MERIT BADGE SERIES

COOKING

BOY SCOUTS OF AMERICA®

Note to Counselor

Cooking is a life skills merit badge. It is expected that the completion of this merit badge may take a longer period of time than some of the other merit badges. The counselor should keep the following in mind:

- The meals in requirements 5, 6, and 7 may be planned, prepared, and cooked at different times. The goal is for the Scout to understand each phase of meal planning by working on one part of the process at a time.
- These requirements and the content of the *Cooking* merit badge pamphlet were developed for the Boy Scouts of America for use within the United States of America. Adjustments should be made if traveling internationally. Scouts working on this badge in summer camp should plan around food they can get at the camp commissary.
- The first aid–related information found in this pamphlet is a condensed version of that found in other BSA publications. The counselor should be familiar with the additional information on cooking and safety relevant to cooking found in the *Boy Scout Handbook, Guide to Safe Scouting, First Aid* merit badge pamphlet, and BSA *Fieldbook* (*see also* http://www.bsafieldbook.org).
- During 2014, a Scout may continue—or begin work—using the old Cooking merit badge requirements and the old pamphlets. Otherwise, he may switch to—or begin work—using the new requirements as stated in the *2014 Boy Scout Requirements* book and this edition of the *Cooking* merit badge pamphlet. If a Scout chooses to use the old merit badge requirements, he may continue using them until he has completed the badges, but he must use the 2007 edition of the *Cooking* merit badge pamphlet. See *Guide to Advancement* topic 7.0.4.3.

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Requirements

1. Do the following:
   a. Explain to your counselor the most likely hazards you may encounter while participating in cooking activities and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.
   b. Show that you know first aid for and how to prevent injuries or illnesses that could occur while preparing meals and eating, including burns and scalds, cuts, choking, and allergic reactions.
   c. Describe how meat, fish, chicken, eggs, dairy products, and fresh vegetables should be stored, transported, and properly prepared for cooking. Explain how to prevent cross-contamination.
   d. Describe the following food-related illnesses and tell what you can do to help prevent each from happening:
      (1) Salmonella
      (2) Staphylococcal aureus
      (3) Escherichia coli (E. coli)
      (4) Clostridium botulinum (Botulism)
      (5) Campylobacter jejuni
      (6) Hepatitis
      (7) Listeria monocytogenes
      (8) Cryptosporidium
      (9) Norovirus
   e. Discuss with your counselor food allergies, food intolerance, food-related diseases, and your awareness of these concerns.
2. Do the following:
   a. Using the MyPlate food guide or the current USDA nutrition model, give five examples for EACH of the following food groups, the recommended number of daily servings, and the recommended serving size:
      (1) Fruits
      (2) Vegetables
      (3) Grains
      (4) Proteins
      (5) Dairy
   b. Explain why you should limit your intake of oils and sugars.
   c. Determine your daily level of activity and your caloric need based on your activity level. Then, based on the MyPlate food guide, discuss with your counselor an appropriate meal plan for yourself for one day.
   d. Discuss your current eating habits with your counselor and what you can do to eat healthier, based on the MyPlate food guide.

3. Do the following:
   a. Discuss the following food label terms: calorie, fat, saturated fat, trans fat, cholesterol, sodium, carbohydrate, dietary fiber, sugar, protein. Explain how to calculate total carbohydrates and nutritional values for two servings, based on the serving size specified on the label.
   b. Refer to "How to Read a Food Label" in the Cooking merit badge pamphlet, and name ingredients that help the consumer identify the following allergens: peanuts, tree nuts, milk, eggs, wheat, soy, and shellfish.
4. Do the following:
   a. Discuss EACH of the following cooking methods. For each one, describe the equipment needed and name at least one food that can be cooked using that method: baking, boiling, pan frying, simmering, steaming, microwaving, and grilling.
   b. Discuss the benefits of using a camp stove on an outing vs. a charcoal or wood fire.
   c. Discuss how the Outdoor Code and no-trace principles pertain to cooking in the outdoors.

Note: The meals prepared for Cooking merit badge requirements 5, 6, and 7 will count only toward fulfilling those requirements and will not count toward rank advancement. Meals prepared for rank advancement may not count toward the Cooking merit badge. You must not repeat any menus for meals actually prepared or cooked in requirements 5, 6, and 7.

