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Team Up for Outdoor Meals II – Member’s Manual
Michigan State University Cooperative Extension Service
4-H Club Bulletin
Mary Kerr, Foods and Nutrition
Issued March 1979
19 pages

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COOPERATIVE EXTENSION SERVICE

Newaygo County

Community Building

Fremont, Michigan 49412

Phone 924-0500

OUTDOOR MEALS II

Member's Manual

Adventures in Outdoor Cooking



Cooperative Extension Service • Michigan State University
4-H—Youth Programs

Adventures in Outdoor Cooking

by Mary Kerr

Extension Foods and Nutrition Specialist

Are you a modern camper who prefers a fancy travel van complete with built-in stove and refrigerator? Or do you like to rough it, build your own fires, and make your own equipment? Maybe you are somewhere in between the backyard barbecuer or the camp stove champion. Whatever you prefer, you can learn many different methods that will help you make outdoor cooking an adventure.

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If you wish to use materials referred to in "Suggested Activities," ask your leader to inquire at your County Extension office.

PREPARING FOR YOUR ADVENTURE

Make Your Plans Carefully

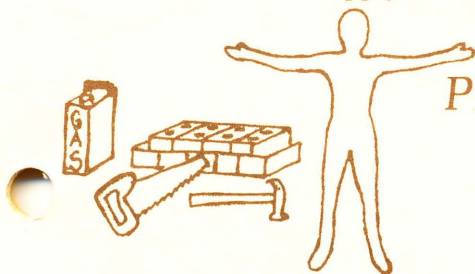
You will enjoy your meal and your entire experience more if you plan carefully what to do and what you need for each outdoor meal. Make a checklist based on the following questions:

1. What cooking method will you use?
2. What is your menu?
3. How much food do you need for the number of people?
4. Who will buy and bring the food?
5. What special equipment do you need?
6. Who will supply the equipment?

7. Where will you have your outdoor meal?
8. What other activities will you do at your meal?
9. Who will clean up?

1 COOKING METHOD	TOM B.
2 MENU	SUE
3 QUANTITY	MARSHA
4 TYPE	ANN
5 WHO PAYS	ALLAN
6 POTS & PANS	DAVID
7 UTENSILS	ALISA
8 LOCATION	CLARK
9 FIRE	BRENDA
10 ACTIVITIES	PEGGY
11 CLEAN-UP?	BRIAN

Plan to Build a Healthy Body



You will enjoy outdoor adventures more if you have a healthy body. Learn how to “build” a healthy body as you learn about cooking outdoors. It begins with the right materials—the nutritious foods you eat.

If you were going to build a house, you would need all kinds of building supplies, workmen, tools, and fuel to keep the operation going. The same is true with your body, and we call these supplies nutrients. There are six main classes of nutrients: proteins, carbohydrates, fats, vitamins, minerals, and water.

There are four main “companies” that supply these nutrients to your “building” operation, just as a builder gets his supplies from different companies. They are: The Bread-Cereal Corporation, the Fruit-Vegetable Associates, the Milk Enterprises, and the Meat Cooperatives. The supply code—4-4-3-2—helps you to remember your daily quota from each company. Use them in planning your outdoor meals.

- Bread-Cereal Corporation**—4 servings
- Fruit-Vegetable Associates**—4 servings
- Milk Enterprises**—3 servings
- Meat Cooperatives**—2 servings

The term “serving” can be rather confusing. Serving sizes by food groups are:

Bread-Cereal One-Serving Portions

- 1 slice bread
- 1 roll, muffin, biscuit
- ½ hamburger bun
- ½ cup cooked cereal, pasta
- 1 cup dry cereal

Milk One-Serving Portions

- 1 cup whole or skim milk
- 1 cup yogurt
- 1 cup pudding
- 2 1-inch cubes cheddar cheese
- 2 slices American cheese

Milk One-Half Serving Portions

- ¾ cup cottage cheese
- ¾ cup ice cream/ice milk

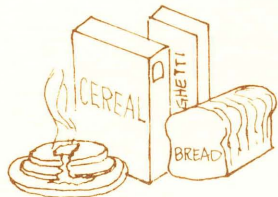
Meat One-Serving Portions

- 2-3 ounces cooked meat (about the size of the palm of your hand)
- 2 eggs
- 4 tablespoons peanut butter
- 1 cup cooked dried beans, peas
- 2 1-inch cubes cheddar cheese*
- 2 slices American cheese*
- ½ cup cottage cheese*

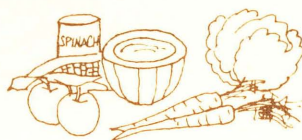
*count as meat or milk but not both together

Fruit-Vegetable One-Serving Portions

- ½ cup cooked vegetables or cooked fruit
- ½ cup juice
- 1 cup raw fruit or vegetables
- 1 orange, pear, banana, apple, etc.



The Bread-Cereal Battalion



The Fruit-Vegetable Detail



The Milk Brigade



The Meat Platoon



Supply Checklist

After each meal you will be asked to figure out how many servings you ate from one of the food groups. Write down the food you ate from the specific food group mentioned, how much you ate, and

how many servings that equals. Your answer may be different from a friend's answer, depending on what you ate and how much! An example is given below:

From the Fruit-Vegetable Associates I Ate:

I Ate This Much:

That Equals This Many Servings:

From the Fruit-Vegetable Associates I Ate:	I Ate This Much:	That Equals This Many Servings:
Example		
Vegetable Scramble	2 helpings—about ½ cup each	2
Spiced Banana	1 banana	1

Let's Go!

