

Required For



Preparation for:

Tenderfoot Requirements 2a,b,c
2nd Class Requirements 2a,b,c,d,e
1st Class Requirements 2a,b,c,d,e
Cooking Merit Badge



Cast Iron Chef

Takeaways

- Planning a menu and managing a budget
- Food safety
- The proper way to lay and light a fire
- A Scout is Trustworthy, Thrifty.

Complete requirements 1 and 2 below. Requirement 3 is optional:

1. Plan a menu for a balanced meal for your den or family. Determine the budget for the meal. If possible, shop for the items on your menu. Stay within your budget.
2. Prepare a balanced meal for your den or family. If possible, use one of these methods for preparation of part of the meal: camp stove, Dutch oven, box oven, solar oven, open campfire, or charcoal grill. Demonstrate an understanding of food safety practices while preparing the meal.
3. Use tinder, kindling, and fuel wood to demonstrate how to build a fire in an appropriate outdoor location. If circumstances permit, and there is no local restriction on fires, show how to safely light the fire, under the supervision of an adult. After allowing the fire to burn safely, safely extinguish the flames with minimal impact to the fire site.

Requirement #1: Plan a Menu for a Balanced Meal.

This activity is training for Boy Scouts. As Boy Scouts, they will be expected to plan their camping meals with their patrol, set a budget for their food, and go and purchase it from the store.

- Have Scouts compile a menu of foods they will need to cook a meal.
- Find out if there are any food allergies in the den, and lead a discussion about why this is important.
- At the top of the menu, write the total budget you decided on; then save the menu to make copies for the den outing.

Shopping for Good Nutrition

- Divide the den into small teams, making sure to keep the buddy pairs together.
- Give each team a copy of the menu and a calculator, notepad, and pen. Remind them that “a Scout is thrifty,” and ask them to demonstrate that by keeping their choices within the budget.
- Challenge the teams to find a good choice for each item on the menu, reminding them to also look for nutritional value. Say: Sometimes paying a little bit more for a quality item is OK. For example, you might pay more for a pound of ground sirloin than regular ground beef, but the taste and the fact that the sirloin is healthier might make it worth the extra cost.
- After about half an hour, bring the den together in a corner of the store to compare notes and vote on the items to purchase. Meanwhile, an adult or the den chief will calculate the final cost. Make sure the items you select can be properly stored or refrigerated until the next meeting when the boys will cook the meal.
- Be sure to compliment the Scouts on being thrifty while also making healthy food choices!

CAMPOUT PLANNER

Name	Attn	Pd.	Init.
1			
2			
3			
4			
5			
6			
7			
8			
9			

Saturday

Breakfast

Drink

Notes

Lunch

Drink

Notes

Dinner

Drink

Notes

Sunday

Breakfast

Drink

Notes

SM Signature: _____

Person buying food is responsible for the food/ice/cooler for the duration of the campout.

Patrol: _____

Date: _____

Campout: _____

SHOPPING LIST

have | need

Paper towels _____

Aluminum Foil _____

Salt _____

Matches _____

Fuel/charcoal _____

GROCERY LIST

Quant.

Item

PATROL CAMPOUT DUTY ROSTER

Patrol Name: _____

Date: _____

SETUP

FRIDAY

Patrol Box			
Water			
Boundary/Gate			

BREAKFAST

SATURDAY

Cooking			
KP			

LUNCH

Cooking			
KP			

DINNER

Cooking			
KP			

BREAKFAST

SUNDAY

Cooking			
KP			

PACKING

Patrol Box			
Water Jugs			
Boundary/gate			

OTHER DUTIES

1.			
2.			
3.			
4.			
5.			
6.			
7.			

Requirement #2: Prepare a balanced meal for your den or family

Utilize one of the methods below for preparation of part of your meal:

- a. Camp stove
- b. Dutch oven
- c. Box oven
- d. Solar oven
- e. Open campfire or charcoal.

Outdoor Cooking Tips

(from BALOO: Basic Adult Leader Outdoor Orientation, No. 34162)

Handy fire starters can be made by placing one charcoal briquette in each section of a paper egg carton. Cover with melted wax, and tear apart to use.

Place a burger fresh from the grill into the bun and put it in a plastic bag for about a minute. The bun will be steamed warm.

Put a kettle of water on the fire to heat while you are preparing your food and eating, and your dish water will be ready when you are.

Freeze meat when putting in a cooler. It will last longer and help keep your other food cold. Make hamburger patties in advance and layer with paper.

