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## Cooking Without Utensils

### Introduction --

Everyone who has been involved in scouting has memories and a story or two about cooking and meals that they have made or eaten.

Cooking without utensils, while no longer a rank requirement, is a long-time scouting tradition. Its novelty makes it a great deal of fun and an adventure to some extent. It can teach a great deal about heat management, meal planning, and nutrition. It can be much more than a marshmallow or hotdog on a stick – and it should be.

### Time required –

One hour class-time and  $\pm$  two hours food and fire preparation time. Demonstration should be just before a meal time. After the class, the group can then prepare their own meal using techniques learned.

### Target Audience –

1-25 scouts, venturing crew members, and/or adults

### Learning objectives –

At the end of the session, learners will:

- Have fun and eat a meal that they have prepared without utensils
- Become aware of good cooking-fire requirements
- Recognize that good meals can be prepared without utensils
- Become aware that leaves, rocks, clay, sticks, and stones can become effective cooking tools
- Learn that these ideas can increase enthusiasm for cooking
- Be able to plan a meal cooked without utensils

### Training Format --

Outdoor demonstration and practice

### Required Materials --

Ideally hardwood charcoal (briquettes as an alternative), an area where suitable materials can be harvested without damaging the environment, sweet or neutral tasting leaves (cornhusks as substitute), rocks that can be heated without shattering, clay, and food.

Cooking without utensils is far from a science. There are many variables such as the fire, the food being cooked, the wind speed, temperature of cooking rocks, sticks, clays, leaf moisture, etc. These variables make cooking times impossible to be more than intelligent guesses. In learning, there will be a lot of under-cooking and over-

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cooking. Practice, practice, practice. You will have fun, learn, and enjoy the food.

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Trying all of these methods with all of the foods mentioned here is not practical in one session. Various foods and materials are not always available. Try to prepare at least one meat dish, one vegetable, one bread, and a dessert using several methods of cooking. Meat and/or bread on a stick, eggs in onions or oranges, baked squash, and some stone boiling would be good to try for.

## Cooking Without Utensils

### Demonstration Ideas --

One way to do the demonstration could be with food ready to go and a bed of coals waiting.

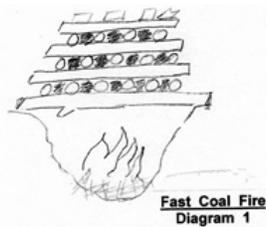
1. small fish – planked and propped next to the fire
2. ½ pound fish, 2 strips bacon, 2 gobs of butter, and 1 small chopped onion -- wrap in leaves and cook in fire
3. ½ pound beef, 2 medium onions, and 1 slice bacon -- on stick as a kabob
4. beef (chunk or ground) -- baked on leaf on coals
5. beef steak 2"x3" -- directly on coals
6. egg -- fry on flat rock
7. egg -- on spit
8. egg -- on coals
9. bread (biscuit mix) -- as twist
10. biscuits -- on a hot rock griddle
11. bread -- done as ashcake
12. potato -- baked in hot earth under fire
13. corn -- wet husks directly in coals

### Preparation –

Raw foods that require refrigeration should be in coolers. The foods should be prepared as much as possible and ready to go. The fireplace should be ready to go and with a bed of glowing coals. Explain how to prepare a good cooking fireplace and how to select and prepare and lay wood for the fire. A second fire should be prepared and ready to light during the demonstration if the group will be cooking their meal after the demonstration. Have a demonstration bear-bag up.

### The Fire –

The fireplace should be in a proper area with water available. Start with a good twigs and wood fire. For a fast bed of good coals, start a teepee fire under a stack of criss-crossed hardwood with pencil-sized wood below and increasing to about wrist size as you go up. Ideally a bed of coals 4-5" deep is best. (see diagram 1)



If real charcoal is available, add it after spreading the fire. Briquettes can be used, but should not be used if any food is to be placed directly upon them. A rock 'fence' on the lea side of the fireplace will create a

draft to make fire hotter. A rock-lined bottom is a good idea to hold and reflect heat. Before actual cooking begins, a good bed of coals is needed – not flames

**Trainer Tip:** *During the course of the demo a number of safety and conservation warnings will be needed – proper fire ring, water nearby. Stone selection -- dry igneous. Stick and leaf selection – no oleander, rhododendron, mayapple, poke, or castor bean. No wood with toxic sap. Avoid resinous woods and those that will spoil flavors.*

## Cooking materials and techniques

### Directly on the coals –

This is likely the way primitive cooking began. Simply throw the food on the fire. Steak should be 3/4" to 1 1/2" thick, fan ashes off of the coals. (A bed of coals at least 2" thick in area 1/3<sup>rd</sup> larger than total area of steaks is best.) Press the meat on the coals to seal in the juices. After about a minute, fan ashes of another area and flip the steak on to it. Cook 3-4 minutes on each side.