With your plans made, your equipment ready, good food and a healthy active body, you are all set. Enjoy your new adventures in outdoor cooking.

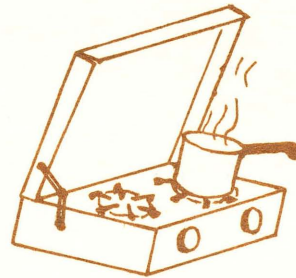
CAMP STOVE—Meal 1

Camp stoves are just the thing for the occasional overnight camper who doesn't want to "rough it" too much or wait for the fire to burn down into coals.

Camp stoves usually have one, two, or three burners; but the two-burner ones probably have the best all-around usefulness for camping. They are fueled by bottled butane or propane, although some use liquid fuel such as gasoline or alcohol. The bottled tank fuel is safer than the liquid fuel, which can spill easily; but it is more expensive, and it may be difficult to start in very cold weather.

Safety Rules:

1. Read the manufacturer's instructions before setting up or lighting your camp stove.
2. Set the stove on a firm surface away from other things that can burn easily.
3. Be sure that if you are cooking inside a truck or van, you have some windows open for ventilation.
4. Light your match first and then turn on the knob and light the gas. Long matches are best.



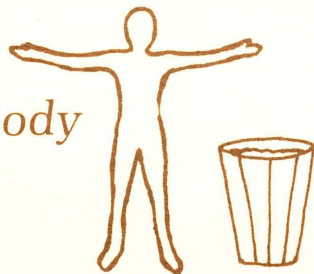
2. Do "Water, Water Everywhere" from the "Mulligan Stew" Notebook, Page 3-A-4.
3. Play "The Grocery Bag Game" from the "Foods and Nutrition Games" Notebook, Page 26, under Other Resources.

Menu

Camp Stove

Red Flannel Stew
Fried Tortillas
Cabbage Slaw
Peanut Butter Bars
Pinky

Let's Build a Body



One of the most important considerations in building a house is the environment. Most people enjoy fresh, clean air and want to live in an environment that provides it. The environment for your body cells is water. Sixty percent of your body is water.

Water does many things. It helps provide your personal air conditioning, it is the largest component of blood, and it bathes each cell with a solution of nutrients. You could not live more than a few days if you did not replenish your body's supply. That's why you have a built-in water regulator. It is called **thirst**. Whenever you need more water, you feel thirsty. You won't drink too much, either, because your body just eliminates extra.

Suggested Activities

1. Study weather conditions and discuss their effects on eating, food availability, and seasonal foods.

Recipes

for Camp Stove

Red Flannel Stew

(6 servings)

- 2 tablespoons butter or shortening
- 1 large onion, chopped fine
- 2½ cups pinto beans or frijoles
- 2½ cups canned corned beef
- ½ teaspoon chili powder
- 2 cups canned tomato sauce
- ½ pound cubed cheddar cheese
- Salt
- Tortillas

Melt shortening, brown onions. Add beans. Add meat, chili powder, and tomatoes. Cook 20 minutes. Salt to taste. Add cubes of cheese. Remove from heat to melt. Serve on fried tortillas.

Fried Tortillas

Shortening or oil
Tortillas—corn or flour

Preheat skillet on camp stove. Add a small amount of fat to skillet. Do not allow fat to smoke. Cook tortilla on one side; turn and cook on other side. Remove from pan and fold in half. Fill with Red Flannel Stew and eat as a taco.

Cabbage Slaw with Lemon-Carrot Dressing
(6-8 servings)

Dressing:

- 1 lemon (juice and grated rind)
- 1 cup grated carrots
- ¼ cup granulated sugar
- ¼ cup water

Combine grated rind and juice of one lemon and grated carrots. Boil sugar and water to form a syrup. Cool. Add syrup to the lemon-carrot mixture. Chill.

Cabbage Slaw:

Wash cabbage. Remove outer leaves. Cut cabbage in quarters, using a sharp knife; shred cabbage. Avoid bruising to retain vitamin C. Chill. Toss shredded cabbage with lemon-carrot dressing just before serving.

Peanut Butter Bars

(12 bars)

- 1½ cups flour
- ½ teaspoon salt
- 2 teaspoons baking powder
- ¼ cup shortening or margarine or butter
- ½ cup chunky or plain peanut butter
- ¾ cup brown sugar
- 1 teaspoon vanilla
- 2 eggs
- 1 cup raisins (optional)

Sift together flour, salt, and baking powder. Cream shortening with peanut butter. Add brown sugar and vanilla. Stir well. Add eggs and beat until mixture is fluffy. Add flour mixture to egg mixture. Stir in raisins. Spread in a greased 8-or 9-inch pan. Bake at 350° F. for 30 minutes. Cool and cut into 12 squares.

“Pinky”

(2 quarts)

- 1 cup orange juice
- ½ cup lemon juice
- ½ cup grape juice
- 2 cups water
- 5 tablespoons sugar
- 1 tray ice cubes

Combine sugar with juices and stir until dissolved. Add to water and ice cubes; mix well.



Supply Checklist

You get water in many ways, besides drinking beverages. Fruits and vegetables are full of water and contribute to your body’s needs. Meat products also have significant amounts of water, and bread and

cereal products provide moisture to varying degrees. They all work together to keep you a watery creature!
See how you got water in your Camp Stove meal.