5. Using the MyPlate food guide or the current USDA nutrition model, plan a menu for three full days of meals (three breakfasts, three lunches, and three dinners) plus one dessert. Your menu should include enough to feed yourself and at least one adult, keeping in mind any special needs (such as food allergies) of those to be served. List the equipment and utensils needed to prepare and serve these meals. Then do the following:
   a. Create a shopping list for your meals showing the amount of food needed to prepare and serve each meal, and the cost for each meal.
   b. Share and discuss your meal plan and shopping list with your counselor.
   c. Using at least five of the seven cooking methods from requirement 4, prepare and serve yourself and at least one adult (parent, family member, guardian, or other responsible adult) one breakfast, one lunch, one dinner, and one dessert from the meals you planned.*
   d. Time your cooking to have each meal ready to serve at the proper time. Have an adult verify the preparation of the meal to your counselor.
   e. After each meal, ask a person you served to evaluate the meal on presentation and taste, then evaluate your own meal. Discuss what you learned with your counselor, including any adjustments that could have improved or enhanced your meals. Tell how better planning and preparation help ensure a successful meal.
   f. Explain how you kept foods safe and free from cross-contamination.
6. Using the MyPlate food guide or the current USDA nutrition model, plan a menu for your patrol (or a similar size group of up to eight youth, including you) for a camping trip. Include five meals AND at least one snack OR one dessert. List the equipment and utensils needed to prepare and serve these meals. Then do the following:
   a. Create a shopping list for your meals showing the amount of food needed to prepare and serve each meal, and the cost for each meal.
   b. Share and discuss your meal plan and shopping list with your counselor.
   c. In the outdoors, cook two of the meals you planned in requirement 6 using either a lightweight stove or a low-impact fire. Use a different cooking method for each meal.** The same fireplace may be used for both meals. Serve this meal to your patrol or a group of youth.
   d. In the outdoors, cook one of the meals you planned in requirement 6. Use either a Dutch oven, OR a foil pack, OR kabobs. Serve this meal to your patrol or a group of youth.**
   e. In the outdoors, prepare a dessert OR a snack and serve it to your patrol or a group of youth.**

*The meals for requirement 5 may be prepared on different days, and they need not be prepared consecutively. The requirement calls for Scouts to plan, prepare, and serve one breakfast, one lunch, and one dinner to at least one adult; those served need not be the same for all meals.

**Where local regulations do not allow you to build a fire, the counselor may adjust the requirement to meet the law. The meals in requirements 6 and 7 may be prepared for different trips and need not be prepared consecutively. Scouts working on this badge in summer camp should take into consideration foods that can be obtained at the camp commissary.

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

g. Explain how you kept foods safe and free from cross contamination.

7. Using the MyPlate food guide or the current USDA nutrition model, plan a menu for trail hiking or backpacking that includes one breakfast, one lunch, one dinner, and one snack. These meals must not require refrigeration and are to be consumed by three to five people (including you). List the equipment and utensils needed to prepare and serve these meals. Then do the following:

   a. Create a shopping list for your meals, showing the amount of food needed to prepare and serve each meal, and the cost for each meal.

   b. Share and discuss your meal plan and shopping list with your counselor. Your plan must include how to repackage foods for your hike or backpacking trip to eliminate as much bulk, weight, and garbage as possible.

   c. While on a trail hike or backpacking trip, prepare and serve two meals and a snack from the menu planned for requirement 7. At least one of those meals must be cooked over a fire, or an approved trail stove (with proper supervision).**

   d. For each meal prepared in requirement 7c, use safe food-handling practices. Explain how you kept foods safe and free from cross-contamination. Clean up equipment, utensils, and the site thoroughly after each meal. Properly dispose of dishwater, and pack out all garbage.

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

8. Find out about three career opportunities in cooking. Select one and find out the education, training, and experience required for this profession. Discuss this with your counselor, and explain why this profession might interest you.

Contents

Cooking Basics

Most people appreciate good food and the comfort of a delicious home-cooked meal. Many Scouts know the fun of enjoying a tasty cookout after a rigorous day in the outdoors. Learning how to prepare and cook foods in a safe and healthy manner is a life skill you can learn now and enjoy for life.

With a little planning and practice, you can easily turn everyday ingredients into a healthy meal. Learning to cook gives you a new respect for the process, those who have prepared meals for you, and mealtime. Best of all, when we prepare healthy foods in a healthy manner we may lessen the risk of illness and for chronic disease and may add years to our life. Cooking is fun and rewarding, too—especially when the compliments pour in and you hear requests for second helpings.

