

**FIRE + COOKING**

Fire and Outdoor Cooking

Outcomes: Develop a strong sense of self.

Learning how to have a safe campfire is an important part of being a Girl Scout. Cooking over a campfire is the hallmark of Girl Scouts.

To earn this patch Girl Scouts should identify with their parent / caregiver or troop leader what skill level they are at with fire building and outdoor cooking, then try some of these skill building activities in both fire building and outdoor cooking. REMEMBER to start with the level you are at now, learn and grow your confidence with these two important outdoor skills.

Disclaimer – For this week of the GSKSMO in the Outdoors experience, this patch is written by level of outdoor cooking skill NOT by grade level. When it comes to outdoor cooking and fire building it really depends on the girl's ability. Supervision of girls and the fire itself is ALWAYS required. Completing this patch is not the same as taking Camping 102 and is not a certification but is meant to be done in a family setting.

IF YOU HAVE NOT COMPLETED THE LEAVE NO TRACE PORTION OF THIS PROGRAM PLEASE DO SO, ESPECIALLY THE "BE CAREFUL WITH FIRE PORTION".

First off let's start by making Make an Edible Campfire

There are many variations on this lesson and snack. Search the internet for variations. Be aware of any food allergies in your group. This is a great way to teach girls the basics BEFORE you build a real fire.

Possible Ingredients:

- **Choose a Base** – tortilla, plate, napkin, clean table, or placemat
- **Choose safety circle** - licorice rope, Cheerios
- **Choose a fire ring** - M&Ms, peanuts, Smarties, jellybeans, raisins
- **Choose Firestarter** – mini marshmallows. Choose matches – potato sticks, mini pretzel sticks
- **Choose tinder** – coconut flakes, Chinese noodles, shredded wheat cereal. Choose kindling– mini pretzel sticks, potato sticks, cheese curls.
- Choose fuel – pretzel rods, Tootsie Rolls
- **Choose flame** – candy corn, Red Hots, red or orange Skittles,
- **Choose water** – small paper cup with water or juice.
- **Choose dirt** – small paper cup with cocoa powder, granola, crushed Oreos
- **Optional** – use peanut butter, soft cheese spread or icing to hold things together; have small spoons for shovels.



Directions for Building Your Edible Campfire:

1. Clear an area of debris. (Lay down base and safety circle, remind the participants they need to have 8-10 feet cleared around the fire.)
2. Lay your fire ring.
3. Lay the A-frame using kindling (mention that the opening needs to be facing you, and your back needs to be at the wind.)
4. Place a Firestarter in the center of the A-frame.
5. Add the tinder.
6. Hold match under the log in front of the A-frame. If the participants have built their fire correctly, the trainer then adds the flame candy to show that the fire has been lit
7. Add fuel.
8. To douse the fire, sprinkle dirt or water on the fire. Use your shovel to turn over the coals and partially burnt logs.

For Examples and Ideas for your Edible Campfire – Check Out the Links Below!

- [Skip to My Lou Blog – Campfire Snacks](#)
- [Cookie Inspired Edible Campfire](#)
- [Cupcake Inspired Edible Campfire](#)
- [Peanut Butter and Ritz Inspired Edible Campfire](#)
- [Candy Corn and Pretzel Inspired Campfire](#)
- [Cool Campfire Cookies](#)



MAKE FIRE STARTERS

Fire starters are highly flammable materials that ignite at the touch of a match. They are handy to have if it rains, or if you have very little tinder.

The troop may want to make fire starters as part of their preparation activities before the trip.

Egg Fire Starters

- Fill cardboard egg cartons half full of coarse sawdust, dryer lint, a piece of charcoal, or wood shavings.
- Pour melted paraffin or candle ends over sawdust until each space is full.
- When cool, break apart each “egg” or store the whole carton.



Candle Kisses

- Cut a piece of wax paper.
- Cut a piece of candle about 1 inch long.
- Wrap the wax paper around the candle and twist the ends like a piece of candy.