I drank:	There was a lot of water in:	There was some water in:

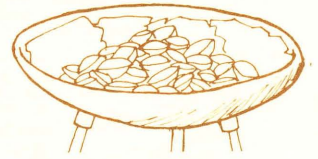
Evaluate

A trick I learned about using a camp stove was _____

Using a camp stove for cooking a meal would be most useful when _____

CHARCOAL GRILL—Meal 2

Oh, for that favorite summer activity—the backyard barbecue! The tantalizing aroma of foods cooked over a charcoal grill is enough to bring all the neighbors.



Charcoal comes in two forms—lump charcoal and briquettes. Lump charcoal is irregular in size because it's sold just as it comes from the retorts where it started as hardwood. Briquettes are made from lump charcoal that has been ground, mixed with starch as a binder, and pressed into blocks.

Starting the Fire (Begin the whole process about 45 minutes before you want to start cooking.)

1. Make sure the grill fire box is on a firm, level spot so it won't tip over, then line the bottom of the grill with foil for easier clean-up.
2. Adding a 1- to 2-inch layer of sand or gravel will distribute the heat more evenly, absorb drippings, and provide draft for the fire.
3. Prepare the briquettes in one of two ways: stack them in a pyramid, moisten (not drench) them with lighter fluid and let them stand about 5-10 minutes; or put the briquettes in a 2-pound coffee can, squirt in some lighter fluid, cover the can for about 15-20 minutes, and then stack them in a pyramid. Light the briquettes with a match, or you can use newspaper as tinder to help start it. *Don't* use gasoline, kerosene, or fuel oil; and *don't* add lighter fluid after the fire has started to burn. (You can get burned that way!) Two pounds of charcoal is about right.
4. When the briquettes are about $\frac{2}{3}$ covered with gray ash (in 20-30 minutes) spread them out so there is $\frac{1}{2}$ inch to 1 inch between them. You are now ready to cook.
5. It's best to have two sets of tongs—one for moving the coals and one for turning the food.

Controlling the Heat

If the fire is too cool you can (1) lower the grill so it is nearer the coals, or (2) add more coals.

If the fire is too hot you can (1) raise the grill, (2) rake coals away from under the grill, or (3) sprinkle water on the coals.

Putting Out the Fire

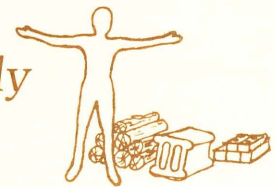
1. Remove live coals and ashes and smother them with dirt or douse them with water.
2. If the coals were not completely reduced to ashes and you wish to re-use them, put out the fire as above, let them cool, and then store them.

3. Be sure to water down the spot where the grill stood, because it may be very hot.

Questions

1. *How much charcoal do I need?* That depends on how much food you will cook. Two pounds of charcoal is enough for an average grill. If you're going to cook 5-10 chicken halves, it will take 5-10 pounds of charcoal, depending on the weather. Better start out with the minimum amount of charcoal and add to it if necessary.
2. *How long will it take?* That depends on how hot the fire is, how close the food is to the fire, how "done" you like your food, the direction and amount of the wind, and the kind and quality of the meat or vegetables you are using.
3. *How can I add a smoked flavor?* Soak chips of wood from hickory, oak, or fruitwood in water for 20 minutes; then add to the hot coals. They will smoke and not burn.
4. *How should I clean the rack?* After you've finished cooking, use asbestos gloves or pot holders to remove it, and wrap it in wet paper towels or newspapers. This will soften cooked-on food for easier cleaning later.

Let's Build a Body



To build a house, we need structural materials—wood, cement blocks, bricks, plaster board, etc. Protein provides the structural materials for building your body. There are many kinds of proteins, just as there are many kinds of building materials. Each kind of protein is best suited for special tasks, such as building blood cells, brain and nerve cells, muscle cells, cell walls, and on and on! You also need protein to repair or replace cells.

Protein is especially important while you are growing and you need some every day. You can get enough if you follow the "supply code" of the nutrient supply "companies," the Basic Four Food Groups. Your best sources of protein come from the Meat Cooperatives and Milk Enterprises. You also

get some protein from the Bread-Cereal Corporation. Minimum daily "shipments" from each should be 2 servings from Meat Cooperatives, 3 servings from Milk Enterprises, and 4 servings from Bread-Cereal Corporation.

Suggested Activities

1. Use peanuts to make a trail and hide some treat at the end of it. Discuss how we use peanuts and what nutrients they provide. Feed some to the squirrels.
2. Do "Two for You" from the "Mulligan Stew" Notebook, Page 2-A-4.

Menu

Charcoal Grill

**Grilled Fish Fillet or
Barbecued Spareribs
Vegetable Scramble
Spiced Bananas
Milk**

Recipes

for Charcoal Grill

Grilled Fish Fillet

Frozen perch, haddock, cod, or flounder. Allow ¼ lb. for each serving.

Butter, margarine, or salad oil

Salt, pepper

Lemon for juice and garnish

Use frozen fish which has been allowed to thaw to the handling stage. Grease grill, brush each side of fish with basting sauce, and place on grill. Cook over moderate fire (1-inch thick fillets will cook in 7 minutes). Turn once; brush while cooking with basting sauce. Test with a fork for easy flaking; do not overcook. Serve with salt, pepper, and quartered lemons.

Basting Sauce

For each pound of fish, add 1 or 2 teaspoons of lemon juice to 2 tablespoons of melted butter, margarine, or salad oil. Season with salt and pepper.