The Cooking merit badge will introduce you to the basics of cooking that can be used both at home and in the outdoors. You will learn about food safety, nutritional guidelines, meal planning, and methods of food preparation for the home or camp setting. Explore the variety of recipes provided, and use them to practice the skills you learn.

A simple definition of cooking can be putting together three components—uncooked food, utensils, and heat—and creating edible nourishment.

If you discover cooking piques your interest beyond what the Cooking merit badge covers, consider the wide variety of culinary (or cooking) careers available. Some of these positions are discussed in the careers chapter.

Safety With Fire and Heat

Wherever you are cooking, there is always a risk to you, to others nearby, and to your environment. Here are some tips to help stay safe while cooking.

- Turn pan handles toward the back of the stove so hot pots and pans will not accidentally be bumped.
- Keep items that could easily catch fire, like pot holders and dishtowels, away from the stove and fire source.

A fire extinguisher is a must in a well-equipped kitchen. Learn how to use yours before an accident occurs. For more information about fire safety, see the *Fire Safety* merit badge pamphlet.

- Never use a wet oven mitt or towel to handle something hot. The water can turn to steam and burn you. Steam is hotter than boiling water.
- Keep a charged fire extinguisher (either a class B or K rating will do) nearby, and know how to use it.
- Wipe up all grease spills immediately.
- To safely smother a pan fire, smother it with a lid or cookie sheet. Never use water on a grease fire—doing so could spread the fire.
- If there is an oven fire, close the oven door and turn off the oven.
- Wear close-fitting clothes (no loose long sleeves, for example) to reduce the chances of their catching fire.
- Use caution when moving heavy pots of hot liquid.
- When frying foods, be cautious of the splatter from the hot grease.
- Keep younger children away from the cooking area, and closely supervise them if they are present. Do not allow horseplay in the cooking area.

Residences are required by law to have a working fire alarm or smoke detector. A fire alarm emits a very loud siren to alert occupants when smoke is present. These alarms typically are installed up high, near the ceiling, where smoke can first be detected. If the ones in your home are battery operated, be sure to change their batteries regularly, such as during a springtime holiday and again during a fall holiday.

Safe Food Storage and Transportation

Whether you are cooking at home or at camp, some basic rules apply. All food must be stored at safe temperatures and cooked to proper temperatures to limit the risk of illness. When preparing food, keep in mind the concept of cross-contamination (see "First Aid, Foodborne Illnesses, and Food-Related Conditions") and how it affects cooking routines at home and at camp.

Cross-contamination, a leading cause of foodborne illnesses, can easily be prevented by careful food preparation and good hygiene. Cross-contamination happens when harmful bacteria is spread from person to person, person to an object (such as food), or object to a person. During all stages of food preparation, practice good habits such as washing your hands frequently with soap and water, washing produce, and keeping work surfaces clean.

In this handbook are many routines for the proper handling, cooking, and storage of food. Practicing all those guidelines will greatly decrease the chances of you or your diners becoming sick from a food-related illness.

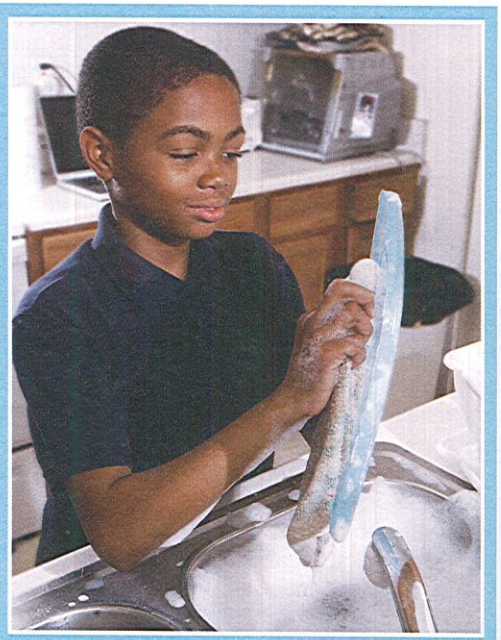
Check the safety seal. When you purchase food in jars, make sure the safety seal on the lid is intact.

What's in a Date

You have probably seen information on a carton of milk or cereal box related to when the milk or cereal should be consumed. On some products, that information isn't always so cut-and-dried. Here are some general guidelines.