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Trench candles

- Roll four sheets of newspaper together
- Tie with string about every 2'. Leave 3' of string at the end.
- Dip each trench candle into a container of melted wax.
- Hang by the strings to dry.



CHARCOAL FIRES

In the past, wood fires were the primary source of heat for cooking for many campers. Today, in many national and state parks and some Girl Scout camps across the country, campfires are now prohibited or restricted. In such cases, Girl Scouts are encouraged to use charcoal and portable stoves instead of wood.

Starting Charcoal

Equipment needed to start and use a charcoal fire

- charcoal stove or fire pit
- tongs
- gloves
- filled water bucket
- fire starters

The easiest and safest way to light charcoal is using a fire starter and a charcoal chimney.

You can purchase a charcoal chimney for \$15 or you can make your own.

To start a fire using a fire starter:

1. Arrange charcoal in a pyramid or mound.
2. Place candle kisses or other fire starter among the briquettes, leave an air space beneath the fire starter.
3. Light the starter using a long match or candle.

Cooking on Charcoal Fires

- For most cooking, start with 20-30 briquettes, on a windy or cold day you will need more charcoal.
- Be sure to start the charcoal in plenty of time. After the charcoal is burning, it will be **at least 20 minutes before the fire is ready to use**. Once the fire has started, other pieces may be added.
- Tap the pieces occasionally to remove the fine gray ash that holds the heat.
- Charcoal burns from the bottom up and outside in, so **provide a good draft**, especially when starting it.

FIRE-BUILDING WITH WOOD

The three basic elements for a fire are fuel, flame (or intense heat) and air (or oxygen). Follow these guidelines when working with first at the campsite. The simplest fire to build and teach girls to build is an A-Frame fire.

A-Frame Fire

1. **Clean the loose ashes out of the fire circle** and put them in the designated cans at the site. Fill a water bucket and place it near the fire circle.
2. **Gather a supply of dry, dead wood**. Dead wood will snap when it is bent. If it only bends, it is still green. Make 3 piles of wood according to size: tinder, kindling, fuel. The three sizes of wood are:

Tinder – small pieces of wood as big around as a matchstick. This will burn as soon as it is touched with a match. (Examples: pine needles, small dead twigs, match sticks that have burned out)

Kindling – sticks smaller than the diameter of an adult's thumb.



Fuel - Larger pieces that keep the fire going. (The size of an arm or larger.)

3. Build the fire – in an existing fire circle.

- a) Make an “A” Shape with 3 pieces of fuel.
- b) Make sure each leg of the “A” is alternated or stacked one end over and one end under to optimize airflow.
- c) Place at least 2 handfuls of tinder in the “A” of the fire, leaning on the cross of the “A”.
- d) Make sure there is air space between the tinder and lay kindling on top of the tinder in crisscrossed layers.
- e) Have more kindling and fuel ready to add as the fire begins to burn.



Basic-A



Crisscross
(Log Cabin)



Tepee

TIP #1: If the ground and wood are wet, put down a piece of foil and build the fire on top of the foil. Use a fire starter under the tinder.

TIP #2: To make your own waterproof matches, dip matches one at a time or in bunches into thin nail polish. Keep matches in a plastic bag or airtight container along with a strip of sandpaper to strike them on.

LIGHTING A WOOD FIRE

1. Kneel near the laid wood with the wind at your back.
2. Strike the match, tipping the match down slightly so that the flame catches on the wood of the match, not just flares up on the end.
3. Shield the match from the wind by cupping your hands around the match.
4. Remember that a flame burns upward. When the match is burning well, light ***the tinder from underneath*** so the upward flame will catch more tinder on fire.
5. When tinder is well lit, place more kindling lightly on the flame, gradually building a larger fire.

PUTTING A FIRE OUT

As soon as you are through cooking and heating dishwater, begin to put the fire out. Never leave a campfire unsupervised for any reason.

