, with your parent's permission, monitor its progress at [www.geocaching.com](http://www.geocaching.com) for 30 days. Keep a log, and share this with your counselor at the end of the 30-day period.
- (c.) Setup and hide a public geocache, following the guidelines in the Geocaching merit badge pamphlet. Before doing so, share with your counselor a three-month maintenance plan for the geocache where you are personally responsible for those three months. After setting up the geocache, with your parent's permission, follow the logs online for 30 days and share them with your counselor. You must archive the geocache when you are no longer maintaining it.
- d. Explain what Cache In Trash Out (CITO) means, and describe how you have practiced CITO at public geocaches or at a CITO event. Then, either create CITO

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containers to leave at public caches, or host a CITO event for your unit or for the public.

- Whatever geocachers bring with them while hiding or hunting for a cache should be carried out with them, in accordance with Leave No Trace.

(9.) Plan a geohunt for a youth group such as your troop or a neighboring pack, at school, or your place of worship. Choose a theme, set up a course with at least four waypoints, teach the players how to use a GPS unit, and play the game. Tell your counselor about your experience, and share the materials you used and developed for this event.

\*To fulfill this requirement, you will need to set up a free user account with [www.geocaching.com](http://www.geocaching.com). Before doing so, ask your parent for permission and help.

# ORIENTEERING MERIT BADGE

(Pamphlet Printing 2016)

1. Show that you know first aid for the types of injuries that could occur while orienteering, including cuts, scratches, blisters, snakebite, insect stings, tick bites, heat and cold reactions (sunburn, heatstroke, heat exhaustion, hypothermia), and dehydration. Explain to your counselor why you should be able to identify poisonous plants and poisonous animals that are found in your area. (pages 64-73 in pamphlet) (Refer to “Health and Safety Skills Handout”)
  - While orienteering, an orienteer may very well come in contact with poisonous plants and encounter poisonous animals found in the area of the orienteering course. Therefore it is important to know how to identify them.
2. Explain what orienteering is. (page 5 in the pamphlet)
  - Orienteering is a cross-country race in which participants use a highly detailed map and a compass to navigate their way between checkpoints along an unfamiliar course.
3. Do the following:
  - a. Explain how a compass works. Describe the features of an orienteering compass. (pages 7-9 in pamphlet)
    - The north and south poles exert a pull on magnetized materials. A compass works by combining a compass card showing 16 to 32 compass points, or the 360 degrees of a circle, and a floating magnetized metal needle that is colored on the north end.
    - The baseplate (or protractor) compass is used for orienteering. It's features are:
      - Baseplate of clear plastic
      - Direction-of-Travel Arrow indicating which way to go after taking a bearing
      - Map Scales simplifying measuring distance on a map
      - Bezel (Dial) containing fluid which houses the needle and rotates 360 degrees
      - Orienting Arrow used to establish the direction of travel, when aligned with the needle
      - Orienting (North-South) Lines used when taking a bearing from a map
  - b. In the field, show how to take a compass bearing and follow it. (page 9 in the pamphlet)
    - Hold the compass in one hand centered on your body. Rotate your body and the compass until the direction-of-travel arrow points in the direction you want to go. Rotate the bezel of the compass until the north of the orienting arrow lines up with the north of the magnetic needle. Determine the bearing by reading the number corresponding to the direction-of travel arrow (on the bezel directly opposite the bearing index).

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### 4. Do the following:

- a. Explain how a topographic map shows terrain features. Point out and name five terrain features on a map and in the field. (pages 11-12 in pamphlet)
  - A topographic map shows terrain features with contour lines and contour intervals.
    - Gentle Slope - The interval between contour lines is wide.
    - Steep Slope - Contour lines are close together.
    - Cliff - Contour lines are almost touching.
    - Mountain Summit - Contour lines create irregular shapes that converge into one shape smaller than the rest.
    - Valley or Gully - Contour lines form upward “Vs”.
    - Ridge - Contour lines form downward “Vs”.
- b. Point out and name 10 symbols on a topographic map. (pages 13-15 in pamphlet)
- c. Explain the meaning of declination. Tell why you must consider declination when using map and compass together. (pages 16-18 in pamphlet)
  - The difference between true north and magnetic north, measured in degrees, is called declination.
  - If you do not compensate for declination, you will not be able to find the actual direction as related to the north south of the landscape.
- d. Show a topographic map with magnetic north-south lines.
  - Draw parallel magnetic north-south lines, aligned with the arrow pointing to magnetic north, in the bottom margin, revealing the declination.
  - Orienting maps are drawn with the tops aimed at magnetic north.
- e. Show how to measure distances on a map using an orienteering compass. (page 20 in the pamphlet)
  - Maps contain distance rulers in their margin, and an orienteering compass has a ruler along the edge of the baseplate. Distances can be measured by measuring the distance between points on the map with the ruler and comparing the measurements with the map's distance rulers.
- f. Show how to orient a map using a compass. (page 19 in the pamphlet)
  - Line up north with the direction-of-travel arrow. Set the compass on the map with the edge along one of the north-south magnetic lines and the direction-of-travel arrow pointing north. Rotate the map and the compass together until the compass needle matches the direction of travel arrow.

### 5. Set up a 100-meter pace course. Determine your walking and running pace for 100 meters. Tell why it is important to pace-count. (pages 23-25 in pamphlet)

Knowing your walking and running pace-count is important for judging distance.

### 6. Do the following:

- a. Identify 20 international control description symbols. Tell the meaning of each symbol. (pages 36-37 in pamphlet)
- b. Show a control description sheet and explain the information provided. (page 35 in the pamphlet)
- c. Explain the following terms and tell when you would use them: attack point, collecting feature, catching feature, aiming off, contouring, reading ahead, handrail, relocation, rough versus fine orienteering. (pages 38-43 in pamphlet)

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- **Attack Point** (page 39 in the pamphlet) - An attack point is a large, recognizable feature that is near the control point, serving to determine the exact location for navigation and pacing.
- **Collecting Features** (page 39 in the pamphlet) - Noting obvious features along the route, help send you in the right direction towards the next control point.
- **Catching Feature** (page 39 in the pamphlet) - Noting a feature that lies beyond the current control point, serves as a landmark warning you that you have passed the control.
- **Aiming Off** (page 40 in the pamphlet) - When a control or attack point is on a linear feature, such as a road, you can aim off to one side of the straight line heading to the feature. Then, when you reach the feature, if you do not see the control, you'll know in which direction to turn to find it.
- **Contouring** (page 41 in the pamphlet) - When there are changes in elevation along the direct route to the next control, if the elevation of the control is roughly the same as where you are standing, it may be easier to follow a route that stays at the same elevation—the contour line.
- **Reading Ahead** (page 40 in the pamphlet) - While proceeding to the next control point:
  - Keep a clear mental picture of the terrain you will pass through.
  - Read the map every few seconds.
  - Think beyond your location and plan ahead.
  - Make sure you understand what the map is telling you and do not move until you are sure.
- **Handrail** (page 38 in the pamphlet) - Linear features along the leg of a course like streams, trails, roads, fences, and power lines, lead you in the direction you want to go and provide easier travel, continuous direction, and a more accurate position.
- **Relocation** (page 42 in the pamphlet) - If you don't know where you are, find a definite feature that you can correctly locate.
- **Rough Orienteering** (page 43 in the pamphlet) - Moving in broadly defined directions toward a collection point found on the map enables you to cover a lot of ground quickly.
- **Fine Orienteering** (page 43 in the pamphlet) - Once you reach the chosen collection point, the primary goal is to accurately determine where you are in relation to the check point using attack points, handrails, and compass bearings.

(7.) Do the following:

- a. Take part in three orienteering events. One of these must be a cross-country course.
- b. After each event, write a report with (1) a copy of the master map and control description sheet, (2) a copy of the route you took on the course, (3) a discussion of how you could improve your time between control points, and (4) a list of your major weaknesses on this course. Describe what you could do to improve.

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- (8.) Do ONE of the following:
- a. Set up a cross-country course that is at least 2,000 meters long with at least five control markers. Prepare the master map and control description sheet.
  - b. Set up a score orienteering course with at least 12 control points and a time limit of at least 60 minutes. Set point values for each control. Prepare the master map and control description sheet.
- (9.) Act as an official during an orienteering event. This may be during the running of the course you set up for requirement 8.
10. Teach orienteering techniques to your patrol, troop, or crew.

# COOKING MERIT BADGE

(Pamphlet Printing 2019)

1. Health and safety. Do the following:
  - a. Explain to your counselor the most likely hazards you may encounter while participating in cooking activities and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.
    - **Safety with Fire and Heat** (pages 9-10 in pamphlet)
      - Turn pan handles towards the back of the stove so hot pots and pans will not accidentally get bumped.
      - Keep items that could easily catch fire away from the stove and fire source.
      - Never use a wet oven mitt or towel to handle something hot.
      - Keep a charged fire extinguisher nearby and know how to use it. When cooking over a fire or in coals, keep a filled fire bucket nearby.
      - Wipe off all grease spills immediately.
      - Never use water on a grease fire. Smother it.
      - If there is an oven fire, close the oven door and turn off the oven.
      - Wear close-fitting clothes.
      - Be very careful when moving heavy pots of hot liquid.
      - Be cautious of hot grease splatters when frying.
      - Never grab a pot handle without first protecting your hands with a pot holder or tongs.
      - Do not allow horseplay in the cooking area.
    - **Safe Food Storage and Transportation** (page 11 in pamphlet)
      - All food must be stored at safe temperatures and cooked at proper temperatures.
      - Keep in mind the concept of cross contamination
        - Wash your hands frequently with soap and water
        - Keep work surfaces clean
        - Wash produce.
      - Make sure the safety seal on jar lids is intact.
    - **Clean** (page 13 in pamphlet)
      - Make sure the work area is clean and uncluttered before you begin, and keep the area clean as you go.
      - Have all ingredients, utensils, pots, and pans ready to go.
      - Use hot, soapy water to wipe up spills from raw foods.
      - At camp, use the three pot method for cleanup.
      - Clean items that will be reused during the cooking process, as you go.
    - **Separate** (page 13 in pamphlet)
      - Keep raw eggs, meat, poultry, seafood, and their juices away from ready-to-eat food. At camp, store these food items in separate, sealed containers or plastic bags.
      - Use separate cutting boards for different kinds of foods to avoid cross contamination.