Give yourself plenty of time to start a fire and wait for the briquettes or wood to be ready.

Don't forget to rub the outside of pans with liquid soap before putting on the fire; they'll clean up much more easily. Please note that direction is not referring to cast iron pans or Dutch ovens.

Camp Stoves

Only use camp stoves that are commercially manufactured. (Chemical-fueled equipment that is handcrafted, homemade, modified, or installed beyond the manufacturer's stated design limitations or use is prohibited by Boy Scouts of America.)

An adult knowledgeable in the use of the camp stove should supervise the Scouts using the stove at all times.

The stove should only be operated following the manufacturer's directions.

All chemical fuel should be stored at a safe distance (a minimum of 20 feet) from the operating stove.



Stoves should be allowed to cool before refilling fuel or changing fuel cylinders.

If a stove uses liquid gas, refill it at a safe distance from any flame sources, including other stoves and campfires. A commercial camp stove fuel should be used for safety and performance. Pour through a filter funnel. Recap both the fuel tank and the fuel container before igniting.

Never fuel a stove indoors. Do not operate a camp stove in a non-ventilated area. It is recommended to utilize the stove outdoors. If it is used indoors, make sure that you have both high and low ventilation.

Place the stove on a level, secure surface before operating.

Periodically check fittings on compressed-gas stoves and on pressurized liquid gas stoves for leakage, using soap solution before lighting.

Do not hover over the stove when lighting it. Keep your head and body to one side. Open the stove valve quickly for two full turns and light carefully, with your head, fingers, and hands to the side of the burner. Then adjust down.

Never leave a lighted stove unattended.

Do not overload the stovetop with heavy pots and large frying pans. If pots over 2 quarts are necessary, set up a separate grill with legs to hold the pot, and place the stove under the grill.

Take empty fuel containers home for disposal. Do NOT place in a fire as they will explode.

Dutch Ovens

Be sure to line a Dutch oven with aluminum foil for easy cleanup.

The number of coals placed on, under, or around the Dutch oven will determine the internal cooking temperature. As a rule, put in twice the number of charcoal briquettes as it would take to cover the diameter of the oven. If you are baking, put three-quarters of the coals on top of the lid and one-quarter under the oven, unless the recipe says otherwise. If you are stewing or simmering, do the reverse: one-quarter on top and three-quarters below. To roast, divide the coals evenly.

The number of coals placed on and under/around, and the size of the Dutch oven will determine the internal cooking temperature. See the chart on the next page for standard baking placement.



Dutch Oven Size	325 Degrees	350 Degrees	375 Degrees	400 Degrees	425 Degrees	450 Degrees
8"	Top: 10 Bottom: 5 Total: 15	Top: 11 Bottom: 5 Total: 16	Top: 11 Bottom: 6 Total: 17	Top: 12 Bottom: 6 Total: 18	Top: 13 Bottom: 6 Total: 19	Top: 14 Bottom: 6 Total: 20
10"	Top: 13 Bottom: 6 Total: 19	Top: 14 Bottom: 7 Total: 21	Top: 16 Bottom: 7 Total: 23	Top: 17 Bottom: 8 Total: 25	Top: 18 Bottom: 9 Total: 27	Top: 19 Bottom: 10 Total: 29
12"	Top: 16 Bottom: 7 Total: 23	Top: 17 Bottom: 8 Total: 25	Top: 18 Bottom: 9 Total: 27	Top: 19 Bottom: 10 Total: 29	Top: 21 Bottom: 10 Total: 31	Top: 22 Bottom: 11 Total: 33
14"	Top: 20 Bottom: 10 Total: 30	Top: 21 Bottom: 11 Total: 32	Top: 22 Bottom: 12 Total: 34	Top: 24 Bottom: 12 Total: 36	Top: 25 Bottom: 13 Total: 38	Top: 26 Bottom: 14 Total: 40
16"	Top: 25 Bottom: 12 Total: 37	Top: 26 Bottom: 13 Total: 39	Top: 27 Bottom: 14 Total: 41	Top: 28 Bottom: 15 Total: 43	Top: 29 Bottom: 16 Total: 45	Top: 30 Bottom: 17 Total: 47

A Boy Scout troop may be a good source for borrowing a Dutch oven, and they may have some great recipes to share.

Making and Cooking With a Box Oven

Using heavy-duty aluminum foil, line the entire inside of a cardboard box (about the size that would hold 10 reams of paper). Fold the foil over the edges of the box and tape it down around the outside with masking or duct tape. Do NOT leave any cardboard exposed on the inside; if any foil is torn, staple a patch of foil over the tear. You may get better results if you use two layers of foil.