1. Let fire die down as much as possible.
2. Scatter coals, break up big pieces, and knock logs apart.



3. Stir coals and sprinkle with water then stir again. Repeat until there are no live coals under the logs or in the middle.
4. If you have no water, put dirt on it and stir thoroughly.
5. When you can press your bare hand comfortably on the spot where the fire was, you know it is out.
6. Put unburned (un-used) wood back on woodpile.
7. Put loose ashes from the fire circle in ash can.

FIRE SAFETY

1. Use a prepared fire ring or circle
2. Be sure to have a bucket of water and spade, rake, shovel or broom nearby.
3. Tie long hair back when working with fires.
4. Keep the fire small; never leave it unattended.
5. Don't drown the fire ring. Never pour water on the fire because hot steam develops – sprinkle it with water instead.
6. Rake the fireplace level. Do not bury charcoal or partially burned wood. Leave it in a pile in the center of the fire ring for use by the next camper.
7. Do not leave coals unattended until they can be touched with bare hands.
8. Depending on age of girls, an adult must be present when girls are lighting a fire.



PROGRESSION IN OUTDOOR COOKING

There is progression in outdoor cooking just as in swimming, camping or in any other activity. It is important to help girls have a successful experience in preparing food in the out-of-doors. With experience, girls will become skilled in several types of outdoor cooking, understand the impact outdoor cooking can have on the environment, and have fun while they plan nutritious menus.

The types of cooking the girls do should be based on their past experience and their abilities. Also, they should consider the purpose of the event and the site facilities.

BEGINNERS

Nosebag and non-cook foods: Start at this level teaching the girls good nutrition for meeting snacks or lunches to take on short hikes.

One-pot meals: Practice fire-building skills by heating soups, hot water for instant mixes, and progress to standard one-pot recipes. Girls need to be able to cut up some ingredients, stir food over a hot fire and serve from a large pot.

Foil: A convenient yet economically and ecologically inefficient way to cook. Can be used as an open skillet, but more often used to wrap and progress to foil dinners. Girls need to be able to cut up foods, to follow preparation directions, to have the patience to wait for a hot bed of coals, to be able to turn and remove hot packets from the fire and to open hot steam filled packets, which become mini pressure cookers.

Dutch oven: A versatile piece of cooking equipment, it can be used over open flame for frying or stewing. Often used with hot coals for roasting and baking. See cookbooks for recipe ideas. Girls need to be able to lift the heavy oven, to prepare the foods to be used and to make and use the correct type of fire, with either wood or charcoal.

Stick: Simple foods such as marshmallows and hot dogs require little cooking skill, young girls seldom have the patience for meat or dough. Girls need to be able to stand for a time by a hot bed of coals and be aware of the dangers of hot pointed sticks (A flaming marshmallow can cause painful burns.). Girls should understand it takes a while for charcoal to become a hot bed of coals.

Pie Irons: A small “closed griddle” on a long handle. Used for toasting and cooking small items. Never lay them directly on the coals to cook.

INTERMEDIATE

Skillet or Griddle: When cooking for a group, this is best done on an enclosed camp stove as foods cooked this way usually need a lot of care. Girls need to be able to keep a steady fire going, be able to turn foods successfully, to work over a hot fire and to lift heavy pans.

Grilling/Barbecuing: Girls need to have mastered charcoal fires, have the patience to wait for hot coals and for foods to cook thoroughly. They need to be able to turn over foods that are cooking on a grill.

Vagabond Stove: Equipment for pair or individual cooking; often used with a buddy/Bunsen burner for fuel. Girls need to be skilled with tools to make the stoves and able to work with hot paraffin. They need to be mature enough to cook without close supervision. Great care should be taken to prevent burns. **Denatured alcohol should NEVER be used to fuel a vagabond stove.*



Individual Charcoal Stoves: Uses the same cautions and skills as vagabond stoves.

Box oven: An efficient oven in which anything can bake. There are different ways to make one, all easy to do. Girls need to have mastered charcoal fires, be able to move hot coals, be able to follow food preparation directions and the patience not to peek!

ADVANCED

Stick: Girls should be ready for the more advanced forms of stick cooking. They need to have the patience and willingness to work at cooking for 30 minutes or more. Spit cooking is a version of stick cooking for either a group or individuals. Both need a bed of even, hot coals.