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- Don't put cooked food in unwashed plates and bowls that previously held raw food.
- Don't use sauce used to marinate raw foods on cooked foods unless it was subsequently brought to a boil.
- Cook (page 14 in pamphlet)
  - Use a food thermometer to ensure food has been cooked to a safe temperature.
- Chill (pages 15-16 in pamphlet)
  - Indoor Kitchen
    - Do not leave foods requiring refrigeration at room temperature for more than two hours (1 hour if the temperature is above 90 degrees).
    - Freeze any fresh fish, poultry, or ground beef if not used within two days.
    - Freeze whole cuts of meat within five days.
    - Refrigerated, thawed out food should be refrozen or used within two days.
    - Refrigerate leftovers right away.
    - Discard any uneaten leftovers after three days.
    - Foods thawed outside the refrigerator should be cooked immediately.
  - At Camp
    - Before packing a cooler, refrigerate or freeze the food overnight.
    - Whenever possible, use blocks of ice instead of ice cubes.
    - Include an appliance thermometer in the cooler to ensure it maintains a safe temperature of 40 degrees or colder.
    - Insulate the cooler with a blanket or tarp.
    - Use separate coolers for drinks and perishable foods.
  - Tools and Equipment (pages 16-17 in pamphlet)
    - Become acquainted with how to properly and safely use various cooking utensils and special pots.
- b. Show that you know first aid for and how to prevent injuries or illnesses that could occur while preparing meals and eating, including burns and scalds, cuts, choking, and allergic reactions.
  - Preventing burns and scalds: refer to "Safety with Fire and Heat" (above).
  - First Aid for Burns and Scalds (pages 63-64 in pamphlet)
  - Preventing Cuts (page 66 in pamphlet)
    - Always use a knife safely.
    - Keep knives and scissors sharp.
    - Safely store sharp items separately from other utensils.
    - Never try to catch a falling knife.
    - Don't use a knife to open a can.
    - Place items to be cut on a flat surface.
    - Place a damp paper or dish towel under the cutting board to keep it from slipping.
  - Preventing Choking
    - Try to avoid talking and laughing with food in the mouth.
    - Avoid taking large bites of meat that require thorough chewing



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- First Aid for Choking (page 67 in pamphlet)
    - Have someone call for help.
    - Give five back blows.
    - Perform abdominal thrusts.
    - Repeat the back blows and abdominal thrusts as necessary.
  - Preventing Allergic Reactions and foodborne illnesses (pages 68-73 in pamphlet)
    - Be aware of any allergies of those for whom you are cooking.
      - Scouts who know they're susceptible to anaphylaxis should carry emergency kits that contain an injection of epinephrine.
    - Make substitutions in the cooking of those foods of which individuals are allergic, providing alternatives from the same food group.
    - Follow safe food handling procedures.
    - Use water that comes from trusted sources or has been properly treated.
    - Do not use food from cans that are dented, rusty, showing signs of swelling or leakage.
    - Follow all injunctions listed under part a. (above).
- c. Describe how meat, fish, chicken, eggs, dairy products, and fresh vegetables should be stored, transported, and properly prepared for cooking. Explain how to prevent cross-contamination.
- Food Storage and Preventing Cross Contamination - Refer to: "Safe Food Storage and Transportation" and "Separate" (above).
- d. Discuss with your counselor food allergies, food intolerance, and food-related illnesses and diseases. (pages 68-73 in pamphlet) Explain why someone who handles or prepares food needs to be aware of these concerns.
- The health of those who will be eating the food depends upon those who handle and cook the food being health conscious and responsible.
- e. Discuss with your counselor why reading food labels is important. Explain how to identify common allergens such as peanuts, tree nuts, milk, eggs, wheat, soy, and shellfish.
- The ingredients listed on packaging labels reveal the inclusion of ingredients that might create an adverse reaction in those who are known to be allergic to those particular allergens.
2. Nutrition. Do the following:
- a. Using the MyPlate food guide or the current USDA nutrition model, give five examples for EACH of the following food groups, the recommended number of daily servings, and the recommended serving size: (pages 51-56 in pamphlet)
- Fruits (2 cups per day)
    - Berries
    - Citrus Fruits
    - Melons
    - Pitted Fruits
    - Other Fruits
  - Vegetables (3 cups per day)
    - Dark Green Vegetables
    - Red, Orange, and Yellow Vegetables

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- Beans and Peas
  - Starchy Vegetables
  - Other Vegetables
  - Grains (7 ounces per day)
    - Bread
    - Pasta
    - Oatmeal
    - Rice
    - Grits
  - Proteins (6 ounces per day)
    - Meat and Poultry
    - Seafood
    - Beans and Peas
    - Eggs
    - Nuts and Seeds
  - Dairy (3 cups per day)
    - Milk
    - Yogurt
    - Cheese
    - Puddings
    - Ice Cream
- b. Explain why you should limit your intake of oils and sugars. (pages 56-57 in pamphlet)
- Oils are fattening and should be consumed in small amounts. The empty calories from added sugars are fattening and contain no added nutrition.
- c. Determine your daily level of activity and your caloric need based on your activity level. Then, based on the MyPlate food guide, discuss with your counselor an appropriate meal plan for yourself for one day (pages 52, 59 in pamphlet)
- d. Discuss your current eating habits with your counselor and what you can do to eat healthier, based on the MyPlate food guide. [choosemyplate.gov](http://choosemyplate.gov)
- e. Discuss the following food label terms: calorie, fat, saturated fat, trans fat, cholesterol, sodium, carbohydrate, dietary fiber, sugar, protein. Explain how to calculate total carbohydrates and nutritional values for two servings, based on the serving size specified on the label. (page 59 in pamphlet)
- Calorie - caloric needs vary depending on age, sex, and physical activity. 400 or more calories per serving for a single food is high.
  - Fats - especially saturated fat and trans fat should be limited in one's diet.
  - Cholesterol - should also be limited.
  - Sodium - should also be limited.
  - Carbohydrate - found in the grains group.
  - Dietary fiber - helps in digestion.
  - Sugar - added sugar has no nutritional value and is fattening.
  - Protein - one of the basic food groups.
  - The label reveals nutritional values per serving. For two servings, multiply the specified nutritional values by two.

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### 3. Cooking basics. Do the following:

a. Discuss EACH of the following cooking methods. For each one, describe the equipment needed, how temperature control is maintained, and name at least one food that can be cooked using that method: baking, boiling, broiling, pan frying, simmering, steaming, microwaving, grilling, foil cooking, and use of a Dutch oven.

(pages 92-93 in pamphlet)

- Baking - To cook by dry heat. Use a conventional oven, Dutch oven, or foil. Temperature control is maintained with temperature settings, with Dutch ovens, the amount and kind of coals, and with foil, regularly flipping the packets—cakes, meats, lasagna.
- Boiling - To cook in water or other liquid, hot enough to boil. Use a metal pot or pan and any heat source. Temperature control is maintained by controlling the boiling time—eggs, vegetables.
- Broiling - To cook meat in front of or directly over an open fire. Use a stick, spit, or grill. Temperature control is maintained by controlling the distance from the fire—poultry, meat, and fish over an open fire.
- Pan frying - To cook meat in a very hot skillet with a minimum of oil. Use frying pan over a stove or positioned over a cooking fire—meats.
- Simmer - To cook in liquid just barely at the boiling point. Adjust and monitor the heat source to control the level of simmering—stews, soups.
- Steaming - To place food on a rack or special device over boiling or simmering water in a covered pan. Adjust and monitor the heat source to control the level of steaming—vegetables.
- Microwaving - To heat or cook food in a microwave oven. The degree of heat is controlled by using the oven's time and intensity settings—pizza. (page 22 in pamphlet)
- Grilling - To cook directly over hot coals by laying the food on a grill. Temperature control is maintained by changing the space between the food and the coals, and by turning the food to cook evenly and keep it from burning—meats, vegetables.
- Foil Cooking - To cook food in airtight foil packets over the coals or directly on the coals. Use heavy duty foil. Control the amount of heat and keep foods from burning by turning the packets and by keeping track of the time they're over or on the coals—meats, vegetables. (pages 34-35, 82-84 in pamphlet)
- Dutch Oven - To cook foods by placing them in a Dutch oven and applying combinations of top and bottom heat for boiling, simmering, and baking. Use a camp Dutch oven and tools for lid lifting, and improving ease of cooking—breads, deserts, one-pot meals, anything.

b. Discuss the benefits of using a camp stove on an outing vs. a charcoal or wood fire. (page 29 in pamphlet)

- Camp stoves allow you to prepare meals more quickly in nearly every sort of weather, on almost any terrain, and without relying on available firewood. They leave no marks on the land and do not require a fire ring.

c. Describe for your counselor how to manage your time when preparing a meal, so components for each course are ready to serve at the correct time. (pages 37, 44 in pamphlet)

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- Timing a meal so that everything is served on time in the correct sequence requires planning and organization.
  - Create a timetable, based on how long it takes to prepare each course or recipe. While the main course is cooking, prepare side dishes that could require less time. (pages 24-25 in pamphlet)
  - Make sure there is enough space to manage the cooking operation.
  - Lay out and prepare all ingredients and cooking implements so they are readily accessible for use when they will be needed.
  - Make sure all heat sources are ready to use.
  - Follow the recipe(s) so that each step is given the proper attention at the appropriate time.

4. Cooking at home. Using the MyPlate food guide or the current USDA nutrition model, plan menus for three full days of meals (three breakfasts, three lunches, and three dinners) plus one dessert. (page 51 in pamphlet) Your menus should include enough to feed yourself and at least one adult, keeping in mind any special needs (such as food allergies) and how you kept your foods safe and free from cross-contamination.

Refer to: “Safe Food Storage and Transportation,” “Separate,” and “Preventing Allergic Reactions and foodborne illnesses” (above). List the equipment and utensils needed to prepare and serve these meals. Then do the following:

- a. Create a shopping list for your meals showing the amount of food needed to prepare and serve each meal, and the cost for each meal. (page 39 in pamphlet)
  - Consider how much of each ingredient you will need to buy.
- b. Share and discuss your meal plan and shopping list with your counselor.
- (c.) Using at least five of the 10 cooking methods from requirement 3, prepare and serve yourself and at least one adult (parent, family member, guardian, or other responsible adult) one breakfast, one lunch, one dinner, and one dessert from the meals you planned.\*
- (d.) Time the cooking to have each meal ready to serve at the proper time. Have an adult verify the preparation of the meal to your counselor (as per 3c above).

\*The meals for requirement 4 may be prepared on different days, and they need not be prepared consecutively. The requirement calls for Scouts to plan, prepare, and serve one breakfast, one lunch, and one dinner to at least one adult; those served need not be the same for all meals.

(e.) After each meal, ask a person you served to evaluate the meal on presentation and taste, then evaluate your own meal. Discuss what you learned with your counselor, including any adjustments that could have improved or enhanced your meals. Tell how planning and preparation help ensure a successful meal.