- A "sell by" date tells stores how long to display the product for sale. It is not an indication of how long the product will last in your home refrigerator.
- A "best if used by (or before)" date is recommended for best flavor or quality. It is not a purchase or safety date.
- A "use by" date is the last date recommended for use of the product while at peak quality. The manufacturer of the product determines this date.

Clean as You Go



Develop good habits in the kitchen. Clean pans, pots, utensils, and your working surfaces as you go. Dishes are easier to wash when you clean them soon after you use them. Keeping the home or camp kitchen clean as you cook has other advantages.

- It keeps the cooking area safer.
- It helps prevent cross contamination and the chance of foodborne illness.
- It makes your cooking experience calmer and more organized.
- It makes cleanup a breeze when you are finished cooking and eating.

It is no fun when you have muffins ready to come out of the oven and you cannot find a pot holder because it was not put back where it belongs. If you use what is handy, such as a dish towel, you stand a good chance of getting burned. Cleaning and putting things back where they belong as you go will eliminate these hassles because everything will be in its place when you need it.

Always use an antibacterial cleaner to wipe up spills from meat packaging or from raw meat. Do not cut meat on the same surface you use to cut up vegetables and other foods, even if the surface is clean.

To plan ahead and minimize cleanup as much as possible, keep a sink about half full of warm, soapy water while preparing meals. This makes it quick and easy to keep your hands clean as you work with various foods, such as raw meats.

Clean, Separate, Cook, Chill

Cooking requires planning and attention to detail to keep safety first. Cooking also calls for developing good habits at home or in the outdoors to help prevent cross-contamination and foodborne illness.

Make sure the work area is clean and uncluttered before you begin, and clean as you go. Have all ingredients, utensils, pots, and pans ready to go.

CLEAN

At home. Wash hands with soap and warm water before and after handling raw food. Hand washing is the best way to reduce the spread of germs and help prevent cross-contamination. Thoroughly wash and rinse utensils, cutting boards, and countertops with soap and hot water. Wash fruits and vegetables thoroughly under running water just before eating, cutting, or cooking. Always use hot soapy water or an antibacterial cleaner to wipe up spills from raw foods such as meat, poultry, seafood, and eggs.

At camp. Pack disposable wipes for hands and quick cleanups. If you will not have running water available, bring treated water with you. Remember to bring soap. Use the three-pot method for cleanup. (See "Camp Cooking.")

Hand washing should be done for at least 20 seconds, or the time it takes to sing "Happy Birthday" twice to yourself.

SEPARATE

At home. Keep raw eggs, meat, poultry, seafood, and their juices away from ready-to-eat food. Use a separate cutting board for foods (meat vs. fresh vegetables) from one used for ready-to-eat products to avoid transferring bacteria. You can also use different colored cutting boards to keep known food allergens separate. Never place cooked food back on the same plate that previously held raw food unless the plate has first been washed in hot, soapy water.

At camp. Store raw meat, poultry, and seafood in containers or in sealed plastic bags. This will keep their juices, which may contain harmful bacteria, from dripping onto and possibly contaminating other foods. Sauce that is used to marinate raw meat, poultry, or seafood should not be used on cooked foods unless the sauce is brought to a boil just before using.

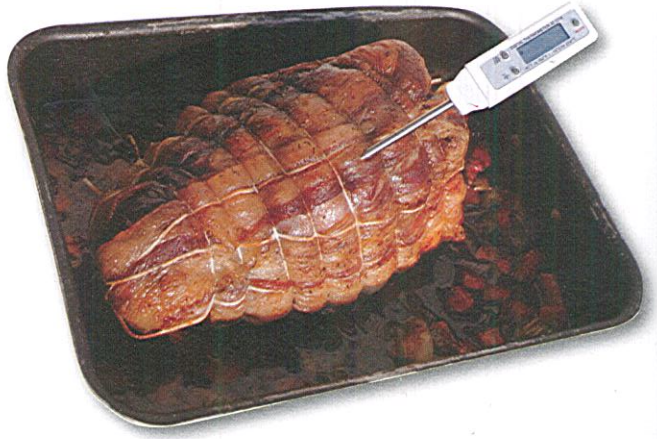
Use color-coded cutting boards for each type of meat or for specific dietary needs. For example, white for chicken, red for beef, and so on.

COOK

At home. Use a food thermometer to ensure meat, poultry, seafood, and egg products have been cooked to a safe minimum internal temperature that will destroy any harmful bacteria. Color and texture are NOT reliable indicators of safely cooked food.