Fish – gut, don't scale, leave the head on. For a large fish, make slits in flesh to the backbone every inch or so. After cooking, remove head, tail, and skin.

Wrap small fish in leaves or wet paper and put on coals.

Eggs – pierce shell and membrane

Fowl – clean the bird from the vent, add dressing if you want. Wet the feathers by dunking bird in water, cover coals with ashes, add bird, more ashes, then coals.

Roast corn – open husks, remove 'silk' and strip all but 1 layer of husk, tie that husk around the corn with a piece of husk. Dip it in water and cover with embers, or bury in sand and make fire over it.

### Ground cooking –

Small squash are their own cook-pots – cut them open, clean out the seeds, put in brown sugar and butter or margarine, replace the cut portion and fasten with a couple of toothpick-sized sticks. Cook on or under the ground  $\pm$  2 hours.

Bread or biscuits – prepare the dough in a loaf about 1/2" thick, rake the fire from an area and place the loaf on smooth flat earth, and cover with hot ashes.

After baking 10-15 minutes, turn over, rake the loaf out, and blow off the ash.

Test for doneness with a slender twig. (see diagram 2)



Roast potatoes, carrots, beets, onions, small turnips, and tomatoes; also apples if wrapped in leaves. Scrape out a hole deep enough to hold them, build a quick fire above it, scrape half of the coals aside, put food in, cover with coals, cover with dirt, let cook 25-40 minutes.

Steaming – pit lined with rocks, fire 1 hour, remove coals, line with wet vegetation, add food, cover with more wet vegetation, cover, add water, seal, for several hours.

Sand – red-hot dry sand, well-wrapped food, covered with 3” wet sand for 1 hour

### **Rock cooking --**

The most important thing to remember is that rocks can contain moisture. If that moisture is converted to steam, the rocks can explode. Igneous rocks are less likely to crack or explode when heated. Avoid shale and limestone; try for smooth, not gritty rocks. In the wild you just have to be a bit of a geologist; pick your rocks carefully and be aware of the potential danger.

**Trainer tip:** *For demonstrations I fill a shallow pan with vermiculite or sand and place the rocks on the pan and put it into a low heat oven overnight.*

A flat rock less than 2” thick can be used as a griddle. Place it on top of coals and heat slowly and evenly for about 30 minutes. When one side is heated, turn it over, heat the other side, level it, brush off, and use as a griddle. The rock is ready for cooking when a drop of water sizzles on it.

**Trainer tip:** *soapstone, marble, concrete paver, or granite counter top can be used*

Bacon and eggs – break in an egg into a ‘fence’ or barrier made of bacon strips.

Onion rings – dip in batter, fry on hot rock. Batter should be thinner than for biscuits, but thick enough to adhere to the onions.

Biscuits -- ½” thick 2” diameter

Tortillas – pat out dough thinner than pancakes. For less sticking, a thin layer of flour can be dusted on a hot rock griddle before putting on a thin tortilla

Small (about golf ball size) hot rocks can be placed inside the body cavity of small mammals or birds. Use gloves, tongs, or careful words with a couple of sticks. Remember that if it is hot enough to cook with, it can burn you. Ideally the ‘critter’ should then be wrapped in some sort of insulation to hold in as much heat as possible.

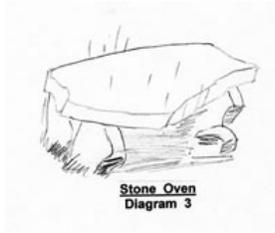
Hot stones can be used for boiling in anything that will hold water. Generally the rocks won’t damage the linings – water takes all of their heat. Containers to consider are wooden bowls, gourds, space blankets, pumpkins, or someone else’s hat.

Stone boiling can be done in a hole in the ground lined with any material that holds water. A basket or such in the bottom to catch and hold the rocks will make them easy to find and change. Heat 20-30 stones 2-3” diameter for about 10 minutes to a half hour. It takes 5 or 6 such stones to boil 2 quarts of water in 2-3 minutes. Remove cold stones before adding new hot ones.