5. Camp cooking. Do the following:

- a. Using the My Plate food guide or the current USDA nutrition model, plan five meals for your patrol (or a similar size group of up to eight youth, including you) for a camping trip. (page 51 in pamphlet) Your menus should include enough food for each person, keeping in mind any special needs (such as food allergies) and how you keep your foods safe and free from cross-contamination. Refer to: “Safe Food Storage and Transportation,” “Separate,” and “Preventing Allergic Reactions and foodborne illnesses” (above). These five meals must include at least one breakfast,

## *Reference Materials Day 4*

one lunch, one dinner, AND at least one snack OR one dessert. List the equipment and utensils needed to prepare and serve these meals.

b. Create a shopping list for your meals showing the amount of food needed to prepare and serve each meal, and the cost for each meal. (page 39 in pamphlet)

- Consider how much of each ingredient you will need to buy.

c. Share and discuss your meal plan and shopping list with your counselor.

d. In the outdoors, using your menu plans for this requirement, cook two of the five meals you planned using either a lightweight stove or a low-impact fire. Use a different cooking method from requirement 3 for each meal. You must also cook a third meal using either a Dutch oven OR a foil pack OR kabobs. Serve all of these meals to your patrol or a group of youth.\*\*

e. In the outdoors, prepare a dessert OR a snack and serve it to your patrol or a group of youth.\*\*

f. After each meal, have those you served evaluate the meal on presentation and taste, and then evaluate your own meal. Discuss what you learned with your counselor, including any adjustments that could have improved or enhanced your meals. Tell how planning and preparation help ensure successful outdoor cooking.

g. Explain to your counselor how you cleaned the equipment, utensils, and the cooking site thoroughly after each meal. Explain how you properly disposed of dishwater and of all garbage. (pages 44-45 in pamphlet)

- Put a pot of water on to boil prior to serving meal.
- Clean cooking gear as soon as possible after the meal.
- Set up a three pot dish washing assembly line
  - Goop receptacle: scrape any excess food (there shouldn't be any) into the receptacle with a goop scraper.
  - First Pot: hot water with a few drops of biodegradable soap.
  - Second Pot: Clear rinse water (can be hot or warm).
  - Third Pot: Water with a sanitizing tablet or a few drops of bleach (can be cold or hot).
  - Plastic Sheet: drying area (place a stick under the sheet so pots and dishes can lean against it to better foster air drying).
- Strain dish water over a sump hole screen and collect any food bits, or strain into a pot, collect any food bits, and fling the wash water at least 200 feet away from camp or any any water source.
- Pack out all food scraps.
- Pack out all trash and garbage.

h. Discuss how you followed the Outdoor Code and no-trace principles when preparing your meals.

- All leftover food and food scraps are packed out.
- All garbage and trash are packed out
- All cooking fires are built in existing fire rings or on a protective layer of mineral soil with no semblance of a fire remaining.
- All wash water disposed of in a conservation-minded fashion.

## Reference Materials Day 4

6. Trail and backpacking meals. Do the following:
- Using the MyPlate food guide or the current USDA nutrition model, plan a menu for trail hiking or backpacking that includes one breakfast, one lunch, one dinner, and one snack. (page 51 in pamphlet) These meals must not require refrigeration and are to be consumed by three to five people (including you). Be sure to keep in mind any special needs (such as food allergies) and how you will keep your foods safe and free from cross-contamination. Refer to: “Safe Food Storage and Transportation,” “Separate,” and “Preventing Allergic Reactions and foodborne illnesses” (above). List the equipment and utensils needed to prepare and serve these meals.
  - Create a shopping list for your meals, showing the amount of food needed to prepare and serve each meal, and the cost for each meal. (page 39 in pamphlet)
    - Consider how much of each ingredient you will need to buy.
  - Share and discuss your meal plan and shopping list with your counselor. Your plan must include how to repackage foods for your hike or backpacking trip to eliminate as much bulk, weight, and garbage as possible. (page 41 in pamphlet)
    - Measure out the food for the trip and take only the amount needed.
    - Consolidate dry ingredients for convenience and to reduce the amount of litter you will generate.
    - Label all packages corresponding to the meal they’re for, noting the ingredients.
    - Separate the packages by meal and day.
  - While on a trail hike or backpacking trip, prepare and serve two meals and a snack from the menu planned for this requirement. At least one of those meals must be cooked over a fire, or an approved trail stove (with proper supervision).<sup>\*\*</sup>
  - After each meal, have those you served evaluate the meal on presentation and taste, then evaluate your own meal. Discuss what you learned with your counselor, including any adjustments that could have improved or enhanced your meals. Tell how planning and preparation help ensure successful trail hiking or backpacking meals.
  - Discuss how you followed the Outdoor Code and no-trace principles during your outing. Explain to your counselor how you cleaned any equipment, utensils, and the cooking site after each meal. Explain how you properly disposed of any dishwater and packed out all garbage.
    - All leftover food and food scraps are packed out.
    - All garbage and trash are packed out
    - All cooking fires are built in existing fire rings or on a protective layer of mineral soil with no semblance of a fire remaining.
    - All wash water disposed of in a conservation-minded fashion.
7. Food-related careers. Find out about three career opportunities in cooking. Select one and find out the education, training, and experience required for this profession. Discuss this with your counselor, and explain why this profession might interest you. (pages 75-79 in pamphlet)
- Production and Manufacturing Professionals (page 77 in pamphlet)
  - Research and Development (page 77 in pamphlet)

## *Reference Materials Day 4*

- Food and Beverage Service Professionals (page 78 in pamphlet)
- Food and Medicine Professionals (page 78 in pamphlet)
- Government, Public Health, and Nonprofit Professionals (page 78 in pamphlet)

\*\*Where local regulations do not allow you to build a fire, the counselor may adjust the requirement to meet the law. The meals in requirements 5 and 6 may be prepared for different trips and need not be prepared consecutively. Scouts working on this badge in summer camp should take into consideration foods that can be obtained at the camp commissary.



## *Reference Materials Day 4*

# **FISHING MERIT BADGE**

(Pamphlet Printing 2017)

1. Do the following:

a. Explain to your counselor the most likely hazards you may encounter while participating in fishing activities, and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.

- Take all precautions to avoid unexpected outcomes. (page 69 in pamphlet)
  - Always fish with a buddy.
  - Leave behind a trip plan.
- Always take special care while wading in order to minimize the chance of slipping and falling. (page 69 in pamphlet)
- Boating can be dangerous. (page 70 in pamphlet)
  - Check the weather forecast.
  - Perform a safety check before getting under way.
- Take special care in canoes that can tip over and provide very limited space. (pages 70-71 in pamphlet)
  - Don't stand up.
  - Paddle to shore before landing a large fish.
  - Cast from the bow while a stern paddler controls the canoe.
  - Lash gear to the thwarts.
- Take steps to avoid near-drowning accidents. (page 71 in pamphlet)
  - If your boat capsizes, stay with the boat.
  - Follow the BSA's Safe Swim Defense plan.
  - Follow the BSA's Safety Afloat plan.

b. Discuss the prevention of and treatment for the following health concerns that could occur while fishing, including cuts and scratches, puncture wounds, insect bites, hypothermia, dehydration, heat exhaustion, heatstroke, and sunburn. (pages 72-74 in pamphlet) (Refer to "Health and Safety Skills Handout")

c. Explain how to remove a hook that has lodged in your arm. (page 75 in pamphlet) First cut the line.

- If the barb is embedded:
  - Tie a piece of strong string to the bend of the hook.
  - Press down on the hook's shank to free the barb.
  - Maintain pressure on the shank and jerk firmly on the string in the direction the hook entered.
- If the barb has gone through and come out above the skin:
  - Cut the barbed end with wire cutters.
  - Back the hook's shank out through the entry wound.

d. Name and explain five safety practices you should always follow while fishing. (see 1a.)

- Always fish with a buddy and leave behind a trip plan.
- Always be extra careful when wading.
- Always check the weather when boating.
- Always take special care when canoeing.



## *Reference Materials Day 4*

- Always follow the BSA Safe Swim Defense and Safety Afloat plans.

2. Discuss the differences between two types of fishing outfits. Point out and identify the parts of several types of rods and reels. (pages 39-43 in pamphlet) Explain how and when each would be used. Review with your counselor how to care for this equipment.

- Spinning Tackle (page 42 in pamphlet). Open-faced spinning reels have a fixed spool, a bail, and a rotating head which winds the line engaged by the bail around the spool. The drag adjustment is built into the spool. The reel is mounted below the rod and the line guides are larger than on other rods. Spinning is the process of retrieving a lure after a cast to resemble the movement of a food source swimming through the water.
- Bait Casting (page 40 in pamphlet). Conventional reels or bait-casting reels have a free spool which rotates freely as line is cast or released. A lever is used to place the reel in gear, keeping the spool from turning and enabling the fisherman to retrieve line. A star drag is located between the handle and the side of the reel. The reel is mounted on top of the rod which has smaller line guides. Bait casting is often used for bottom fishing or often when the line is not being continuously retrieved to resemble a swimming bait.
- Reels should be kept well lubricated. All gear should be cleaned.

3. Demonstrate the proper use of two different types of fishing equipment.

4. Demonstrate how to tie the following knots: improved clinch knot (page 45 in pamphlet), Palomar knot (page 46 in pamphlet), uni knot (page 46 in pamphlet), uni to uni knot (page 46 in pamphlet), and arbor knot (page 45 in pamphlet). Explain how and when each knot is used.

- Improved Clinch Knot - The universal knot for tying a fishing line to any object with an eye.
- Palomar Knot - A knot used for the same purpose as the Improved Clinch Knot.
- Uni Knot - A popular knot for tying a hook or lure to a monofilament line.
- Arbor Knot - This knot attaches the fishing line to the reel arbor or spool hub.

5. Name and identify five basic artificial lures and five natural baits and explain how to fish with them. Explain why baitfish are not to be released.

- Five Basic Artificial Lures
  - Jigs are basically hooks with lead weights molded into the head. They're fished by retrieving them with jerks to impart a swimming action. (page 55 in pamphlet)
  - Plastic Worms (page 56 in pamphlet) are made of soft, pliable plastic can be made to swim, wiggle, and dance underwater. They can be used in a variety of ways:
    - Hooked onto a jig
    - With a sliding sinker and the hook stuck through the head of the worm and the point buried back in the worm body
    - With a split shot and the worm on a weedless hook
  - Spoons are made from shiny metal with various kinds of finishes. They are shaped so they wobble in the water when retrieved. (page 56 in pamphlet)

## *Reference Materials Day 4*

- Spinners are made out of thin pieces of metal mounted on a strip of wire serving as a shaft on which the metal blade will spin when retrieved just fast enough so the blade revolves without being a blur. (page 56 in pamphlet)
- Plugs (page 57 in pamphlet) are shaped from plastic, metal, and sometimes wood. They're designed to resemble bait fish when reeled in. Depending upon their design, they can:
  - Float and dive
  - Run deep
  - Stay along the surface
- Five Natural Baits (pages 53-54 in pamphlet)
  - Sand worms and bloodworms in saltwater, and red worms, garden worms and night crawlers in fresh water are used in a variety of settings with the hook embedded in the head for larger fish or cut in smaller pieces for smaller fish.
  - Salt and freshwater bait fish come in a variety of species and can be hooked through the lips or back near the tail.
  - Shrimp is used to catch a variety of saltwater fish. They can be used whole or just the tail.
  - Squid cut into strips is a durable bait that is used to catch many species of saltwater fish.
  - Cut bait from strips of fish is used to catch a variety of saltwater species.
- Releasing live bait and bait water can introduce undesirable fish, parasites, or disease to native fish. Dispose of unused live bait and any water in the bait bucket on land well away from any water.