At camp. Be sure to include a food thermometer on your camping equipment list. Always use a food thermometer to check for doneness. Color is not a reliable indicator of doneness, and especially in camp, it can be tricky to tell the color of food if you are cooking in a wooded area in the evening.

Heat hot dogs until they are steaming hot, and reheat any leftovers to 165 degrees F. Be sure to clean the thermometer with hot, soapy water.



Instant-read and digital thermometers should be placed in the thickest part of the food, away from bone, fat, or gristle, in order to get an accurate temperature reading.

You can learn more about safe minimum cooking temperatures by visiting (with your parent's permission) the U.S. Department of Agriculture's food safety website. The U.S. Food and Drug Administration also has a toll-free telephone for safe food information: 888-723-3366. See the resources section.

CHILL

At home. The temperature in a refrigerator should be 40 degrees F or colder; the freezer should be 0 degrees F or or colder. Do not leave food at room temperature for more than two hours (one hour when the temperature is above 90 degrees F). Regardless of the sell-by date on the package, freeze any fresh poultry, fish, or ground meat that will not be used within two days, and use whole cuts of meat within five days. Food can be thawed in the refrigerator and either refrozen or used within two days.

Refrigerate leftovers right away. Divide large pots of food, like soup or stew, into shallow containers. Cut cooked meat or poultry into smaller portions or slices. Place in shallow containers and cover to cool quickly. Keep the refrigerator clean, and discard any leftovers after three days.

If thawed in the microwave or in water in the kitchen sink, food must be cooked immediately.

Refrigerator Storage of Fresh or Uncooked Products	
Poultry	1 or 2 days
Beef, veal, pork, lamb	3 to 5 days
Ground meat, ground poultry	1 or 2 days
Fresh variety meats (liver, tongue, brain, kidneys, heart, chitterlings)	1 or 2 days
Cured ham, cook before eating	3 to 5 days
Sausage from pork, beef, turkey, uncooked	1 or 2 days
Eggs	3 to 5 weeks

Proper food storage helps prevent bacteria from forming.

At camp. Before packing a cooler, refrigerate or freeze the food overnight. Blocks of ice will keep food colder than ice cubes. Include an appliance thermometer in your cooler to ensure it maintains a safe temperature of 40 degrees F or colder. At the campsite, insulate the cooler with a blanket or a tarp. If possible, bring one cooler for drinks and snacks and another for perishable foods. The drink cooler will be opened and closed often, which lets hot air in and causes ice to melt faster.