Reflector Oven: Another way to bake in the outdoor requires a hot reflector fire made from wood. Ovens can be purchased, made from boxes and foil, or popcorn tins.

Gadgets and non-utensil:

Some are very easy and fun for beginners; others require time to prepare and skill to use. Girls who like to experiment and don't mind occasional disappointment will enjoy experimenting with these tools.

DUTCH OVEN COOKING OR ONE-POT MEALS

Cooking

The Dutch oven is an excellent all-around utensil for both cooking and baking on a charcoal fire. The old-fashioned cast iron conducts and holds heat best and gives more uniform results. The Dutch oven should have a close-fitting lid and, if possible, mounted on short legs for elevation over the coal bed. If you have a domed lid, cover the inside with heavy foil forming a "lip" on the outside to hold charcoal.

Dutch oven cooking requires amazingly little heat. Achieving and maintaining the right temperature is simple using the chart below. A good rule of thumb is to use the same number of coals on top as the size of the oven and use two less coals on the bottom. The bottom sits directly on the charcoal and retains the heat longer because of decreased air circulation.

Care of Cast-Iron Cookware

Review and follow the instructions so the next troop will have clean cookware. Cast iron cookware will last a lifetime with proper care.

Please follow these simple steps to ensure the quality of this cookware.

1. Clean using a stiff brush or scrubbing pad and hot water only.
2. Towel dry immediately.
3. Using a paper towel, apply a light coating of vegetable oil to cookware while still warm.
4. Store in a cool, dry place. If cookware has a lid, place a folded paper towel or newspaper between the lid and cookware base to allow air to circulate.



Baking

1. Preheat the oiled pot and lid by placing directly in the bed of coals for ten minutes.
2. Place foil (shiny side up toward food) on the ground.
3. Place the appropriate number of coals in a small ring on the foil.
4. Prepare recipe and place in hot oven, immediately covering with lid.
5. Follow recipe for cooking time.

Note: turn Dutch oven every ten minutes or so to avoid “hot spots” on the side facing the actual fire. When checking the food, if sides or top appear to be burning, simply remove a few coals.

Size of oven	#Coals	Top-Bottom
8"	6-8	4-6
10"	8-10	6-8
12"	10-12	8-10
14"	12-16	10-12
16"	16-18	12-16

MASTER ONE POT MEAL (Serves 12+)

Into One Pot add: 3 lbs. hamburger; brown & drain
 1 pkg dehydrated onions or 2 fresh chopped onions
 1 pkg dehydrated sweet peppers or 1 large chopped pepper
 Salt and Pepper

Variations:

INSTANT SPAGHETTI 1 can tomato soup 4 14oz cans spaghetti Heat through.	YOKI SPECIAL 4 cans of spaghetti sauce 2 cans of peas Heat through.	HUNTER'S STEW 6 cans of vegetable soup ** or 4 cans of mixed vegetables Heat through.
CHILI 3 16oz cans stewed tomatoes 3 15oz cans of red kidney beans 3-4 Tbsp chili powder Cook 10-30 minutes.	HUNGARIAN POT 4 cans of Campbells pork and beans Heat through.	SQUAW CORN 2 cans tomato soup** 3 17oz cans of kernel corn 1/2 lb diced cheese Heat through.
MEXICAN DELIGHT 1 can of Nibbles Mexican 1 7oz can of pitted black olives 3 cans tomato soup** When boiling, add 1 box of Cornbread mixed as directed and dropped by spoonfuls. Cover and cook for 15 minutes. Do not lift cover during cooking!	CAMP SOUP (no onions/peppers above) 1 16oz can tomato sauce 6 sauce cans of water 2 pkgs onion soup mix 2 Tbsp soy sauce 1 tsp oregano 2 cups sliced carrots 2 cups sliced celery Cover & cook 30 minutes.	SPANISH RICE 3 cans tomato soup** 1 soup can water When boiling, add 14 oz box of minute rice Taco seasoning (to taste) Cover- remove from heat and let stand for 5 minutes.
QUICK MACARONI 2 cans chicken gumbo soup** 2 cans cream of chicken soup** 2 soup cans of water When boiling, add 1 lb uncooked macaroni. Cook covered 20-30 min.	MACARONI BEEF 1 lb uncooked macaroni 2 16oz cans tomato sauce 1 sauce can of water 2 tsp garlic sauce Cover & cook 25 minutes.	CHINESE MYSTERY 1 head celery 2 large pkgs thin noodles (add when boiling) 2 cans tomatoes Cook until noodles tender.
RANCH STYLE BEANS 2 cups catsup 2 pkgs onion soup mix 2 28oz cans baked beans Heat through.	SWEET n SOUR 4 cups pineapple juice 6 Tbsp cornstarch dissolved in 3 Tbsp lemon juice & 3 Tbsp cold water. Stir until thickened. Serve on chow mein noodles.	HAMBURGER HEAVEN 12 oz fine dry noodles 1 lb grated cheese 2 cups chopped celery 2 28oz cans tomatoes Cook covered 20-30 min. Do NOT stir!