### 6. Do the following:

- a. Explain the importance of practicing Leave No Trace techniques. Discuss the positive effects of Leave No Trace on fishing resources.
  - Planning ahead and preparing can minimize environmental impact by complying with area game and fish laws. (page 86 in pamphlet)
  - Fishing as well as camping and hiking on durable surfaces minimizes impact on the land. (pages 86-87 in pamphlet)
    - Use appropriate boat launching locations.
  - Disposing all waste properly on fishing trips preserves the environment. (page 88 in pamphlet)
    - Use designated fish cleaning areas.
    - Dispose of fish entrails in solid waste facilities or in catholes.
  - Leaving what you find applies to fishing spots just as it does to all outdoor areas. (page 89 in pamphlet)
  - Minimize campfire impacts by cooking fish on a stove. If you build a fire, keep it small and leave no trace before departing. (page 90 in pamphlet)
  - Respect all wildlife you might encounter by observing them from afar and giving them a wide berth. (page 91 in pamphlet)
  - Be considerate to other visitors and fisherman (page 91 in pamphlet) by:
    - traveling in smaller groups.
    - letting nature's sounds prevail.
    - selecting fishing spots away from other groups.

## *Reference Materials Day 4*

- taking care not to disturb other anglers efforts on the water.
- b. Discuss the meaning and importance of catch and release. Describe how to properly release a fish safely to the water. (page 37 in pamphlet)
  - Catching and releasing fish:
    - prevents over fishing.
    - lengthens the fishing season.
    - helps with conservation of the fish.
  - Properly release a fish by:
    - using artificial lures with barbless single hooks.
    - playing the fish then gently releasing it as soon as possible.
    - cutting the line as close as possible to a swallowed hook, and not trying to remove a deeply embedded hook.
    - trying to avoid removing the fish from the water.
    - avoiding using a landing net made of hard mesh.
    - wetting your hands before handling a fish, and never holding a fish vertically, avoiding the eyes and gills.
- 7. Obtain and review the regulations affecting game fishing where you live. Explain why they were adopted and what is accomplished by following them. (pages 81-82 in pamphlet)
  - Fish and game laws:
    - regulate the taking of fish in order to balance fish production with the harvest.
    - set seasons so that game fish can lay their eggs without interference.
- 8. Explain what good outdoor sportsmanlike behavior is and how it relates to anglers. Tell how the Outdoor Code of the Boy Scouts of America relates to a fishing sports enthusiast, including the aspects of littering, trespassing, courteous behavior, and obeying fishing regulations.
  - Demonstrating good outdoor sportsmanlike behavior relates to fishing by protecting our environment in accordance with the Outdoor Code and the principles of Leave No Trace. Scouts can carry out conservation projects on beaches and waterways to further effect a positive impact on the fishing environment.
- 9. Catch at least one fish and identify it.
- 10. If regulations and health concerns permit, clean and cook a fish you have caught. Otherwise, acquire a fish to clean and cook it. (You do not need to eat your fish.)

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# **PIONEERING MERIT BADGE**

(Pamphlet Printing 2023)

1. Do the following:

a. Review the Safe Pioneering Safety Points and explain to your counselor the most likely hazards you might encounter while participating in pioneering activities and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.

<https://pioneeringmeritbadge.org/safe-pioneering/>

b. Discuss the prevention of, and first-aid treatment for, injuries and conditions that could occur while working on pioneering projects, including rope splinters, rope burns, cuts, scratches, insect bites and stings, hypothermia, dehydration, heat exhaustion, heatstroke, sunburn, and falls. (Refer to “Health and Safety Skills Handout”)

2. Do the following:

a. Demonstrate the West Country method of whipping a rope. <https://troopresources.scouting.org/half-knot-west-country-whipping/>

b. Demonstrate how to tie a rope tackle <https://troopresources.scouting.org/rope-tackle/> and the following knots: clove hitch formed as two half hitches, clove hitch on a bight, butterfly knot, roundturn with two half hitches, and rolling hitch. <https://troopresources.scouting.org/pioneering-knots/>

c. Demonstrate and explain when to use the following lashings: square, diagonal, round, shear, tripod, and floor lashing. <https://troopresources.scouting.org/lashings/>

3. Do the following:

a. Using square and tripod lashings from requirement 2c, build a Tripod Hand Wash Station (or with your counselor’s permission, another camp gadget of your own design). <https://pioneeringmeritbadge.org/hand-washing-station/>

b. Using rolling hitches or roundturns with two half hitches, and round lashings from requirements 2b and 2c, build a 15-foot Scout Stave Flagpole (or with your counselor’s permission, another camp gadget of your own design). <https://pioneeringmeritbadge.org/simple-flagpole/>

c. Using shear, square, and floor lashings, clove hitches on a bight, and rope tackles from requirements 2b and 2c, build a Simple Camp Table (or with your counselor’s permission, another camp gadget of your own design). <https://pioneeringmeritbadge.org/simple-camp-table/>

4. Explain the differences between synthetic ropes and natural fiber ropes. Discuss which types of rope are suitable for pioneering work and why. Include the following in your discussion: breaking strength, safe working loads, and the care and storage of rope. <https://pioneeringmeritbadge.org/rope/>

5. Participate in making a rope, at least 6 feet long consisting of three strands, each having three yarns. <https://pioneeringmeritbadge.org/making-rope/>

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6. Explain the uses for the back splice <https://pioneeringmeritbadge.org/back-splice/>, eye splice <https://pioneeringmeritbadge.org/eye-splice/>, and short splice <https://pioneeringmeritbadge.org/short-splice/>. View a demonstration on forming each splice.

7. Explain the importance of effectively anchoring a pioneering project. Describe to your counselor the 3-2-1 anchoring system and the log-and-stake anchoring system. <https://pioneeringmeritbadge.org/anchoring-pioneering-projects/>

8. Describe the lashings that are used when building a trestle, how the poles are positioned, and how X braces contribute to the overall structural integrity of a pioneering project. <https://pioneeringmeritbadge.org/the-trestle/>

9. Working in a group, (or individually with the help of your counselor) build a full-size pioneering structure, using one of the following designs:

- Double A-Frame Monkey Bridge <https://pioneeringmeritbadge.org/double-a-frame-monkey-bridge/>
- Single A-Frame Bridge <https://pioneeringmeritbadge.org/single-a-frame-bridge/>
- Single Trestle Bridge <https://pioneeringmeritbadge.org/single-trestle-bridge/>
- Single Lock Bridge <https://pioneeringmeritbadge.org/single-lock-bridge/>
- 4×4 Square Climbing Tower <https://pioneeringmeritbadge.org/4-x-4-square-tower/>
- Four Flag Gateway Tower <https://pioneeringmeritbadge.org/four-flag-gateway-tower/>
- Double Tripod Chippewa Kitchen <https://pioneeringmeritbadge.org/double-tripod-chippewa-kitchen/>
- An alternate design of your choosing that complies with the Guide to Safe Scouting and the program specific standards of the National Camp Accreditation Program's (NCAP) height restrictions, and is approved in advance by your counselor.

Carefully plan the project, assembling and organizing all the materials, and referring to the points under Safe Pioneering.

## FIRST-YEAR CAMPER PROGRAM MODULES

### SCOUT SPIRIT MODULE

- \* *Who Are We?* - Understand what the patrol method means to a Scout./ Know why the patrol method is used in the Scouting program. / Recognize the makeup of a successful patrol.
- \* *Who Am I?* - **Scout 1a.:** Repeat from memory the Scout Oath, Scout Law, Scout motto, and Scout slogan. In your own words, explain their meaning.
- \* *To the Colors* - **Tenderfoot 7a.:** Demonstrate how to display, raise, lower, and fold the U.S. flag.
- \* *My Buddy* - **Tenderfoot 5a.:** Explain the importance of the buddy system as it relates to your personal safety on outings and in your neighborhood. Use the buddy system while on a troop or patrol outing.

### CAMPING AND HIKING MODULE

- \* *Topo the World* - **Second Class 3a.:** Demonstrate how a compass works and how to orient a map. Use a map to point out and tell the meaning of five map symbols.
- \* *True North* - **Second Class 3a.:** Demonstrate how a compass works and how to orient a map. Use a map to point out and tell the meaning of five map symbols.
- \* *Nocturnal* - **Second Class 3d.:** Demonstrate how to find directions during the day and at night without using a compass or an electronic device. **First Class 4a** (partial): Using a map and compass, complete an orienteering course that covers at least one mile and requires measuring the height and/ or width of designated items (tree, tower, canyon, ditch, etc.).
- \* *Hit the Road* - **Tenderfoot 5b.:** Describe what to do if you become lost on a hike or campout. **Tenderfoot 5c.:** Explain the rules of safe hiking, both on the highway and cross-country, during the day and at night.
- \* *Shakedown* - **Tenderfoot 1a.:** Present yourself to your leader, prepared for an overnight camping trip. Show the personal and camping gear you will use. Show the right way to pack and carry it. **Tenderfoot 1b.:** Spend at least one night on a patrol or troop campout. Sleep in a tent you have helped pitch.
- \* *The Aluminum Chef* - **Tenderfoot 2a.:** On the campout, assist in preparing one of the meals. Tell why it is important for each patrol member to share in meal preparation and cleanup. **Second Class 2e.:** On one campout, plan and cook one hot breakfast or lunch, selecting foods from MyPlate or the current USDA nutritional model. Explain the importance of good nutrition. Demonstrate how to transport, store, and prepare the foods you selected. **First Class 2d.:** Demonstrate the

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procedures to follow in the safe handling and storage of fresh meats, dairy products, eggs, vegetables, and other perishable food products. Show how to properly dispose of camp garbage, cans, plastic containers, and other rubbish.

### FIRST AID MODULE

- \* *It's Just a Flesh Wound* - **Tenderfoot 4a.** (partial): Show first aid for the following: Simple cuts and scrapes / Blisters on the hand and foot / **Second Class 6a** (partial):. Demonstrate first aid for the following: Object in the eye / Puncture wounds from a splinter, nail, and fishhook.
- \* *Once Bitten* - **Tenderfoot 4a.** (partial): Show first aid for the following: Bites or stings of insects and ticks / Venomous snakebite / **Second Class 6a** (partial):. Demonstrate first aid for the following: Bite of a warm-blooded animal.
- \* *Surviving the Elements* - **Tenderfoot 4a.** (partial): Show first aid for the following: Frostbite and sunburn / **Second Class 6a** (partial):. Demonstrate first aid for the following: Heat exhaustion / Shock / Heatstroke, dehydration, hypothermia, and hyperventilation.
- \* *Play With Fire* - **Tenderfoot 4a.** (partial): Show first aid for the following: Minor (thermal/heat) burns or scalds (superficial, or first-degree) / **Second Class 6a** (partial):. Demonstrate first aid for the following: Serious burns (partial thickness, or second-degree).
- \* *Strains and Sprains* - **First Class 7a.:** Demonstrate bandages for a sprained ankle and for injuries on the head, the upper arm, and the collarbone.
- \* *You're Outta Here* - **First Class 7b.:** By yourself and with a partner, show how to: Transport a person from a smoke-filled room. / Transport for at least 25 yards a person with a sprained ankle.
- \* *What's the Number for 911?* - **Tenderfoot 4a.** (partial): Show first aid for the following: Choking / **Second Class 6b.:** Show what to do for "hurry" cases of stopped breathing, stroke, severe bleeding, and ingested poisoning.