Pumpkin cooking – Hollow out pumpkin as for a Jack-o-Lantern, put in food, add water until about 2/3<sup>rd</sup>s full, add 6-8 hot rocks about golf-ball size, put top slice on. When simmering stops (about 25 minutes), remove rocks and return them to the fire and add new rocks.

**Stone oven** – (see diagram 3)

The oven should be just large enough for the food. The opening should be toward the fire. Build the fire to heat, then cover the open ends with slabs. It is best to have a layer of green vegetation around the food; this adds moisture and avoids scorching.

**Stick cooking** –

stick selection

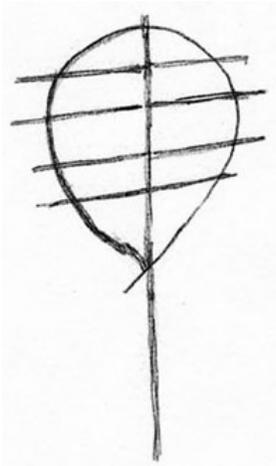
Leave No Trace

1. Look for the size and shape sticks you want in an area that is off the trail and that won't be missed
2. Check to see that it will be useful – green, non-poisonous, neutral or good taste and smell, solid, no pith or pitch. Know your plants -- avoid oleander, rhododendron, laurel, yew, holly and elm.
3. Cut low to the ground, don't leave a sharp or jagged stump
4. Trim it to shape off the trail, remove leaves and bark

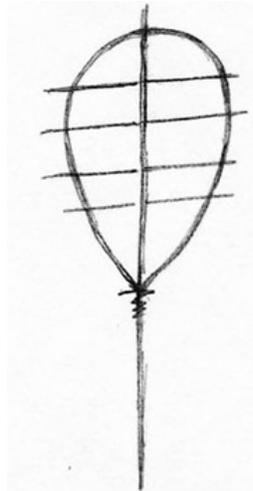
Heat stick to seal in sap/resins before using unless using sticks that will add a good flavor. Sassafras or black birch add great flavors.

The thicker the item to be cooked the farther it should be from the heat. Otherwise the result will have a raw inside and a burned outside. Roasting is best on the side of (not over) coals – not in the flames. A container to catch drippings for basting or making sauce or gravy is a good idea. 16-18" above coals, if directly above them.

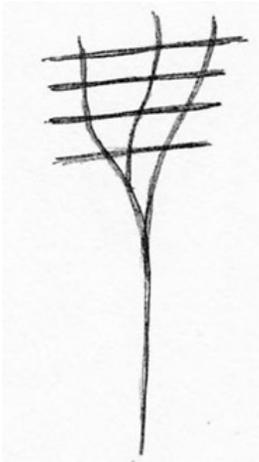
Broiler racquet from woven sticks (see diagrams 4a, 4b, and 4c)



**Racquet Broiler**  
**Forked Stick**  
**Diagram 4a**



**Racquet Broiler**  
**Two Sticks**  
**Diagram 4b**



**Racquet Broiler**  
**Three Branches**  
**Diagram 4c**

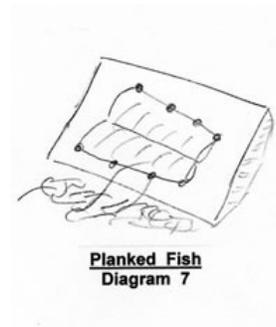
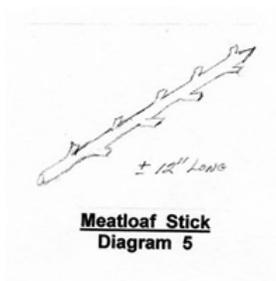
Split stick for toast, etc.

Meat – 8 count using your hand as a thermometer on side of fire, if over coals 4 count – chicken – 35 minutes per pound, lamb – 35 minutes per pound, beef – 30 minutes per pound, fish – 8-10 minutes per pound; rotate  $\frac{1}{4}$  turn every 10 minutes

Meatloaf – meat, onions, cornflakes, stick  $\frac{1}{2}$ " diameter with branch nubs – tie on with bark strips or such (see diagram 5)

Kabobs – pencil-thick stick, meat, vegetables, mushrooms. Food close together = rare, spaced = well-done. If you are using bacon, don't cut in pieces, stretch it along the side. (see diagram 6)

Planked fish/steak – attach to heated split logs, flat strips, flat rocks, etc. with pegs or wire, place at angle in front of fire. With fish have skin side next to the plank. (see diagram 7)



Slab cooking – heat a green hardwood slab on the fire until the sap sizzles and use it as a griddle.