Supply Checklist

How much is a serving from the meat group? The definition is 2-3 ounces of cooked meat, fish, or poultry, but that may be hard to visualize. It is much easier to think of a medium-sized hamburger, one

Barbecued Spareribs

(4-5 servings)

- 3 tablespoons soy sauce**
- 1 cup pineapple juice**
- 1 teaspoon dry mustard**
- 1 teaspoon garlic salt**
- ½ teaspoon pepper**
- 1 tablespoon brown sugar**
- 3-4 pound pork spareribs**

Blend together in a bowl all ingredients except spareribs. Add spareribs and marinate in the refrigerator for two hours, turning meat occasionally. When you are ready to cook the spareribs, use the sauce for basting during cooking. Heat any remaining sauce and serve with the meat.

(Sauce may be used with chicken or pork chops.)

Vegetable Scramble

(6 servings)

- 1 can (about 1 pound) tomatoes**
- 1 can (about 1 pound) whole kernel corn**
- 1½ teaspoons salt**
- 1 teaspoon minced onion**
- 1 teaspoon sugar**
- ¼ teaspoon pepper**
- 1 cup diced celery**
- 1 package (1½ cups) pre-cooked rice**
- 2 teaspoons butter or margarine**
- 2 teaspoons chopped parsley**

Combine tomatoes, corn, salt, onions, sugar, and pepper in medium size skillet. Cover skillet and heat slowly at side of grill 30 minutes, or until bubbly.

Stir in celery and rice; cover; let stand, still on side of grill, 15 minutes or until rice is fluffy and liquid is absorbed completely. Add butter or margarine and parsley; toss lightly with a fork.

Spiced Bananas

Peel and place banana on a square of heavy foil and brush with lemon juice. Sprinkle with brown sugar, dust with cinnamon and nutmeg, and dot with butter. Wrap banana in foil, twist ends, and barbecue on grill 7-9 minutes, turning it several times.

Check on your supply from the Meat Cooperatives by filling in the table below. Write down the actual foods you ate from the meat group at your Charcoal

Grill meal; then how much of that food you ate. In the last column translate this into the number of servings from the meat group.

From the Meat Cooperatives I Ate:	I Ate This Much:	That Equals This Many Servings:

Evaluate

A trick I learned about using a charcoal grill was _____

Using a charcoal grill for cooking a meal would be most useful when _____

SKEWER COOKERY—Meal 3

An exotic way to enjoy a charcoal grill comes to us from the Middle East. Shish Kabobs are very popular in fancy restaurants. But you can make them in your own backyard.

Shish Kabobs on a Grill

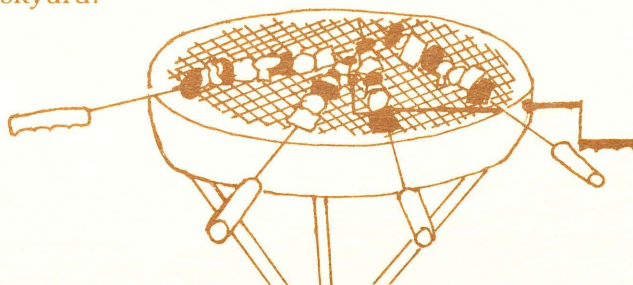
Shish kabobs are another form of cooking on a stick. You can cook them over coals from a wood fire or enjoy the delicious combination of meat and vegetables grilled over a charcoal grill.

A favorite way to prepare the meat for shish kabobs is to marinate it first. The marinade is a mixture of cooking oil, some kind of weak acid (such as vinegar or lemon juice), and spices. The acid and the oil help to tenderize the meat at the same time they give it a delicious savory flavor.

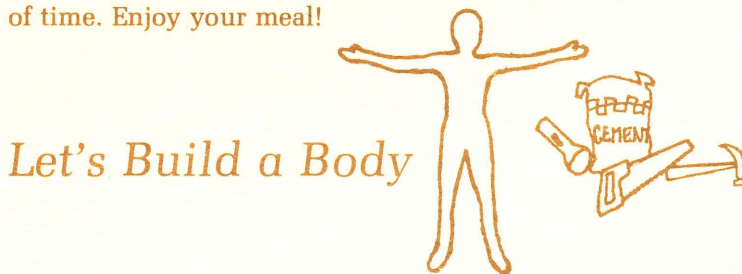
Turn the food several times while marinating. Marinating times vary, but chicken and fish often require 2 hours; cubes of meat, 3-5 hours; and a solid piece of meat, overnight. Of course, marinate all meats in the refrigerator, and keep the container well covered.

The Skewers

Skewers are long pointed pieces of metal with a wooden handle. You can buy them, or you can make your own skewers from sticks or heavy metal. Use green sticks which have been soaked in water awhile. Or make a skewer from a long wire of heavy metal. Loop one end for a handle and use a pot holder to hold it.



Prepare your charcoal fire as you did for barbecuing. Review how to adjust the heat. Remember to cook foods together that will cook in the same length of time. Enjoy your meal!



Let's Build a Body

Building a house requires tools as well as supplies—hammers, saws, wrenches, pliers, and many others. The tools don't become part of the house, so you don't need a huge supply. But they certainly are very important for putting materials together, cutting and shaping. They are important in helping to maintain and repair an already-built house, too. Vitamins and minerals are like the "tools" your body uses to cut, shape, and make food chemicals become you or energy for your body to use.

Let's look at some vitamins and see how they are like tools. They are named after the alphabet—A, B, C, D. Just like a flashlight helps you see in dark places, vitamin A helps your eyes see in dim light. The B-vitamins—thiamin, riboflavin and niacin—are like hammers, saws and wrenches that help to take food apart and put it together in different forms for your body to use. They help you have steady nerves and a good appetite, keep skin around your eyes and lips healthy, and also help you get energy from the food you eat. Vitamin C is like glue or cement because it helps your cells hold together. It keeps your gums healthy and helps to heal cuts. Vitamin D is like a ruler because it helps your bones grow straight.