### NATURE MODULE

- \* *Wild Thing* - **Second Class 4:** Identify or show evidence of at least 10 kinds of wild animals (such as birds, mammals, reptiles, fish, or mollusks) found in your local area or camping location. You may show evidence by tracks, signs, or photographs you have taken.
- \* *Can't See the Trees for the Forest* - **First Class 5a.:** Identify or show evidence of at least 10 kinds of native plants found in your local area or campsite location. You

## *Reference Materials Day 4*

may show evidence by identifying fallen leaves or fallen fruit that you find in the field, or as part of a collection you have made, or by photographs you have taken.

- \* *Can't Touch This* - **Tenderfoot 4b.:** Describe common poisonous or hazardous plants; identify any that grow in your local area or campsite location. Tell how to treat for exposure to them.

### **TOTIN' CHIP AND FIREMAN CHIT MODULE**

- \* *Totin' Chip* - **Tenderfoot 3d.:** Demonstrate proper care, sharpening, and use of the knife, saw, and ax. Describe when each should be used. **Second Class 2b.:** Use the tools listed in Tenderfoot requirement 3d to prepare tinder, kindling, and fuel wood for a cooking fire.
- \* *Fireman's Chit* - **Second Class 2c.:** At an approved outdoor location and time, use the tinder, kindling, and fuel wood from Second Class requirement 2b to demonstrate how to build a fire. Unless prohibited by local fire restrictions, light the fire. After allowing the flames to burn safely for at least two minutes, safely extinguish the flames with minimal impact to the fire site.

### **ROPE WORK MODULE**

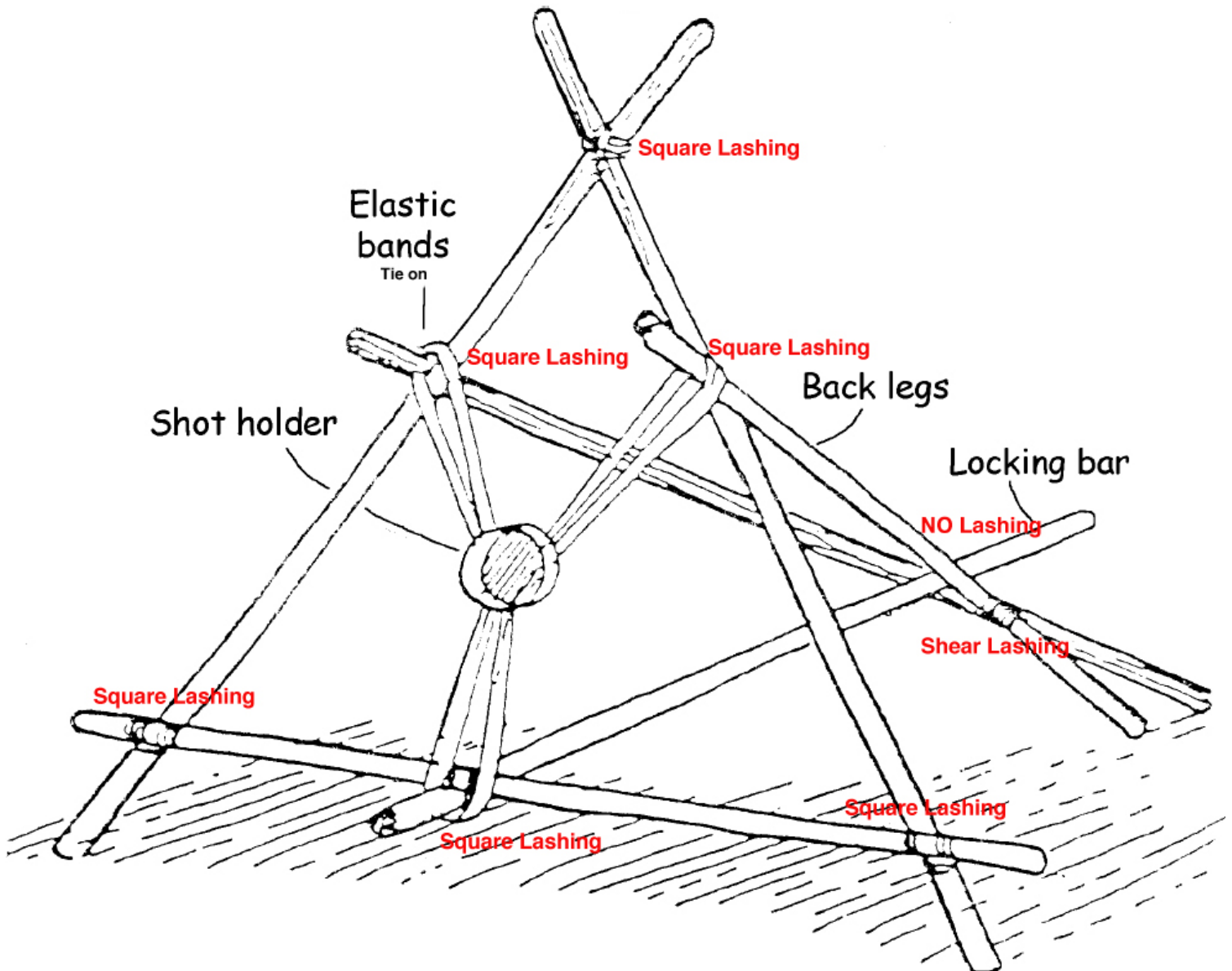
*Why Knot* - **Scout 4a.:** Show how to tie a square knot, two half-hitches, and a taut-line hitch. Explain how each knot is used. **Second Class 2f.:** Demonstrate tying the sheet bend. Describe a situation in which you would use this knot. **Second Class 2g.:** Demonstrate tying the bowline. Describe a situation in which you would use this knot.

*All Tied Up* - **Tenderfoot 3a.:** Demonstrate a practical use of the square knot.

**Tenderfoot 3b.:** Demonstrate a practical use of two half-hitches. **Tenderfoot 3c.:** Demonstrate a practical use of the taut-line hitch. **First Class 3b.:** Demonstrate tying the timber hitch and clove hitch. **First Class 3c. (partial):** Demonstrate tying the square, round, and tripod lashings.



# Scout Stave Launcher Diagram



## **FOOD ALLERGIES - SAFETY MOMENT**

### **SUMMARY**

According to Food Allergy Research & Education (FARE), one in every 13 children has a food allergy. Every 3 minutes, a food-allergy reaction sends someone to the emergency room. And while the responsibility for management of a food allergy lies with the individual or the individual's parent or guardian, all of us need to be ready to assist in preventing — or helping in response to — a reaction.

A food-allergy reaction happens when the immune system overreacts to a food protein. A reaction can range from mild to severe. In the U.S., the most common food allergens are milk, eggs, peanuts, tree nuts, soy, wheat, fish, shellfish and sesame seeds. However, any food might cause an allergic response, and many people are allergic to more than one food. Also, initial food-allergy reactions can occur at any time.

A food allergy should not be confused with a food intolerance. An intolerance is when someone cannot digest a component of a food, such as lactose, a sugar found in milk. An intolerance may cause abdominal cramping or diarrhea but is not life-threatening.

### **GENERAL INFORMATION**

Food allergies can start in childhood or adulthood. Mild reactions might involve only a few hives or minor abdominal pain, though some reactions progress to severe anaphylaxis. The only way to avoid an allergic reaction is to avoid the foods that cause signs and symptoms. However, despite our best efforts, anyone at any time might encounter a food that causes a reaction.

For a minor allergic reaction, over-the-counter or prescribed antihistamines (such as Benadryl®) might help reduce symptoms. These medications can be taken after exposure to an allergy-causing

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food to help relieve itching or hives. Follow guidance from the person's personal health care provider.

However, antihistamines can't treat a severe allergic reaction. For a severe reaction, someone will likely need an emergency injection of epinephrine (such as from an EpiPen® or Auvi-Q®) and require a trip to the emergency room. Many people with allergies carry an epinephrine auto-injector. This device injects a single dose of medication when pressed against the thigh

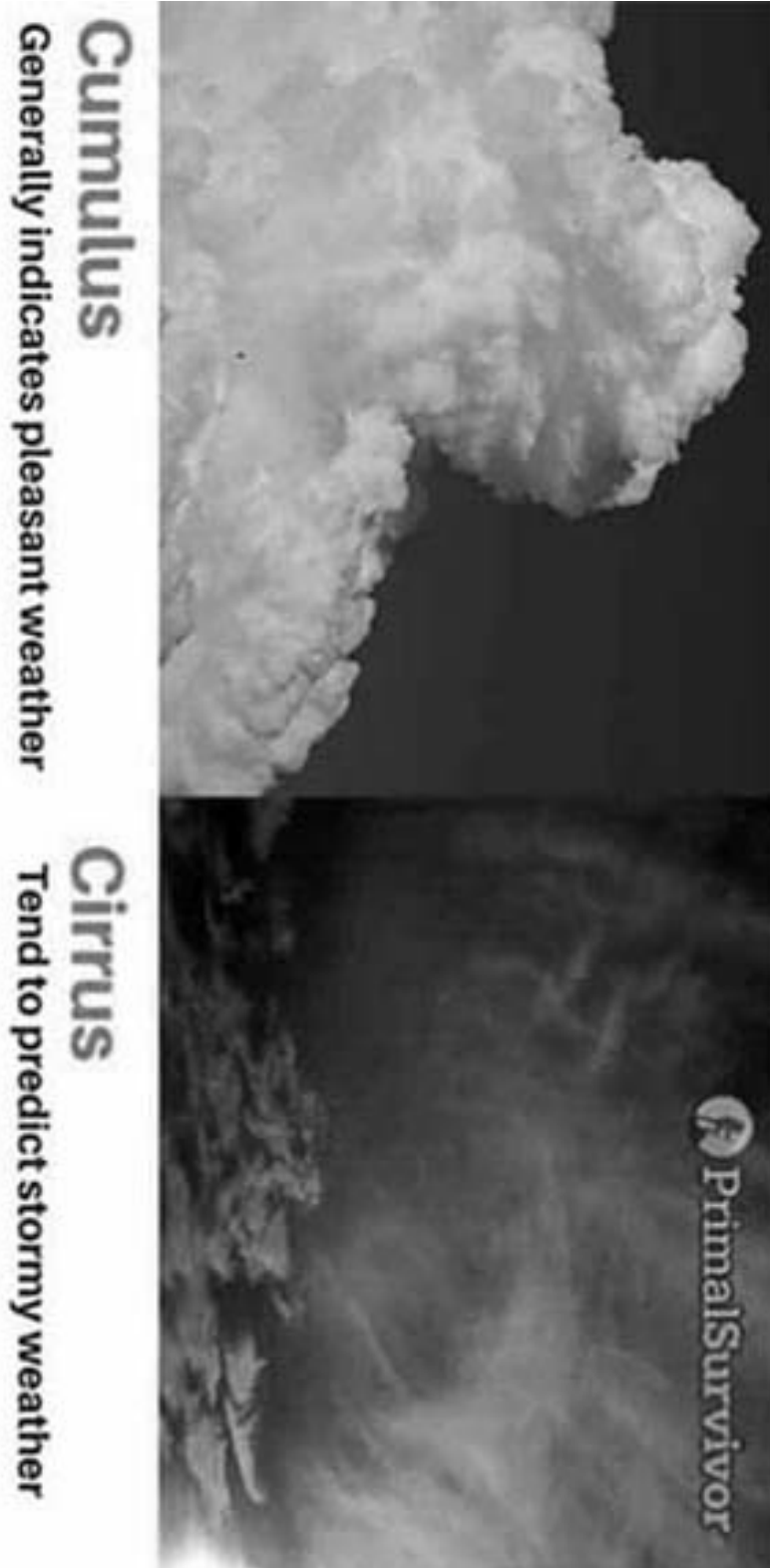
### **WHAT TO DO IF SOMEONE HAS A FOOD ALLERGY**

If someone has a food allergy, they must be diligent about avoiding allergens. They must always read all food labels before eating or drinking any food. Even tiny amounts of an allergen can cause an allergic response.