** Soup can is 10 ¼ oz size and undiluted.



FOIL COOKING

Aluminum foil may be used to cook in coals. Individual meals or large group servings can also be cooked this way. **CAUTION:** Be sure the food is well covered. It is best to use heavy duty foil. This cooking is not practical for large numbers due to the size of charcoal bed required.

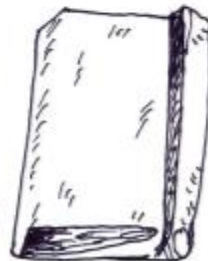
Wrapping the foil is the key to successful foil cooking. Use heavy duty foil or double layers of regular foil. Do not skimp on the amount of foil used to make the seal. Use tongs to move the sealed food packets in the coals. Be careful not to puncture the foil.

TIPS ON FOIL COOKERY

- A FOIL PACKET is a miniature pressure cooker; always puncture before eating to allow steam to escape, and OPEN CAREFULLY.
- ALWAYS COOK on coals or on a grill over coals; the magic word is coals – not fire. Gray coals are the best for direct cooking.
- USE HEAVY-DUTY foil or, if necessary, double or triple thicknesses of lightweight foil.
- USE “DULL” SIDE of foil on outside away from food; bright side may reflect heat.
- SEALING FOOD PACKAGES. Use a “drugstore” fold to seal packages. Bring two opposite sides of foil together and fold the edges over together at least twice. You can make the initial fold in the center, bringing both sides up, making sure the final fold lies flat over the top of the food. The two ends are then sealed in the same manner. Another method is to fold the foil over the food by bringing the top side over the food to meet the bottom edge and fold these two edges together so the seal is at the side of the package. In cooking whole vegetables, a drugstore fold is not necessary. Simply bring foil up around vegetable or fruit and twist the ends or top.
- CAREFULLY use a stick or tongs to turn packages. Packages with “twists” may be turned with a mitt using the “handle” made by twisting the foil.
- TIMING is a matter of judgment – Try One! A package an inch or two thick should require 20 minutes cooking – 10 minutes to a side.
- IF FOODS being cooked (vegetables) do not contain natural fats add a little butter, margarine, strip of bacon or bacon drippings.
- IF YOU are going to use the foil as a plate, or with a paper (NOT PLASTIC) plate underneath, wrap a second time to insure a clean serving plate.
- Dispose of foil in proper containers or carry out.



Drugstore Fold
Sealed at Top



Sealed on Side



Congratulations, you have earned your Fire & Cooking bar of the GSKSMO Outdoor Challenge! You can order and pay \$2.00 for this bar at <https://www.girlscoutshop.com/GSKSMO-Bar-Fire>.

You can purchase the complete Outdoor Challenge patch series – the main patch and all six bars for \$10 at: <https://www.girlscoutshop.com/GSKSMO-Outdoor-All>