Each of the Food Supply Companies provides these "tools" for your body:

- Meat Cooperatives**—Vitamin A, niacin, thiamin
- Milk Enterprises**—Vitamin A, vitamin D, riboflavin
- Fruit-Vegetable Associates**—Vitamin C, vitamin A, riboflavin
- Bread-Cereal Corporation**—Thiamin, riboflavin, niacin (enriched and whole grain)

Suggested Activities

1. Carve faces or animals from vegetables such as potatoes, carrots, parsnips, turnips or some other starchy, firm vegetable. Discuss the nutrients supplied by each.
2. Do "Unfrugetable" from the "Mulligan Stew" Notebook, Page 2-A-5.

Menu

Skewer Cookery

- Beef or Lamb Kabobs
- Frozen Vegetables in Foil
- Hot Rolls
- Fruit Kabobs
- Lemon Tea

Recipes

for Skewer Cookery

Beef or Lamb Kabobs

Suggested combinations:

- beef or lamb (cut in chunks)
- bacon
- mushrooms
- cherry tomatoes
- beef or lamb (cut in chunks)
- mushrooms
- cooked onions

Select meat and vegetables that cook in the same length of time or grill the vegetables separately about 10 minutes. Arrange meat and vegetables alternately on skewers. Brush with marinade. Broil about 30 minutes, 3 inches from coals. Turn kabobs and brush with sauce every 3 or 4 minutes. Each kabob needs a space 2 inches by 8 inches.

Marinades

FOR BEEF:

- $\frac{1}{2}$ cup salad oil
- 1 teaspoon garlic salt
- $\frac{1}{4}$ teaspoon pepper
- 3 teaspoons lemon juice

FOR LAMB

- 1 can condensed tomato soup
- 1 small clove garlic, minced
- 2 tablespoons salad oil
- 2 tablespoons vinegar
- 1 tablespoon sugar
- $\frac{1}{2}$ teaspoon salt
- $\frac{1}{8}$ teaspoon pepper
- $\frac{1}{8}$ teaspoon leaf oregano, crushed
- Dash thyme

To marinate meat, put ingredients in large bowl and add meat. Cover and place in refrigerator 4 to 8 hours.

Frozen Vegetables in Foil

Thaw vegetables until they can be broken into chunks. Place chunks on large piece of heavy foil, or double regular foil, add butter, salt and pepper. Fold the foil edges together tightly. Cook in coals or on a grill five minutes longer than directions on package label.

Hot Rolls

Butter dinner rolls, then wrap them in foil. Place on grill about 10 minutes or until warm.

Fruit Kabobs

String skewers alternately with marshmallows, canned pineapple chunks, maraschino cherries, canned apricot halves, cooked pitted prunes, spiced crab apples, or other fruit combinations. Toast kabobs over hot coals, turning often, till the marshmallows are toasted. Eat while hot.

Lemon Tea

(Makes 2 quarts)

- 6 teaspoons loose tea (3 bags)
- 3 cups boiling water
- $\frac{3}{4}$ cup fresh lemon juice
- $\frac{3}{4}$ cup sugar
- 1 tray ice cubes

To Serve Cold: Pour boiling water over tea; steep 5 minutes. Strain, pour over ice cubes. Stir lemon juice and sugar together until sugar dissolves. Stir into tea. Makes about 2 quarts.

To Serve Hot: Steep tea in 6 cups of boiling water with a few whole cloves and a cinnamon stick; omit ice cubes. Stir in lemon juice and sugar same as above.



Supply Checklist

Fruits and vegetables are important for the vitamins and minerals and energy they supply. Four servings a day is the recommended "supply" code. See how you rate by checking the numbers of serv-

ings you ate at your Skewer Cookery meal. Remember that 1 serving is equal to ½ cup cooked fruit or vegetables, ½ cup juice, 1 cup raw fruit or vegetables, or a whole banana, apple, orange, pear, etc.

From Fruit-Vegetable Associates I Ate:	I Ate This Much:	That Equals This Many Servings:

Evaluate

1. One tip I learned from cooking with a skewer on a charcoal grill is _____

2. I think skewer cookery would be most useful when _____

FOIL COOKERY IN COALS—Meal 4

If you want to save on dishes to clean, there is nothing like aluminum foil. A backyard fireplace—or even an indoor one—or a fire in the woods is a great place for learning to cook food in foil right in the coals. The foil wrapping helps to make a steamy oven for preparing delicious meals. And you can make use of valuable play time by letting your meal cook while you boat, fish, or swim.



Building the Fire

Clear a wide space for the fire and collect tinder, kindling, and fuel for the fire. Tinder is very small, fine pieces of wood, kindling is about the size of your thumb, and fuel graduates in size from kindling up to big logs. Remember that soft woods from fast-growing trees such as pines, spruces, gray birch, and aspen are good for starting fires but are not good for coals. Slow-growing trees, such as oak, hickory, maple, and ash burn slowly and give good hot coals. Generally hard wood feels firm, compact, and heavy compared with soft wood of the same size. And remember to use the driest wood possible.

Dig a shallow trench about 2 feet long and lay a good foundation fire. Then add fuel in graduated sizes in a criss-cross fashion rather than building it up into a tepee. Allow the fire to burn down into coals. Now you are ready to add the food.