When preparing food, prepare food for people with allergies on a separate, clean surface to ensure there is no cross contamination. Start with clean hands and use separate and clean utensils and cooking tools, such as toasters.

For some people, bringing their own foods can be easier and safer when eating with a group. If you or someone in your unit has food allergies, be sure to review the Food Allergy Guidance and the other resources below before planning any event that includes food.

# CLOUD FORMATIONS



## *Reference Materials Day 5*

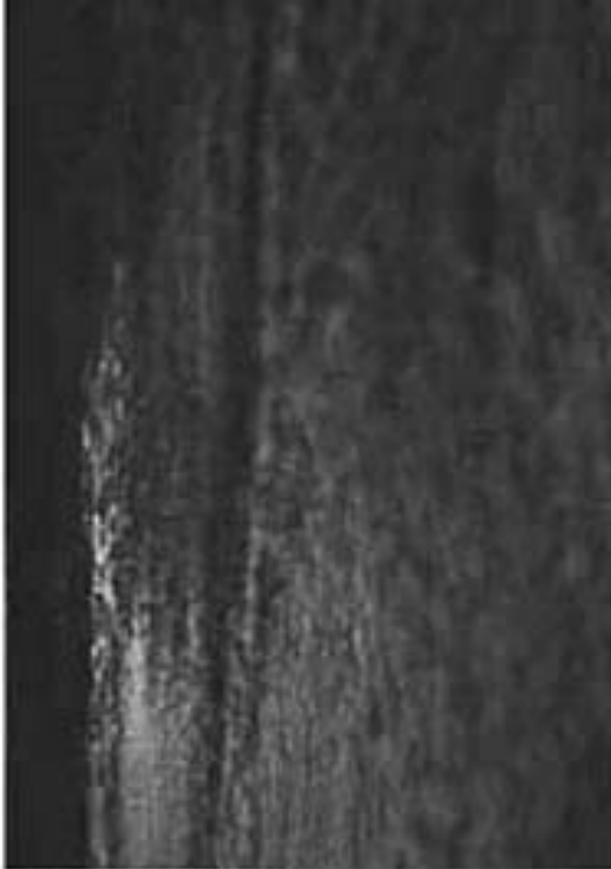
**Nimbostratus**  
Predicts heavy rains



**Mammatus**  
Signifies intense storms



## *Reference Materials Day 5*



**Altocumulus**  
Indicate rainy weather



**Cumulonimbus**  
Intense thunder storms on the way

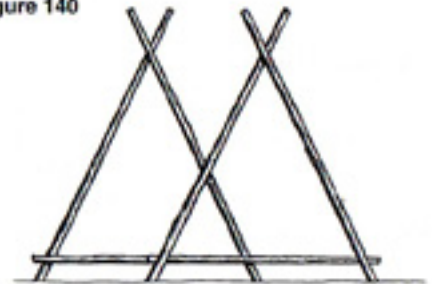
# DOUBLE A-FRAME MONKEY BRIDGE

Here's a list of materials:

- eight 8-foot x 4-inch A-frame legs
- four 6-foot x 3-inch A-frame ledgers
- fourteen 15-foot x 1/4-inch lashing ropes for square lashings
- one 50-foot x 1/2-inch or 3/4-inch foot rope
- two 50-foot x 1/2-inch hand ropes
- five 8-foot x 1/4-inch stringer ropes
- six 10-foot x 1/4-inch lashing ropes for strop lashings
- six pioneering stakes for each 3-2-1 anchor -or- eight pioneering stakes and one 4-foot x 4 to 6-inch diameter spar for each log-and-stake anchor
- two 10-foot x 1/2-inch polypropylene or manila ropes for rope grommets
- two pieces of scrap canvas or burlap for foot rope saddles
- binder twine for the back stays of anchor stakes

**Building the A-frames** – The first step in building this monkey bridge is to build four identical A-frames using the 8-foot spars for the two legs, and 6-foot spars for the ledger. Make sure the ledgers of each A-frame cross the legs at the same height, and that the tips of the legs intersect at an equal distance from the tops. Lash each A-frame together with three tight square lashings.

Figure 140

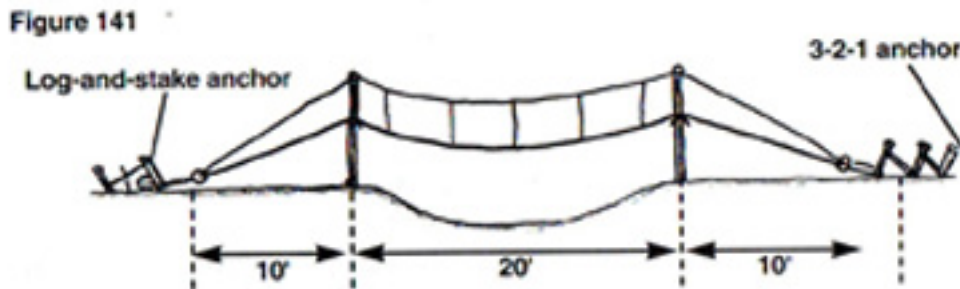


**Double A-frame** – When you have four identical A-frames, you can lash two of them together. This can be accomplished by holding the A-frames up and maneuvering them into position, or laying one A-frame on the ground and then putting another on top of it so that the bottom ledgers overlap one-half their length (about 3 feet). The first step in lashing the A-frames together is to go up where the two legs cross (the X formed by one leg from each A-frame). Then with a good tight square lashing, lash the two legs together. Note: The point where these two legs are lashed together is where the foot rope will rest. You can adjust the overlap of the two A-frames to adjust how high the foot rope will be off the ground. Also note where the tops of the A-frames are, because this is where the hand ropes will be. To complete the double A-frame, stand it up so the butt ends of all four legs rest solidly on level

## Reference Materials Day 5

ground. Lash the two bottom ledgers together where they overlap with three strop lashings. (A strop lashing is easy to tie. Halve the rope, place the midpoint behind what you're lashing, wrap both ends around the spars a few times and finish with a square knot.)

**Site Preparation** – Before you can erect the double A-frames, you need to prepare the site. Begin by stretching a length of binder twine along the center line of where the monkey bridge is to stand. Working from the



center, measure 10 feet toward each end to mark where the A-frames are to be placed. They should be 20 feet apart. Then mark out another 10 feet from each A-frame to where the anchors are to be built.

**Building the Anchors** – The foot rope will be attached to anchors at both ends. Before erecting the double A-frames, build a 3-2-1 anchor, or a log and-stake anchor, 10 feet from where the A-frames will be erected.

**Rope Grommet** – After the anchors are built, attach a rope grommet with a ring or shackle in it.

**Position the A-frames** – Prepare to erect the monkey bridge by moving the A-frames into position no more than 20 feet apart. Lay them down on the binder twine that marks the center line of the bridge.

**Hand and Foot Ropes** – Now you can prepare the hand and foot ropes for the monkey bridge. Lay the foot rope in a straight line off to the side of where the A-frames are laying. Then lay the two hand ropes on the ground next to each other so they're parallel to the foot rope and 42 inches away. **Stringer Ropes** – Add the stringer ropes that will go from the foot rope to the hand ropes. Start by looping the center of an 8-foot long stringer rope (use 1/4-inch manila rope) at the center of the foot rope, with a round turn. The stringer rope is looped around the foot rope so that both ends are 4-feet long. Add two more stringer ropes on both sides of the center stringer



## *Reference Materials Day 5*

rope (so there are five stringer ropes in all), tying them about 4 feet apart. Tie one end of each stringer rope to one of the hand ropes with a clove hitch. Then do the same with the other ends of the stringer ropes, attaching them to the other hand rope.

**Assembling the Bridge** – You’re just about ready to assemble the bridge. First place a piece of burlap or heavy canvas (called a “saddle”) in the V formed by both double A-frames. This will protect the foot rope and allow it to slide a little in the V without interfering with the lashing rope. Now get the crew together to erect the bridge. You will need a safety officer to watch for any problems that might occur, and a signal caller to tell the crew members what to do. You will need two Scouts to lift and hold each double A-frame in place, two more Scouts to lift the foot rope into the V of the double A-frames, and two more Scouts to lift the two hand ropes into place at the tops of the A-frames. Lift everything into place. Then, holding the A-frames steady, temporarily tie the hand and foot ropes into the rings of the grommets using a roundturn with two half hitches.

**Tightening the Foot Rope** – Form a rope tackle at each end of the foot rope midway between the A-frames and the anchor.

**Tightening the Hand Ropes** – Next, tie the hand ropes to the top ends of the A-frames. First, loosen one end at a time from the anchors. Then, use a clove hitch to tie the hand ropes to the top end of a leg on each side of the double A-frames. As you’re tying these clove hitches, adjust the strain on the sections of the hand ropes between the double A-frames to match the sag of the foot rope. Also, adjust the length of the stringer ropes so there is even strain between the foot rope and both hand ropes. After the hand ropes are tied to the tops of the A-frames, move down and retie the ends of the hand ropes to the rings in the grommets using a roundturn with two half hitches. (If you choose, you can form rope tackles in the hand ropes as well.)

**Final Testing** – With caution, one crew member can get on the bridge as all lashings, anchors, and knots are observed by the safety officer and all other crew members. Make adjustments as required. If too much sag is experienced during use, re-tighten the hand and foot ropes as necessary.

Figure 142



## Reference Materials Day 5

			
<b>DUTY ROSTER</b>			
	<b>Fire &amp; Water Crew</b>	<b>Cook Crew</b>	<b>Cleanup Crew</b>
<b>Dinner</b>			
<b>Breakfast</b>			
<b>Lunch</b>			
<b>Dinner</b>			
<b>Breakfast</b>			
<b>Lunch</b>			

The **Fire and Water Crew** maintains the water supply, supplies of tinder, kindling, and fuel wood, or charcoal, protected from the weather, makes sure cooking fires and/or stoves are ready to assure the cook crew has meals prepared on time.

The **Cook Crew** assembles food supply, follows menus and recipes exactly, serves meals on time, puts food away, prepares cook pots to soak, and has cleanup water set on the fire or stove before serving meals.

The **Cleanup Crew** sets up wash and rinse water for dishwashing, cleans cooking pots and utensils, cleans up camp kitchen and dining areas, stores all group equipment, disposes of garbage and trash, and, as appropriate, puts out the cooking fire.

# Salmon Cakes

## INGREDIENTS

- one (14.75 ounce) can canned salmon
- 1 egg
- 1/4-cup finely chopped onion
- 1/2-cup seasoned dry bread crumbs
- minced garlic
- olive oil

(The above quantities serve four.)