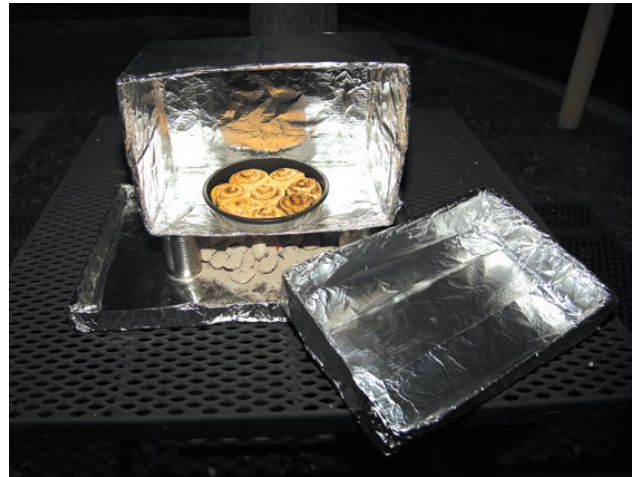
Find or purchase a cooling rack that will fit easily into the box.

Turn two cookie sheets upside down and place them side by side with the long edges touching.

Remove the labels from four empty, rinsed-out vegetable cans. Then set the cans, inverted, on the four corners of the combined cookie sheets.

To cook: Heat charcoal in the charcoal chimney—one briquette for every 40° of heat needed for cooking. Wearing oven gloves and using tongs, lift the heated coals from the chimney and arrange them evenly on the cookie sheets within the space bordered by the four cans. Then lay the cooling rack on the cans and set the food you have prepared for baking on the rack. Finally, place the box oven over the rack, making sure that the foil-covered edges are resting on the cookie sheets. Cook for the time your recipe requires—then serve and enjoy!

: Be sure to position the box on the ground in such a way that it will remain level, and out of the way of normal Scout horseplay.



Making and Cooking With a Solar Oven

Glue aluminum foil, shiny side up, to the bottom and inner sides of a clean pizza box. This will reflect sunlight coming in and trap the heat.

Draw a straight border around three sides of the box top, and have an adult cut through the border with a utility knife to create a new flap—leaving the hinged side uncut. Fold this flap open and glue foil to the bottom side of it, with the shiny side facing out. Tape black construction paper to the top of the pizza box, to absorb and hold in the heat.

Place the food to be cooked on a sheet of foil, and lay it inside the pizza box. Tape clear plastic wrap around the edges of the box to seal out air. Then use a piece of tape to hold the flap open so light will be reflected in.

Place the solar oven outside on a flat surface.

Adjust the position until sunlight is being reflected into the box and onto the food. Check often to make



sure the light is still directly reaching the food. Use a thermometer to monitor the inner temperature of the box.

For best results, keep the oven pointed toward the sun and out of shade. Don't be in a rush: Solar ovens require 30 minutes to preheat and about twice as much time for cooking.

Making and Cooking With a Charcoal Chimney

Using a can opener, remove both ends of a large, rinsed-out coffee can or No. 10 can. Then use a "church key" can opener with a pointed triangular end to punch ventilation holes about 2 inches apart around the bottom edge of the can—this end will serve as the base.

Roll two sheets of newspaper into tubes; then bend and attach them to form a circle. Set the chimney on a fire-safe surface and put the newspaper in the bottom of the base. Then place charcoal on top of the newspaper, and light the newspaper with a match.

Put on a pair of heat-resistant oven gloves and, when the coals start to turn white, use pliers to lift the chimney straight up and set it on a grill or cookie sheet. Using tongs, arrange the lit coals for use.

Keep in mind that a charcoal chimney will remain hot for a while, even after the charcoal has been poured out. So let the chimney cool off in a safe place—e.g., on fire-safe bricks or on a cookie sheet. Avoid surfaces near gas cylinders, grass, or wood.

Safety note: Do NOT use charcoal lighter fluid or any other flammable liquid on your charcoal. See the "Chemical Fuels and Equipment" chapter in the Guide to Safe Scouting.