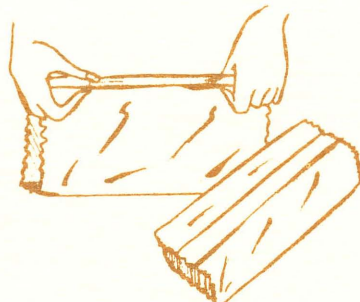
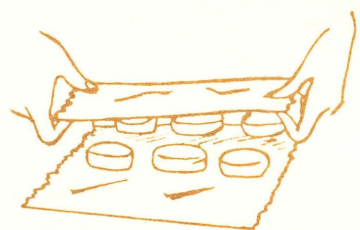
When you wrap food in foil, use heavy duty foil or a double layer of regular foil. Use a piece that is large enough to surround the food with two or three

inches to spare. Lay the food on one half of the piece, bring the other half over, fold the edges up in at least 2½ folds, and crimp them to make an airtight envelope. Be sure it's airtight so no steam can escape!

Cooking

When the coals are ready, round out a depression big enough for the food, place the package in it, and pull the coals back over and around it. Turn the food over half way through the cooking process. When it is done, rake it out carefully, let it sit a minute to cool, and then make a slit down the center, or open the ends and eat it right from the foil.

Cooking times vary; if necessary, peep into the package to see if the food is done, but be sure to seal it up airtight before putting it back in the coals. Some suggested cooking times are:

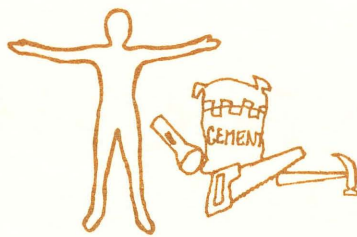


Meat	Minutes
Cut-up chicken	20-30
Fish fillets	10-15
Frankfurter	10-15
Pigs-in-a-blanket	15-17
Pork chops	30-40

Vegetables	Minutes
Corn	6-10
Whole white potatoes	60-70
Carrot sticks	15-20
Whole sweet potatoes	15-20

Miscellaneous	Minutes
Whole apple	20-30
Whole banana	8-10
Biscuits	6-10
Stew (meat chunks, potatoes, onions, carrots, salt, etc.)	20

Let's Build a Body



Recipes for Foil Cookery in Coals

We have discussed vitamins as tools to build your body. Minerals are also like tools, usually needed in small amounts just to help get the building and repairing job done.

There are at least 14 minerals that are known to be necessary for the construction and maintenance of your body, but we are most concerned about calcium and iron. Calcium is a unique mineral because while it is a tool to help build and maintain your body, it is also an important part of the structural framework—your bones and teeth. Iron serves as a kind of supply wagon in the blood, picking up oxygen in your lungs and carrying it to building sites in the cells. Then it picks up the waste material carbon dioxide and carries it back to your lungs to be breathed out.

Milk Enterprises is your biggest supplier of calcium, but carries almost no iron in its line of nutrients. Fruit-Vegetable Associates are a second source of calcium, but in smaller amounts. Fruit-Vegetable Associates are big in the iron trade, though, as are Meat Cooperatives and enriched breads and cereals from the Bread-Cereal Corporation.

Suggested Activities

1. Have a first aid lesson. Discuss calcium and vitamin D for bone healing and vitamin C for tissue repair. Calcium also helps your blood to clot.
2. Do "What's Your 'Moo' Q?" from the "Mulligan Stew" Notebook, Page 2-A-3.

Menu

Foil Cookery in Coals

Saucy Chicken in Foil
Tasty Taters
Hidden Biscuits
***Tossed Salad**
Baked Apples
Milk

**Directions not included*

Saucy Chicken in Foil

½ pound (per serving) of chicken pieces seasoned with salt and pepper
Onions, cut ¼-inch thick
Carrots, peeled and split lengthwise
Celery, cut in 3-inch lengths

SAUCE:

½ cup vinegar
½ cup ketchup
½ teaspoon Tabasco sauce
2 tablespoons Worcestershire sauce
1 teaspoon prepared mustard
1 tablespoon lemon juice
Salt to taste

On a square of aluminum foil, place a piece of seasoned chicken. On this place a slice of onion, 4-6 strips of carrot, and 2 pieces of celery. Pull up foil to form a cup. Spoon 1-2 tablespoons of sauce into the foil cup. Cover with foil, twisting edges tightly. Place in hot coals and cook 30-45 minutes, turning occasionally. Serve immediately. (Try also with pork chops, ground beef, or beef round.)

Tasty Taters

Potato
Dry onion soup mix
Water
Butter or margarine

Pare 1 potato per person and cut into 6 pieces. Sprinkle with dry onion soup mix, add 1 tablespoon water and a pat of butter. Seal in foil and bake in coals and ashes for about 25 minutes.

Hidden Biscuits

Prepare biscuits from Camper's MIX-IT (see Recipes for Cooking on a Tin Can).

Grease foil almost to edges and wrap gobs of biscuit dough loosely to allow for rising. Place tightly sealed package in coals, turning it once half way through recommended baking time for biscuits.

Baked Apples

Core and fill apple with sugar, raisins, nuts, etc. Place on one square of heavy foil. Gather foil up over top and twist together. Bake on hot coals.



Supply Checklist

For growing fellows and girls the supply code for Milk Enterprises is 3 servings a day—more if you are a teen. Remember that one serving equals one cup or 8 ounces of whole or skim milk, yogurt, or pudding. Two one-inch cubes of cheddar cheese or two slices

of American cheese also supply about the same amount of calcium. If you eat about $\frac{3}{4}$ cup of cottage cheese or $\frac{3}{4}$ cup of ice cream or ice milk, you can get $\frac{1}{2}$ a serving of milk. How many servings did you get in your foil cookery meal?