## DIRECTIONS

- Drain and reserve liquid from salmon and place in mixing bowl.
- Add egg, onion and bread crumbs and mix well.
- Make into patties. (If mixture is too dry to form patties, add reserved liquid from salmon.
- Place patties in frying pan coated with olive oil.
- Fry over medium heat.

# Campfire Garlic Fries

## INGREDIENTS

- one medium-sized potato per person
- olive oil
- salt
- black pepper
- minced garlic
- shredded cheddar and Monterey Jack mixture (1/4 cup per person)
- scallions

## DIRECTIONS

- Peel and cut up potato into french fried-size pieces and position on large piece of foil
- Drizzle potatoes with olive oil, spoon on some minced garlic, and toss with salt and pepper.
- Fold into air-tight packets and place over coals.
- Cook (tossing and turning occasionally to avoid burning) about 20 minutes.
- Open packets and add cheese, then close packet and cook until cheese is melty.
- Garnish potatoes with chopped scallions.

# Green Beans

(Serves 4)

## INGREDIENTS

1-pound of fresh green beans  
olive oil  
salt  
pepper

## DIRECTIONS

- Rinse the beans.
- Trim the ends.
- Place in foil
- Drizzle with olive oil.
- Add a small amount of water.
- Sprinkle with salt and pepper.
- Cook over coals, turning often, for 15 to 20 minutes, depending on whether you like beans crunchy or more soft.

# CUB SCOUT NEW ADVENTURE PROGRAM

*These requirements take effect on June 1, 2024.*

## **AOL Outdoor Adventurer** (Required)

1. Learn about the Scout Basic Essentials. Note to Outdoor Skills staff and Camp: Beginning in June 2024 with the updated Cub Scout program, Arrow of Lights will be learning the Scout 10 Essentials instead of the Cub Scout six essentials. Because part of the 10 essentials is matches/fire starters, Arrow of Light Scouts will be required to earn the Firem'n Chit before being able to use matches, fire starters, or light a fire. They will have to become "re-certified" when they join Scouts BSA. Camps who plan to incorporate this AOL program/adventure into their camp programs should be prepared to include the Firem'n Chit requirement.
2. Determine what you will bring on an overnight campout — including a tent and sleeping bag/gear — and how you will carry your gear.
3. Review the four points of the BSA SAFE Checklist and how you will apply them. on the campout.
4. Locate the campsite where you will be camping on a map.
5. With your patrol or a Scouts BSA troop, participate in a campout.
6. Upon arrival at the campout determine where to set up your campsite: kitchen, eating area, tents, and firepit. Help the patrol set up the patrol gear before setting up your own tent.
7. Explain how to keep food safe and the kitchen area sanitary at the campsite. Demonstrate your knowledge during the campout.
8. After your campout, discuss with your patrol what went well and what you would do differently next time. Include how you followed the Outdoor Code and Leave Not Trace Principles for Kids.

## **AOL Knife Safety** (Elective)

1. Read, understand, and promise to follow the "Cub Scout Knife Safety Rules."
2. Demonstrate the knife safety circle.
3. Demonstrate that you know how to care for and use a knife safely.
4. Demonstrate the proper use of a pocketknife to make a useful object on a campout.
5. Choose the correct cooking knife and demonstrate how to properly slice, chop, and mince.

## *Reference Materials Day 5*

### **Webelos Walkabout** (Required)

1. Prepare for a 2-mile walk outside. Gather your Cub Scout Six Essentials and weather appropriate clothing and shoes.
2. Plan a 2-mile route for your walk.
3. Check the weather forecast for the time of your planned 2-mile walk.
4. Review the four points of BSA SAFE Checklist and how you will apply them on your 2-mile walk.
5. Demonstrate first aid for each of the following events that could occur on your 2-mile walk: blister, sprained ankle, sun burn, dehydration and heat related illness
6. With your den, pack, or family, go on your 2-mile walk while practicing the LeaveNo Trace Principles for Kids and Outdoor Code.
7. After your 2-mile walk, discuss with your den what went well and what you would do differently next time.

### **Let's Camp Webelos** (Elective)

1. With your den, pack, or family, plan and participate in a campout.
2. Upon arrival at the campground, determine where to set up a tent.
3. Set up your tent without help from an adult.
4. Identify a potential weather hazard that could occur in your area. Determine the action you will take if you experience the weather hazard during the campout.
5. Show how to tie a bowline. Explain when this knot should be used and why.
6. Know the fire safety rules. Using those rules, locate a safe area to build a campfire.
7. Using tinder, kindling, and fuel wood, properly build a teepee fire lay. If circumstances permit, and there is no local restriction on fires, show how to safely light the fire while under adult supervision. After allowing the fire to burn safely, extinguish the flames with minimal impact to the fire site.
8. Recite the Outdoor Code and Leave No Trace Principles for Kids from memory.
9. After your campout, share the things you did to follow the Outdoor Code and Leave No Trace Principles for Kids with your den or family.

### **Bear Habitat** (Required)

1. Prepare for a one-mile walk by gathering the Cub Scout Six Essentials and weather-appropriate clothing and shoes.
2. "Know Before You Go" Identify the location of your walk on a map and confirm your one-mile route.
3. "Choose the Right Path" Learn about the path and surrounding area you will be walking on.
4. "Trash your Trash" Make a plan for what you will do with your personal trash or trash you find along the trail.
5. "Leave What You Find" Take pictures along your walk or bring a sketchbook to draw five things that you want to remember on your walk.
6. "Be Careful with Fire" Determine the fire danger rating along your path.

## *Reference Materials Day 5*

7. “Respect Wildlife” From a safe distance, identify as you look up, down, and around you, six signs of any mammals, birds, insects, reptiles.
8. “Be Kind to Other Visitors” Identify what you need to do as a den to be kind to others on the path.
9. With your den, pack, or family, go on your one-mile walk while practicing your Leave No Trace Principles for Kids.

### **Bear Whittling** (Elective)

1. Read, understand, and promise to abide by the “Cub Scout Knife Safety Rules.”
2. Demonstrate the knife safety circle.
3. Demonstrate that you know how to care for and use your pocketknife safely.
4. Make two carvings with a pocketknife.

### **Let's Camp Bear** (Elective)

1. Review the buddy system and how it works in the outdoors.
2. Pack your Cub Scout Six Essentials for the campout.
3. In addition to your 6 Cub Scout Essentials, show the personal items you need for your campout.
4. Help set up a tent. Determine a good spot for the tent. Explain why you picked the spot.
5. Attend a council or district Cub Scout overnight camp or attend a campout with your pack.

### **Wolf Paws on the Path** (Required)

1. Identify the Cub Scout Six Essentials. Show what you do with each item.
2. Learn about the buddy system and how it works in the outdoors. Pick a buddy for your walk.
3. Identify appropriate clothes and shoes for your walk outside. Do your best to wear them on your walk.
4. Learn about the Outdoor Code and Leave No Trace Principle for Kids.
5. With your den, pack, or family, take a walk outside for at least 30 minutes to explore nature in your surroundings. Describe four different animals, domestic or wild, that you could see on your walk.

### **Let's Camp Wolf** (Elective)

1. Learn about the buddy system and how it works in the outdoors.
2. Know the Cub Scout Six Essentials.
3. In addition to your Cub Scout Six Essentials, list the personal items you need for your campout.
4. Learn a camping skill.
5. Attend a council or district Cub Scout overnight camp or attend a campout with your pack.



## *Reference Materials Day 5*

### **Tiger** in the Wild (Required)

1. Identify the Cub Scout Six Essentials. Show what you do with each item.
2. With your den leader or Tiger adult partner, learn about the Outdoor Code.
3. With your den, pack, or family, take a walk outside spending for at least 20 minutes exploring the outdoors with your Cub Scout Six Essentials. While outside, identify things that you see with your Tiger adult partner that are natural and things that are manmade.
4. Identify common animals that are found where you live. Learn which of those animals is domesticated and which animal is wild. Draw a picture of your favorite animal.
5. Look for a tree where you live. Describe how this tree is helpful.

### **Let's Camp Tiger** (Elective)

1. Learn about the buddy system and how it works in the outdoors.
2. Before going on the overnight campout, discuss what type of weather is expected and what type of clothes you should wear.
3. Pack up your Cub Scout Six Essentials for the campout.
4. Learn a camping skill.
5. Attend a council or district Cub Scout overnight camp or attend a campout with your pack.

### **Mountain Lion** (Required)

1. Identify the Cub Scout Six Essentials. Show what you do with each item.
2. With your den, pack, or family, take a walk outside spending for at least 20 minutes exploring the outdoors with your Cub Scout Six Essentials. While outside, identify things that you see with your Lion adult partner that are natural and things that are manmade.
3. Discover what S.A.W. means.
4. Identify common animals that are found where you live. Separate those animals into domesticated and wild.

### **Let's Camp Lion** (Elective)

1. Learn about the buddy system and how it works in the outdoors.
2. Before going on the overnight campout, discuss what type of weather is expected and what type of clothes you should wear.
3. Pack up your Cub Scout Six Essentials for the campout.
4. Attend a council or district Cub Scout overnight camp or attend a campout with your pack.

## Reference Materials Day 6

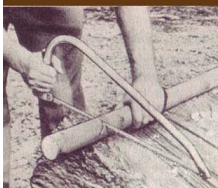
### Dovetail Notch



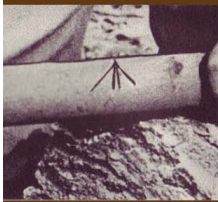
Make a cut with the saw that slants to the right, not quite halfway through the pole. Avoid knots (a branch is a knot). Begin the notch in from the end of the pole to prevent splitting when the dovetail is driven tight.



Now make an equal cut to the left. Notice that the cuts are almost at a right angle to each other. On thicker pieces, the notch can be sharper.



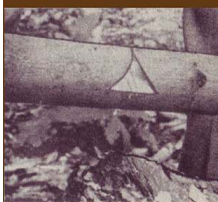
Cut straight down to the depth of the side cuts. Make another vertical cut to one side of the first.



The side cuts outline the dovetail and the center cuts break up the fibers so your knife can pry them out.



Pry out the wood in the notch, first on one side and then on the other. If you haven't cut into a knot, the wood should chip out easily.



The cleaned out notch is ready for a fitting—round stick or dovetail.



With the piece to be fitted held over the notch, shape the base and sides. Make the end a little smaller than the notch.



Drive the dovetail into the notch until it jams. If you wish a very rigid joint—one that will support a heavy load—shape this dovetail some more so that it fits through the notch.

## **CHARCOAL SAFETY - SAFETY MOMENT**

### **SUMMARY**

The day has come to an end and now your next adventure is cooking a cobbler for your evening dessert. Soon, you'll be ready to light a charcoal fire using your choice of approved Scouting equipment. However, when using charcoal, it is important to keep in mind that chemical fuels are not permitted for use in Scouting activities.