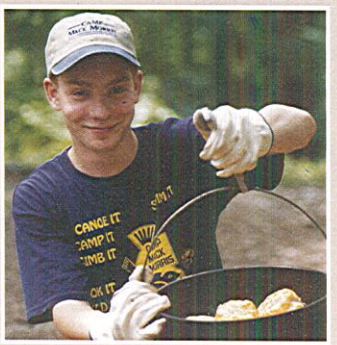
Tools and Equipment

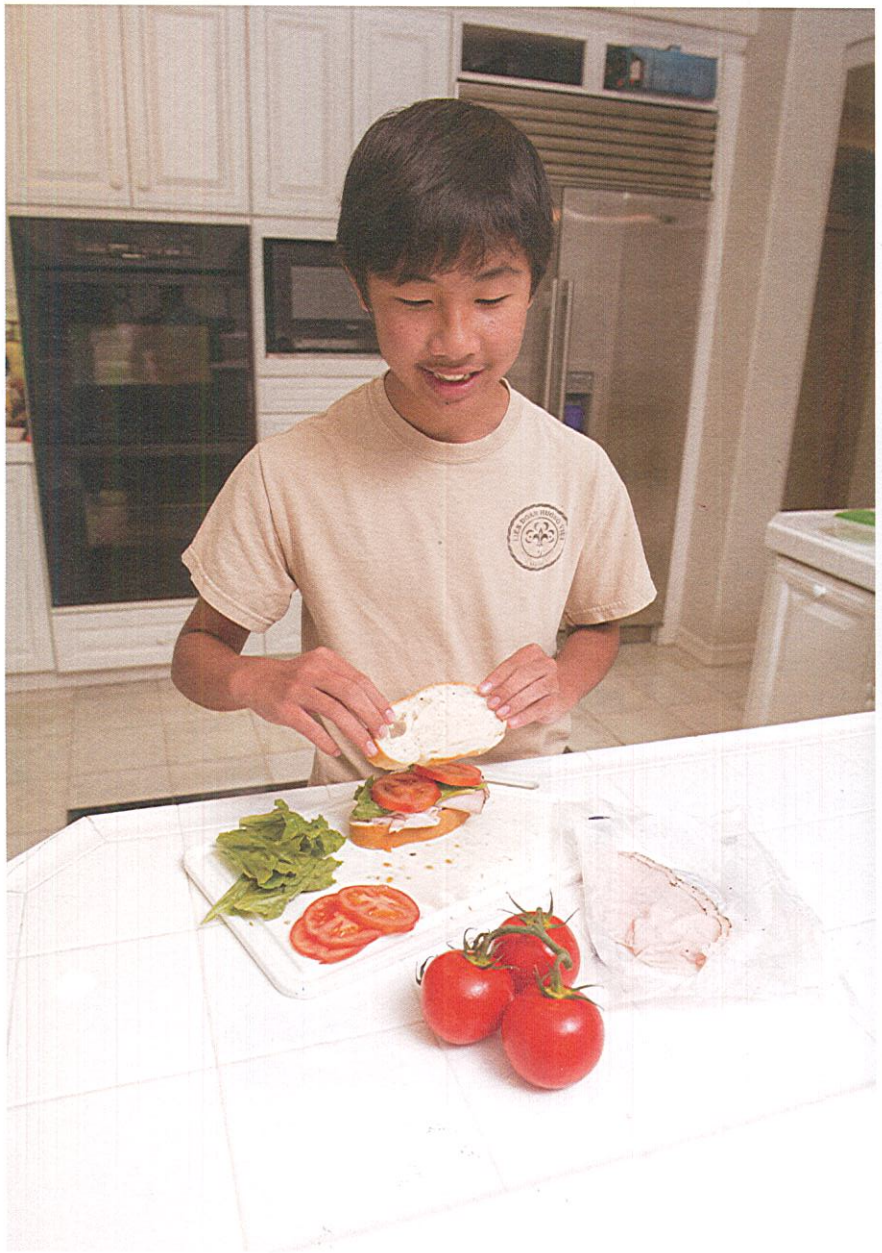
Good cooks know that using the right tools—and using them correctly—will help make you a better, safer, and more efficient cook. For example, it helps to know when and how to use a whisk, spatula, and vegetable peeler. Sharp knives must be used properly to prevent serious cuts and injuries. Pots on a stove or campfire get extremely hot and must be handled with hot-pot tongs or pot holders to prevent burns.

As you cook, you often need to reuse the same equipment. For example, you might use a mixer for the cake batter, so clean the mixer blades right away because you will need them as soon as the cake cools to make frosting.

Never grab a pot handle without first protecting your hands.

Some pots are very thick and heavy by design, such as the Dutch oven. Transport these heavy pots carefully. Dropping such a pot—even an empty one—could cause serious injury if it landed on someone's foot, for instance.





Meals at Home

It is hard to beat the satisfaction of preparing great food for yourself and your family and friends. With good planning and preparation before you start cooking, you will be able to successfully prepare healthy and delicious meals at home.

Steps for Planning and Preparing Meals at Home

1. Determine when you will be cooking and the types of meals you will be preparing.
2. Find out whom you will be cooking for and whether anyone has any special dietary needs.
3. Select recipes using the current USDA nutrition model (discussed later on) as a guideline.
4. Make a list of foods required for the meals, then create a shopping list based on the ingredients you will need.
5. Create and follow a timetable for the preparation of each meal.

Take time to prepare meals without rushing. Always give yourself enough time to cook carefully. Clean as you go, and as you cook, practice what you have learned about how to help prevent cross-contamination.

Patience is an important quality in learning to cook. Sometimes, even if you have planned and prepared with a lot of care, a dish will not turn out the way you wanted. Please don't be discouraged—even professional chefs make mistakes, but they don't let that stop them from trying a recipe until they get it just right. The whole process helps make them a better cook.

Planning Meals

When shopping for your family meals, always consider your family's budget. An adult at home can help you determine how much to spend and how to stay within budget.

Plan wisely and you won't have many leftovers—unless you want leftovers. For example, if you make a big pot of chowder, you can serve it for dinner, refrigerate it, and have some the next day. You also might freeze a portion to enjoy later on.