From Milk Enterprises I Ate:	I Ate This Much:	That Equals This Many Servings:

Evaluate

1. One tip I learned from cooking food in foil was _____

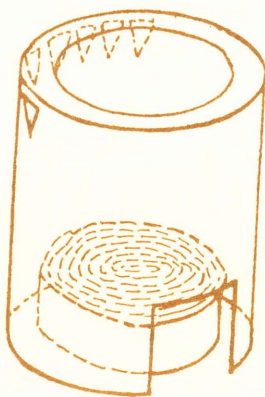
2. Cooking food in foil would be most useful when _____

COOKING ON A TIN CAN—Meal 5

Here's your chance to make some unusual cooking equipment for outdoors. Hobo Stoves and Buddy Burners are easy to make and pretty handy, too.

Hobo Stove

A number 10 tin can or a 5-gallon round or square can open at one end makes a good "one-burner" stove. With tin snips or can opener, cut a 3-inch opening at the open or lower edge. Near the top of the opposite side, punch triangular holes for the chimney. A can opener works well. Hammer the top (closed end) of the can slightly. This will be the cooking area and will hold fat and juices from the food. For fuel use fine, dry wood, charcoal briquettes, or a "Buddy Burner."

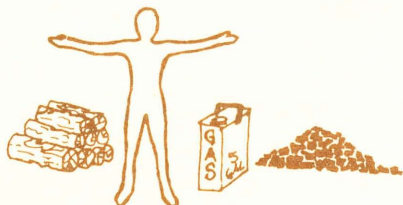


Buddy Burner

Select a small can, such as a tuna fish can or a sliced pineapple can, that will fit under the Hobo Stove. Be sure it's not a deep can or the flame will burn out from lack of air. Take a cardboard strip $\frac{1}{4}$ inch wider than the depth of the can. Roll it into a coil that fits loosely into the can. Melt old candles or paraffin and pour over the corrugated paper until it is well saturated and let it harden. The coil of cardboard should extend over the whole surface so that when lighted, the flame will burn over the entire area.

Light the prepared cardboard and put it under the Hobo Stove. A well-saturated Buddy Burner should last for hours. To put it out, cover it with shaped aluminum foil or a can larger than the tuna can.

Let's Build a Body



Now that we are getting along with construction of our house, we are going to need some fuel to keep it running. You might use several kinds of fuel in a house—gas, oil, coal, wood, electricity, or solar energy. There are two main kinds of fuel for your body—fats and carbohydrates. Your body can burn

protein if there is too much supplied or if you don't get enough fuel from fats and carbohydrates, but it is much more expensive! Try to keep down your fuel bill!

Carbohydrates provide quick energy. They are easily digested and usually are inexpensive. Fruit-Vegetable Associates and the Bread-Cereal Corporation are good suppliers for this fuel. (Bread-Cereal Corporation has one of the lowest fuel rates around, too!) Milk Enterprises provide carbohydrates in ice cream, milk, yogurt, pudding, and cottage cheese. Most other cheeses provide only fat and protein.

Suggested Activities

1. Play some team games and give the teams names based on the four food groups. Then discuss how carbohydrates supply quick energy for activity.
2. Do "Stuff the Bread" from the "Mulligan Stew" Notebook, Page 2-A-2.

Menu

Hobo Stove

Grapefruit Half
Sausage
Blueberry Pancakes and Syrup
Milk

Recipes

for Hobo Stove

Sausage

Use any kind of bulk sausage or link sausage you wish, and cook directly on the hobo stove surface to desired doneness. Spoon off grease and wipe with paper towel. Then prepare the surface for frying pancakes.

Blueberry Pancakes

Prepare pancake batter from Camper's MIX-IT and add fresh blueberries as desired. Fry the pancakes on top of a lightly oiled hobo stove.

Camper's MIX-IT

(20 cups MIX-IT)

- 16 cups sifted flour
- 10 tablespoons baking powder
- 2 tablespoons salt
- 3 cups dry milk
- 3 cups shortening

Mix together dry ingredients. Cut in shortening. Store the MIX-IT in tightly covered containers in a cool dry place. Use within one month.

Take MIX-IT camping and make meals delicious. Several uses of MIX-IT for both camping and home are given here. (Ignore oven temperatures for outdoor cooking.)

Product: Pancakes (Yield, 6)

1 cup MIX-IT, 1/2 cup water, 1 egg

Product: Biscuits (Yield, 12)

2 cups MIX-IT, 1/3-1/2 cup water; bake at 450° F. for 12-15 minutes.

Product: Muffins (Yield, 6)

1 cup MIX-IT, 1/3 cup water, 1 egg; bake at 425° F. for 20 minutes.

Product: Coffee Cake (9-inch pan)

2 cups MIX-IT, 1/2 cup water, 1 egg; sprinkle on 1 cup topping. (See below.) Bake at 375° F. for 25 minutes.

Coffee Cake Topping

(6 cups)

Mix together: 3 3/4 cups brown sugar, 1 cup sifted flour, 1/4 cup cinnamon, and 1 cup butter or margarine until crumbly. Store in tightly covered jar in cool, dry place. Use within one week, (Will keep up to one month in refrigerator.)



Supply Checklist

The Bread-Cereal Corporation should supply you with 4 servings per day of enriched breads and cereals. Each slice of bread, whole grain or enriched, equals one serving. That means that a hamburger bun would equal two servings. One dinner roll, one muffin, or one biscuit equals one serving, too. When it comes to cooked cereal or rice, spaghetti, noodles,

macaroni and other pasta, 1/2 cup equals a serving. One cup of dry cereal makes one serving.