Egg – stick maximum of  $\frac{1}{4}$ " diameter, triangular cross-section, about 6" above coals for about 10 minutes. Be careful not to seal the holes in the shell.

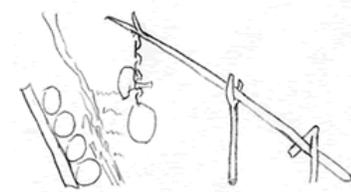
Birds – dress and stuff, 2 sticks through body side to side, 1 at legs 1 at wings, suspend by sticks next to fire on a wet string with a drip pan below. A reflector is very useful. Baste with drippings, and after a bit turn it over. Allow at least 20 minutes per pound total. Bacon strips at the sticks helpful, low end of bird should be about 4" from ground. (see diagrams 8a and 8b) If suspended on a twisted wet string or wire it will rotate better if a Seton wind fan is used. Make a fan or wind-catcher and put it into the twist. (see diagram #9)



**Bird**  
Diagram 8a



**Bird**  
Diagram 8b



**Seton Roaster**  
Diagram 9

- Fowl Stuffing – (one cup of stuffing for each pound of bird)
- 3 cups dry bread cubes
- ½ cup chopped celery
- 2 tbsp chopped onion
- 1 tsp sage or saffron leaves
- 2 gobs butter
- 1 tsp salt
- ½ tsp pepper
- Mix the above ingredients. Then add enough water to moisten.

Bread twists -- Twist stick should be 1-3" diameter. Peel bark, cut lengthwise slashes to hold dough. Heating the twist stick very hot makes the dough stick better and can do some baking from the inside. Dough stiff enough to have a thumb-thick roll will hang without breaking. At first, bake close to coals to firm up, then move away for slower baking. (see diagram 10)



**Twist Stick**  
Diagram 10

Bread cups -- stick about baseball bat thick, heat and grease, coat with  $\pm$  ½" biscuit mix. When done, fill with pudding for éclair or butter, sugar, cinnamon on the outside. Could also be used as a bowl.

Place the food between the fire and a reflector of some sort if possible.

### **Clay cooking** –

Clay selection is important. Smell and taste a bit. The wrong clay can impart bad flavors.

**Trainer Tip:** For demonstrations, a talk with a local potter might give good ideas and/or useful clay.

Poultry, fish, or small mammals should be wrapped in clay with no fur or feathers exposed. They cook in what becomes their own little oven. Gut the food item and cut off head and feet but leave skin, feathers, or

scales on. For birds, remove the tail oil gland and large tail and wing feathers. Cook  $\frac{3}{4}$  hour for fish or a small bird.

Rub the wet, putty-like texture clay into the feathers, fur, or scales very well and wrap in clay. For fish use a thin layer and place in coals for 45 minutes to an hour. For birds and mammals, the clay layer should be about  $\frac{1}{2}$ - $\frac{3}{4}$ " thick. When the clay has hardened and the food cooked, crack open the 'pot' and the fur, feathers, or scales will stick to the hardened clay.

Eggs can also be wrapped in clay, covered with ashes, and ready in about 20 minutes.

### **Leaf cooking** –

'Indian aluminum foil' – food can be wrapped in non-poisonous leaves (at least three layers is best) and placed on the coals and covered with warm ash. Many leaves will provide seasoning in the process. It's a good idea to taste the leaves before using them.

A bit of botany is required here. Obviously poisonous plants (castor bean, mayapple, elephant ear, dumb cane, pokeweed, rhubarb, etc.) should be avoided. Plant leaves with a good flavor –sassafras, maple, grape leaves are ideal. Basswood, birch, and tulip tree are also good. They can really add flavor to what is being cooked. Some of the nut tree leaves can give a bad flavor. In any event, know your plants. Most are safe.

**Trainer Tip:** *For demonstrations, soaked corn husks, lettuce, cabbage, or banana leaves work very well. (Banana leaves are available in many ethnic grocery stores.) Wet brown wrapping paper or newspaper will work. For meat, fish, or fowl try 6-8 layers of wet paper.*

Meat cooking – place meat on 3-7 layers of leaves and put on coals. The leaf area under the meat stays moist and cool. After about 5 minutes remove from the coals and flip onto other leaves for the other side.

Meat, vegetables, and breads can all be cooked wrapped in leaves. They can be placed on the coals, buried under the fire or in hot ashes. Well-wrapped leafy vegetables – cabbage, spinach, etc. will steam and cook in their own juices. Wrap them into a wrist-sized 'cigar' and tie with a green leaf. Wrap corn in leaves and bury under fire.