### **GENERAL INFORMATION**

Lighting a charcoal fire without using a liquid or gel accelerant is possible. When you light charcoal in a chimney, it takes less time to prepare your briquettes and is a better way to control your fire output. Here are some tips for lighting your charcoal:

- Instant lighting charcoal (with or without a chimney)—This is probably the safest and most feasible for a Scout. Simply take a match to your charcoal assembly and watch it come ablaze.
- Starter cubes (with or without a chimney)—These are small blocks or cubes typically made of oil, wax, or quick-burning wood placed underneath your chimney or within your briquettes.
- Homemade fire starters (placed under chimney)
  - Cardboard egg cartons/toilet paper tubes/newspaper—Any of these will work as a fire starter. Place your briquettes or newspaper inside the carton slots where the eggs would sit or inside a toilet paper tube. Strike a match and light all corners or edges.
  - Processed corn chips—You read correctly. Processed corn chips are hydrocarbons (which burn) that are stored in fatty oil (which also burn). Much like starter cubes, you place the chips within and around your charcoal for best results and then light.
  - When available, a double handful of dry pine straw stuffed under the chimney is often the go-to method.

### **Fire Safety Reminders**

- Scouts can earn the Firem'n Chit while learning to safely light fires.
- Follow manufacturer's product and safety instructions for chimneys.
- A knowledgeable adult should provide supervision when youth are starting or using fire.
- Start fires in a safe, outside area.
- Fires should never be left unattended.
- Thoroughly extinguish all fires after use.

# COOKING WITHOUT UTENSILS

**Bread on a stick** - Remove the bark from “sweet wood” stick about 1 to 2 inches thick and about 2-1/2 feet long. Preheat stick. Roll a long sausage of biscuit dough and twist around heated stick. Bake over coals turning frequently.

**Ash Cakes** - Using biscuit dough, cook directly on coals or cabbage leaf etc. Trim off ashes when done. Biscuits may also be cooked on a smooth, hot rock or rock tilted toward fire.

**Potato in Coals** - Use potatoes no larger than a man’s fist. Cover completely with coals. Test for doneness after 1/2 hour by poking with thin wood sliver. If pieces of potato come out with sliver, potato is done.

**Steak, chops, or fish** - Impale on forked stick and roast over fire. May also be cooked directly on hot coals. Pork chops cook well on coals due to the extra fat!

**Pig in a blanket** - Slit center of hot dog. Fill with sliced cheese. Wrap outside with bacon and place on stick. Roast until done and then wrap the outside of the hot dog with biscuit dough and bake until dough is golden brown.

**Onion Cups** - Slice onion in half. Carefully remove small onion cups and fill with deviled ham, hamburger, or other filling. Roast over coals upside down. When onion turns transparent on bottom, flip over for a few more minutes. Eat onion cup and all! The large onion halves make great containers to cook eggs or meatloaf.

**Baking in an Orange** - Cut a “lid” off a thick-skinned orange and hollow it out. (Save the fruit.) Fill about 2/3 with prepared cake mix. Replace the lid, bury in coals and bake until done.

**Egg in an Orange Cup** - Cut a thick-skinned orange in half. Scoop out and eat the fruit. Crack an egg into the orange “cup” and place it on the coals. Cook until done. This can also be done the same way inside an onion “cup.”

**Pepper Steak** - Place hamburger (and anything else you can find laying around) in a hollowed out pepper and bake over coals. Stuffing can be any meatball or stuffed pepper recipe you like.

**Shish-ka-bob** - On green sticks or skewers roast any combination of meats, vegetables, fruits etc.

**Bushman Monkey Meat** Wrap ground beef around a stick and roast until done. Wrap hamburger with cheese and a thin layer of dough. Bake until bread is done.

**Pizza Pocket** - Cover two layers of prepared dough with tomato sauce, cheese, pepperoni or whatever. Fold in two and bake on coals or use a cabbage leaf, etc.

# PRINCIPLES OF LEAVE NO TRACE

Backcountry visitors have a responsibility to safeguard the land. Incorporate Leave No Trace principles into your activities.

**1. Plan ahead and prepare.** Proper trip planning and preparation help hikers and campers accomplish trip goals safely and enjoyably while minimizing damage to natural and cultural resources. Campers who plan ahead can minimize their impact by following area regulations such as observing limitations on group size. Schedule your trek to avoid times of high use. Obtain permits or permission to use the area for your trek. Proper planning helps ensure:

- Low-risk adventures because campers obtained sufficient information to prepare for a safe visit
- Properly sized and located campsites because enough time was allotted to reach the destination
- Appropriate campfires and minimal trash because of careful meal planning and food repackaging
- Comfortable and fun camping and hiking experiences because the outing matches the skill level of participants.

**2. Travel and camp on durable surfaces.** Damage to land occurs when visitors repeatedly trample vegetation and soils off-trail or near campsites. This can create undesirable informal trails, expand campsites, or erode soils.

Should you concentrate activity or spread out? In high-use areas, campers should concentrate their activities where vegetation is already absent. Minimize resource damage by using existing formal trails and selecting designated or existing campsites. Keep campsites small by arranging tents in close proximity.

In more remote, less-traveled areas, campers should generally spread out and disperse trampling. Avoid creating new trails, which can cause erosion. When camping, disperse tents and cooking activities—and move camp daily to avoid creating permanent campsites. Avoid places where impacts are just beginning to show. Choose the most durable surfaces available: rock, gravel, sand, compacted soil, dry grasses, or snow. Practices vary by environment and activity, so learn and apply the ones most applicable to Leave No Trace for your group. Check with land managers for more specific guidance.

**3. Dispose of waste properly.** (Pack It In, Pack It Out). Inspect and clean your lunch site or campsite of trash and spilled foods and carry them out. Accept the challenge of packing out all trash and leftover food, including any left by others.

Use toilets when available, or be prepared to dig a cat hole 6 to 8 inches deep and at least 200 feet (80 steps) from water, campsites, and trails. Cover and disguise the cat hole with dead leaves, pine needles, or other ground cover. Pack out all hygiene products. Walk at least 100 feet (40 steps) away from water sources and campsites to dispose of urine, toothpaste, cooking water, and strained dishwater and to wash bodies, dishes, or clothing. (Dispose of soapy water at least 200 feet away.)

Minimize the use of soap, or use hand sanitizer.

## *Reference Materials Day 6*

**4. Leave what you find.** Allow others a sense of discovery and preserve the past. Leave rocks, plants, animals, archaeological artifacts, and other objects as you find them. Examine but do not touch cultural or historical structures and artifacts. It's illegal to damage or remove artifacts.

Minimize site alterations—good campsites are found, not made. Do not dig tent trenches or build lean-tos, tables, or chairs. Refrain from damaging trees with nails, axes, saws, or knives. On established campsites, dismantle user-built structures such as log seats or tables. On dispersed “pristine” sites, camouflage the site with rocks, organic litter, and branches to discourage others from reusing it.

**5. Minimize campfire impacts.** Some people would not think of camping without a campfire. Yet nature in many areas has been degraded by overuse of fires and increasing demand for firewood. Lightweight camp stoves make low-impact camping possible by encouraging a shift away from fires. Stoves are fast, eliminate the need for firewood, and make cleanup after meals easier. After dinner, enjoy a candle lantern instead of a fire. Choose not to have a fire in areas where wood is scarce at higher elevations, in heavily used areas with limited wood, or in desert settings. If you build a fire, use an existing campfire ring, and conserve wood for others by keeping it small and burning it for a short time.

Collect only dead and downed wood no bigger than your wrist that can be broken by hand. Refrain from burning trash or food, as these attract wildlife and can produce toxic fumes and ashes. When possible, burn all wood to ash, and be certain all wood and crushed coals are wet and dead out before cleaning the fire pit of trash and scattering the coals and ashes in offsite areas. Don't forget to clean out the fire ring of debris (paper, foil, etc.), which should be packed out with the rest of your trash.

**6. Respect wildlife.** Quick movements and loud noises are stressful to animals. You are too close if an animal alters its normal activities. Considerate campers:

- Observe wildlife from a distance to avoid disturbing it.
- Store food securely and keep all garbage and food scraps away from animals so they will not acquire bad habits. Never feed wildlife; keep wildlife wild.
- In bear country, store all food, trash, and scented articles out of reach of animals using approved food storage devices, or hang 12 feet from the ground and 6 feet out from a limb or trunk.

**7. Be considerate of other visitors.** Thoughtful campers respect other visitors and protect the quality of their experience.

- Travel and camp in small groups (no more than the group size prescribed by land managers).
- Let nature's sounds prevail. Keep the noise down and leave radios, electronic devices, and pets at home. Select campsites away from other groups to help preserve their solitude.
- Always travel and camp quietly to avoid disturbing other visitors.
- Avoid “taking over” vistas, attraction features, or camping areas; inconsiderate behaviors degrade the experiences of other visitors.
- Respect private property and leave gates (open or closed) as they were found.
- Take breaks off-trail on durable surfaces.

# **S.A.F.E.**

Scouts and their parents expect all Boy Scouts of America activities to be conducted safely. To ensure the safety of participants, the Boy Scouts of America expects leaders to use the four points of SAFE when delivering the Scouting program.

## **SUPERVISION**

Youth are supervised by qualified and trustworthy adults who set the example for safety.

- Accepting responsibility for the well-being and safety of youth under their care.
- Ensuring that adults are adequately trained, experienced, and skilled to lead the activity, including the ability to prevent and respond to likely problems and potential emergencies.
- Knowing and delivering the program of the Boy Scouts of America with integrity.
- Using qualified instructors, guides, or safety personnel as needed to provide additional guidance.
- Maintaining engagement with participants during activities to ensure compliance with established rules and procedures.

## **ASSESSMENT**

Activities are assessed for risks during planning. Leaders have reviewed applicable program guidance or standards and have verified the activity is not prohibited. Risk avoidance or mitigation is incorporated into the activity.

- Predetermining what guidance and standards are typically applied to the activity, including those specific to the Boy Scouts of America program.
- Planning for safe travel to and from the activity site.
- Validating the activity is age appropriate for the Boy Scouts of America program level.

## *Reference Materials Day 6*

- Determining whether the unit has sufficient training, resources, and experience to meet the identified standards, and if not, modifying the activity accordingly.
- Developing contingency plans for changes in weather and environment and arranging for communication with participants, parents, and emergency services.

### **FITNESS AND SKILL**

Participants' Annual Health and Medical Records are reviewed, and leaders have confirmed that prerequisite fitness and skill levels exist for participants to take part safely.

- Confirming the activity is right for the age, maturity, and physical abilities of participants.
- Considering as risk factors temporary or chronic health conditions of participants.
- Validating minimum skill requirements identified during planning and ensuring participants stay within the limits of their abilities.
- Providing training to participants with limited skills and assessing their skills before they attempt more advanced skills.

### **EQUIPMENT AND ENVIRONMENT**

Safe and appropriately sized equipment, courses, camps, campsites, trails, or playing fields are used properly. Leaders periodically check gear use and the environment for changing conditions that could affect safety.

- Confirming participants' clothing is appropriate for expected temperatures, sun exposure, weather events, and terrain.
- Providing equipment that is appropriately sized for participants, is in good repair, and is used properly.
- Ensuring personal and group safety equipment is available, properly fitted, and used consistently and in accordance with training.
- Reviewing the activity area for suitability during planning and immediately before use, and monitoring the area during the activity through supervision.
- Adjusting the activity for changing conditions or ending it if safety cannot be maintained.