Foil Cooking

(from BALOO: Basic Adult Leader Outdoor Orientation, No. 34162) Foil pack cooking is a great way to introduce novices to the world of outdoor cooking. They are easy to prepare, great to eat, and simple to clean up after. They can be prepared in advance—at a den meeting—frozen, and then thrown right on the fire at camp. There are probably hundreds of great recipes around, but they all use the same basic concept. The pack needs to be sealed tightly—a "drug-store" fold—to hold in the moisture, turned several times during cooking, and the actual recipe can be just about whatever you want it to be. Here's a basic recipe:

Use two layers of lightweight foil, or one layer of heavy-duty foil. A square sheet the width of the roll will work just fine, shiny side up. Some folks smear a layer of butter or margarine on the foil to start. Add a hamburger patty, then sliced potatoes, carrots, onions, broccoli, or whatever else sounds good. Vegetables should all be cut to about the same thickness to help them all cook evenly. Starting with a cabbage leaf first, and then adding the meat will keep the meat from burning. Encourage the Cub Scouts to add a little onion, even if they're not going to eat it later—it really helps the flavor. Season with salt, pepper, garlic salt, etc., then fold the foil edges up over the food. Fold them down once, crease gently, then fold down again and crease. The object is to seal the moisture in the package. Try not to rip the seams, but if you do, finish wrapping, then repeat with another layer of foil. The trick is to be able to identify your foil pack later, so scratch your name into a small piece of foil and leave it near the outside. Cook this pack for 20 to 30 minutes. You may want to add a handful of rice; just add a few ice cubes also, and it will turn out great!

Spread the white-hot coals shallowly, and distribute the packs evenly on top. While the packs are cooking, watch for steam venting from a seam. If that happens, seal the pack by folding the edge over or

wrapping it in another piece of foil. Turn the packs twice during the recommended time. When it's close to the completion time, open a corner of a pack and check to see if the meat is done.

Foil Cooking Times

Hamburger	15–20 minutes
Chicken pieces	20–30 minutes
Hot dogs	5–10 minutes
Pork chops	30–40 minutes
Carrots	15–20 minutes
Ears of corn	6–10 minutes
Whole potatoes	45–60 minutes
Potato slices	10–15 minutes
Whole apples	20–30 minutes

Cooking times are approximate and will be affected by the depth of the charcoal bed, altitude, temperature of the food, etc. Frozen packs may be put directly on the fire, but they will take longer to cook. Recipes below may have to be adjusted depending on ingredients, etc. It is best to try them in advance to verify the ingredients and cooking time in your area.

Demonstrate an understanding of food safety practices

- a. Why is it important to wash your hands before preparing food? (to keep from getting others sick)
- b. How long should you spend washing your hands? (at least 20 seconds)
- c. How can you check the temperature of foods like meat or poultry? (using a food thermometer)
- d. Where can you find the temperatures that foods should be cooked to in order to be safe to eat? (cookbooks)
- e. What is the problem with putting cooked chicken on the same plate where raw chicken was prepared? (the plate needs to be washed first)
- f. What should you do first before beginning to prepare food? (wash hands)
- g. Explain one way to safely thaw food. (refrigerator, cold water, microwave)
- h. How long is it safe to leave food out at room temperature? (no more than two hours)

Requirement #3: Build a Fire

Rules of Outdoor Fire Safety

- Follow all the rules of your campsite.
- Clear all burnable materials from your 10-foot fire circle. Don't build the fire under overhanging branches of trees or shrubs or near roots of trees.
- Never leave your fire unattended.
- Should always have two water buckets at your fire ring at all times in case sparks start a fire away from the fire circle. There should also be a water bucket near each tent.
- Keep at least a leg-length away from the fire unless tending to the fire or cooking over it.
- Assign a designated fire guardian. Only they are permitted to stir or add more fuel to the fire.
- Everyone stays clear of the fire during cooking time except the cooks.
- Absolutely no horseplay around the fire
- When you are finished cooking, make sure the fire is out. Spread the coals and ashes and sprinkle them with water stir and sprinkle until the site is cold. Feel it with your hand to make sure.



The universal indicator of a dead fire is a stick stuck up in the middle of the dead fire.

Building a Campfire

A fire needs three different kinds of fire material.

Tinder – Kindling – Fuel

Tinder – should start to burn as soon as it is touched with a lighted match. Use thin twigs (pencil lead size), tops of dried weeds, thin wood shavings, dead or dry pine & cedar, etc. Remember to keep it tiny tinder. At least enough to make the size of an adult fist (two fists is even better). If you are in a forested area – look down – tinder is everywhere. Gently poke a small “cave” into the center of the tinder pile for an ignition place. Now start stacking the kindling on top of the tinder.