Four servings daily might seem like a lot, but it is not so hard to get. Eat a bowl of cereal and toast for breakfast, a sandwich for lunch, and you have it. See how many servings you got from your Hobo Stove meal.

From the Bread-Cereal Corporation I Ate:	I Ate This Much:	That Equals This Many Servings:

Evaluate

- One tip I learned about cooking with a Hobo Stove and Buddy Burner was _____

- A Hobo Stove and Buddy Burner would be most useful when _____

COOKING IN CLAY—Meal 6

You may be familiar with clay cooking pots, but have you ever covered uncooked food completely with clay and cooked it right in the hot coals? It is an experience you shouldn't miss.

The "How To" of Cooking in Clay

As with all outdoor meals, you begin with a good fire that has burned down to glowing coals and hot ashes. It is best to build your fire near some water and clay, such as next to a riverbank. Avoid obviously polluted rivers.

Mold the wet clay around the food you wish to cook. Foods with an outer covering such as white potatoes, sweet potatoes, eggs, and fish with fins and scales still intact are best. Watch for health advisories from the Michigan Department of Natural Resources regarding the safety of rivers and lakes for fishing.

After the clay has been molded around the food to a 1-inch thickness, dry the mass in the heat of the fire for 5-10 minutes. Then bury the whole lump in hot ashes. When the clay has baked hard, rake the lump out of the fire, split it open with a hammer or hatchet. Your food is cooked and skins and scales are stuck in the clay. You have your own temporary clay "dishes."



Let's Build a Body

The last nutrient to consider is fat, another important fuel for our bodies. It does work with protein as a very small part of your body's structure, just as petroleum products can be made into plastic parts for building—but its most important function is providing energy. Fat is a concentrated source of energy, too, providing $2\frac{1}{4}$ times as much energy as carbohydrates and proteins do for the same weight! Just a "little dab'll do ya."

We need to be careful not to get too much of this nutrient. For one thing, whatever we can't use, our bodies put into "storerooms." Some of these "storerooms" can get pretty full—leading to overweight, problems with blood circulation and heart disease. Also, your body can turn extra carbohydrates and protein into fat to be stored if the supply exceeds the demand.

Suggested Activities

1. Gather leaves and do leaf printing. Lay the leaf on a piece of paper and spatter ink around it. Discuss the different shapes of leaves. Discuss how food as well as heredity affects body shapes.
2. Do "How Much Is a Serving?" from the "Mulligan Stew" Notebook, Page 2-I-4.

Menu

Cooking in Clay

Clay-Baked Fish
Baked Potato or
Noodley Rice Medley
Cucumber Salad
Fruit Balls

Recipes

for Cooking in Clay

Clay-Baked Fish

Begin with a freshly caught fish which has been gutted only. Take the fish by the tail and rub it in soft clay, pulling it toward you so that it is pulled through the clay against the scales and gills. The scales and gills will become impacted with clay. After the clay is set, cover the fish completely with clay. Next dry the clay for 15 minutes in the heat of the fire, then bury the lump in the hot coals and ashes. When the clay has baked as hard as a brick, rake it out of the coals and split it open with a hatchet. The fish should split into two halves. Remove the spine.

The scales should be stuck in the clay. You can eat the fish right out of the clay container.



Baked Potatoes

Cover a baking potato, skin and all with wet clay. Dry the clay in the heat of the fire for about 15 minutes, then bury the potato in the hot coals and ashes. Allow it to bake for 45 minutes to 1 hour. When cooked, split the clay lump and eat the potato right out of the clay dish. The potato skin will adhere to the clay.

Noodley Rice Medley

(4 servings)

- 1/2 cup fine egg noodles, broken in pieces
- 2 tablespoons butter or margarine
- 1 can (10 3/4 ounces) chicken broth or water plus bouillon cube
- 1/3 cup water
- 1/2 cup raw regular rice

In saucepan, brown noodles in butter; stir often. Add remaining ingredients. Bring to a boil; stir. Cover; cook over low heat 20 to 25 minutes or until liquid is absorbed.



Supply Checklist

Meat Cooperatives and Milk Enterprises are the chief suppliers of fat. Fruit-Vegetable Associates and the Bread-Cereal Corporation have almost none, except as we add butter or margarine to dress them up.

Cucumber Salad

(6 servings)

- 1 or 2 cucumbers
- 1/2 cup sour cream
- 1 tablespoon vinegar
- 1/2 teaspoon salt
- Green onions, radishes (optional)
- Pepper

Wash, pare, and slice cucumbers. Sprinkle with salt and pepper. Add vinegar, sour cream, onions, and radishes. Chill if possible. Allow to season at least 30 minutes.

Fruit Balls

Grind figs, dates and raisins in equal amounts (nut-meats optional). Add a small amount of lemon juice to a cup of graham cracker crumbs. Make small balls of your mixture and roll in crumbs to coat.

There is no recommended supply code for fats because we usually get all we need. Write down how you got fat at your Cooking in Clay meal.

This is What I Ate:	There Was Fat in:	We Used Fat to Cook:

Evaluate

1. One tip I learned about cooking in clay was _____

2. Cooking in clay would be most useful when _____

GUEST MEAL—Meal 7

Now is your chance to show what you have learned in outdoor cooking. Plan a guest meal, inviting those whom your club wants to entertain. Plan games, skits, quizzes or whatever to entertain and share your knowledge. There are lots of plays and skits and quizzes in the "Foods and Nutrition Games" Notebook and the "Mulligan Stew" Notebook at your County Extension Office. Or write your own play. Be creative and have fun!