If banana leaves are available, remove the midrib. Take a portion-sized leaf section to wrap the food item. Wrap the food with the raised ribs on the outside of the bundle -- heat the leaf section first to make it flexible. Two leaf layers are best. Tie it with a strip of leaf. A banana leaf on warm coals can be used as a fry pan.

### **Breads** –

'Bullet' balls of dough roasted in ashes.

Bannock on racquet -- stiff dough under 1cm thick.

Dough in fist-sized ball -- flatten, drop hot rock in center and wrap with dough.

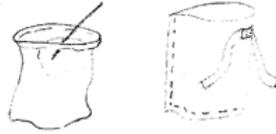
"Twist" on a stick

If your recipe calls for an egg and the weather is right, replace each egg with 2 tablespoons of snow.

For a baking soda substitute use an equal amount of wood ash and mix with the dry flour.

**Trainer Tip:** *Mixing dough seems simple enough, but for a demonstration there are a couple of ways to do it with a bit of showmanship.*

*Instead of using a bowl, mix the flour in its own container. If using a box of commercial mix, lay it on its large side. Cut a large three sided flap in the box and liner. Scoop a hole in the flour. Pour water into the hole, then take a small stick and stir the water in a circular motion.*



**Flour Bags**  
Diagrams 11a & 11b

*Gradually dough will form. When the ball of dough begins to turn in the opposite direction from the stirring you will have made the correct flour/water mixture for most biscuits, etc.*

*Instead of using the mix in the box, a flour bag is a better idea. A good set of dimensions is a circular bottom about 7" in diameter, with about 8" sides. Have two tie tapes about 9" long sewn to the side seam. (see diagrams 11a and 11b ) With the bag, open it up and make the flour hole.*

*For stiffer dough, ash cakes, breads, bannocks – lay out a cloth, tent flap, someone else's coat or shirt, etc on a flat surface, dust it with flour, then put the dough on the cloth to shape it.*

### **Vessels –**

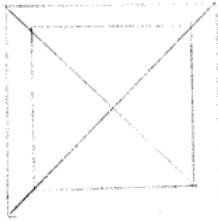
Oranges, onions – cut onions along lines – not across, oranges stem to end – good for eggs, meatballs, or biscuits.

Try scooping an opening in a potato large enough for an egg, piece of sausage, or some cheese. Seal the opening with the slice you made to do the scooping. Cook in embers for about an hour.

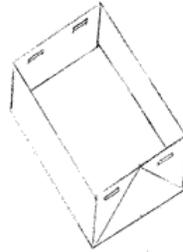
Gourds, pumpkins, coconut shells.

Leaf plates, bark slabs, turtle shells, sea shells, shell spoons, twig forks, chopsticks. Bowls and spoons can be hollowed out of slabs with well-placed embers, time, and controlled puffs of air.

Bark or leaf pots – sew or use split sticks to hold together. To work bark, heat by soaking in hot water or holding over fire. (see diagrams 12a, 12b, and 12c)



**Bark Container**  
Diagram 12a



**Bark Container**  
Diagram 12b



**Bark Container**  
Diagram 12c

### **Clean up** –

Scour with pinecones, horsetail rush, sand, dry grass.

Use wood ashes as hand cleanser, and ashes to cut grease (soap).

### **Grand Finale** –

**Trainer Tip:** *For a Grand Finale that takes advanced time and effort, but is a real wow! – Prepare ‘Chicken in a Backpack’ in advance and have it ready at the end of the demonstration.*

### **Chicken in a Backpack**

Stuff a dressed chicken with about 6 golf-ball sized hot rocks, cover with thin-sliced potatoes and onions. Wrap in layers of leaves or paper. Place in plastic bag and put in pack (someone else’s is best) surrounded by well-packed leaves, dry grass or other insulation. A three-pound bird feeds four and takes about four hours to cook. Rocks should have been heated 30 minutes or more.

### **Conclusion** –

**Trainer Tip:** *Thank them for attending, and remind them that their new knowledge needs to be shared if it is to be meaningful. Scouting should be youth-led. They should share these ideas with their youth leadership and suggest that they can use them for unit and district planning and implementation.*

### **Fire out and area clean!**

Theodore Roosevelt in writing about outdoor cooking finished with “If to the above recipes you will add a ten hour hike, hunt or fish you will find it excellent.”

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