Kindling – small sticks about the size of a pencil. The Webelos book says thumb size –get a good size stack of pencil size first. Stack it about as tall as a big coffee can and then start with the thumb size pieces. If you will take the time to do the tinder & kindling, this is the most work involved in fire building. Do not attempt to light it until you have a supply of fuel ready.

Fuel – the larger pieces of wood needed to keep the fire going. Arm size & up – a saw is usually needed to cut them to useable size.

Always collect up enough in the evening so you'll have plenty for your morning fire. Keep a tarp or plastic sheet over the woodpile in case of rain. Keep a large coffee can full of tinder in a dry area – wet tinder just won't do well. You've kept the ignition cave open through the kindling – if the wind is blowing, place your back towards the wind to block it & cup your hands around the match. Place the lit match through the kindling into the tinder – gently blow to help it ignite. Once the tinder has started, the kindling burning – gently keep feeding larger fuel to it. Too much too fast could put it out. Take your time – do it right. Take all the steps & do it once. Impress your friends & relatives. If you learn this skill well – you will be one of the minorities that will always be able to start and keep a campfire going. Most good cook-fires are the coals that have just enough fuel wood added to keep the coals going. Flame cooking is a good way to ruin food.

For Your Information:

- Wood that crumbles is rotten. It will smolder and smoke without giving off heat.
- Split wood burns well. The inside of a log is drier than the outside.
- Soft wood (produced by trees that grow quickly such as pines, spruces, cedars, gray birch, aspen) burns quickly. It is good for starting fires or for quick, hot fires. It does not leave good coals.
- Hard wood (produced by trees that grow slowly such as oaks, hickories, yellow birch, maples, and ash) burns slowly. It leaves good coals that will last.

Fire Safety

Mark each True statement with **T** and each False statement with **F**

1. _____ Build fires close to your tent.
2. _____ Be sure fire is downwind from tents.
3. _____ Keep cooking fires as large as can be. They'll cook faster.
4. _____ Clear an area ten feet in diameter of all burnable material, or as required by local law.
5. _____ Place ten fire buckets filled with water at each tent.
6. _____ Always extinguish fires and other flame sources before you go to sleep.
7. _____ Put fires dead out with any liquid you have on hand.
8. _____ Never leave a fire unattended.

Types of Wood

Fill in the blanks with the appropriate answer:

_____ can be anything that is light and dry and not thicker than a match. Make little bundles of tiny twigs.

_____ should snap when broken. In general, dead branches from lower limbs of trees are best to use. Sticks lying on the ground could be damp

_____ includes sticks that are not green. Use these only after a hot fire is started.

Dutch Oven Pizza

- 12" or 14" cast iron Dutch oven
- Tinfoil
- Charcoal briquettes
- Cooking oil
- 1-2 cans of biscuit dough, or 1 roll of refrigerated pizza dough
- 1 can or ½ jar of pizza or marinara sauce
- 4 or more cups of shredded mozzarella cheese
- Pepperoni and any other toppings you like
- Fork
- Knife or pizza cutter

Step 1:

Clean and oil the inside of the Dutch Oven with cooking oil, then line the inside with tinfoil, making sure the shiny side is facing out. Coat the bottom and about an inch of the sides of the foil lining with cooking oil. This will ensure your dough will not stick to the bottom.

Step 2:

Roll out the biscuit dough or pizza dough and shape it into a disk the size of your Dutch oven. Lay the dough inside the Dutch oven, rolling the edges all the way around. Perforate the dough with the fork in several places. This will keep it from bubbling up.

Step 3:

Add the pizza or marina sauce, your favorite toppings and cheese.

Step 4:

Bake the pizza in a 400-degree Dutch oven for 10-20 minutes, or until the crust is a golden brown and the cheese is melted and bubbly.

To make a 400-degree oven, place the hot coals under and on top of the Dutch oven in the following ratios:

12" Dutch oven: 10 coals on the bottom, 19 coals on top. – total of 29 coals.

14" Dutch oven: 12 coals on the bottom, 24 coals on top. – total of 36 coals.

Step 5:

Once baked, carefully remove the pizza from the Dutch oven by lifting it out by the foil. Careful, this will be HOT. Set the pizza on the table and allow it to cool for 5 minutes before slicing.

Step 6:

While your pizza is cooling and while your Dutch oven is still on the coals, carefully wipe out the interior of your Dutch oven, removing any remaining tinfoil, and give it a fresh coating of oil on the interior. Remove it from the coals and remove the coals from the lid. Place the lid back on, and allow it to cool.