Always look at the number of servings indicated by the recipe; for example, "serves four." From there, the recipe can be increased for a larger crowd or decreased for only a couple of people. Just double the amount of ingredients listed to cook for twice the number of people the recipe serves, or halve the ingredients for just two people. Please note that doubling does not always work well for baked goods, such as cakes, however.

Eating on a budget can sometimes be challenging. For tips on how to shop and eat wisely, go to the U.S. Department of Agriculture's MyPlate website at http://www.choosemyplate.gov. From the home page, under Popular Topics, look for "Healthy Eating on a Budget."

Buying in bulk and freezing portions of ingredients (such as fresh meats and poultry) often cuts per-unit costs, saving money in the long run. When freezing fresh meats, remove them from their original packaging and wrap recipe-sized portions tightly in freezer wrap or resealable plastic freezer bags.

Understanding the Equipment

Before you cook at home, understand your cooking equipment, including appliances, utensils, pots, and pans. Appliances include the stove and oven, microwave, refrigerator, and garbage disposal, plus any small appliances such as a food processor, blender, and electric mixer. All these appliances serve a function in the food preparation process, and care must be taken in operating these devices correctly.

For example, food processors and blenders have very powerful and sharp blades that can chop, puree, and liquefy foods. Use them only for foods recommended by the manufacturer. Always make sure the top is firmly locked in place before operating a food processor or blender. Most food processors have safety features that prevent the appliance from operating unless the top is secure.

Stoves are another appliance with varying requirements. Ask an adult to show you things like which kinds of pots and pans are appropriate for your electric stove, or how to safely light any stovetop burner that does not have a pilot light.

See the measurements chart in the "Menus and Recipes" chapter for help with adjusting the yield or serving size of a recipe.

Know your microwave wattage before microwaving food. Read and follow cooking instructions on the package. To ensure a safe internal temperature, always use a food thermometer.

Cooking With a Microwave Oven

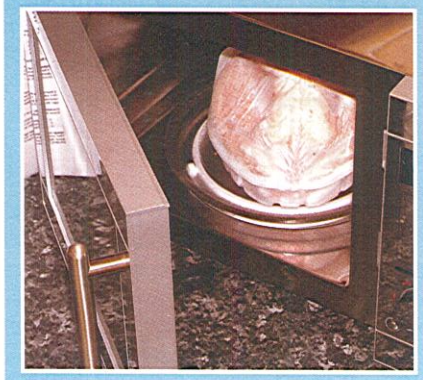
Microwaving may be the most common indoor cooking method used by Scouts. The microwave heats food by converting ordinary electric power into very short radio waves. Here are some tips for using a microwave oven.

A microwave oven is a great time-saver, especially with simple meals. Baked potatoes take at least 45 minutes in a conventional oven or over a campfire and cook in just a few minutes with a microwave. Reheating tortillas takes only about 30 seconds in the microwave; in a conventional oven, it might take five or 10 minutes. Some foods change in texture when cooked in a microwave. For example, potatoes baked in an oven or on the coals have a crisp shell and dry, fluffy interiors that some people prefer to the softer, steamier microwave-cooked potato.

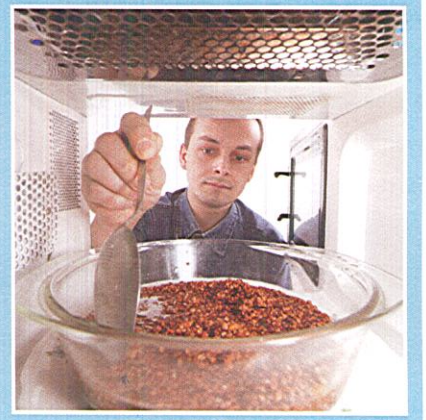
Be careful when eating foods straight from the microwave, especially those with filling. The filling may be hot even though the outside feels lukewarm.

Microwave Guidelines

- Never use aluminum foil or other metallic items because they could create a fire.
- Never turn on an empty microwave; doing so will damage the appliance.
- Due to health risks, use only containers and covers made for use in the microwave. Wax paper or a paper towel works well.



- Dishes used for cooking in a microwave get very hot, which is why it's important to use containers made for use in the microwave. Always use oven mitts to remove heated dishes.
- Stir, rotate, or turn foods upside down (where possible) midway through the microwaving time to help ensure even cooking and to eliminate cold spots where harmful bacteria can survive. Even if the microwave oven has a turntable, it's still helpful to stir and turn food top to bottom.

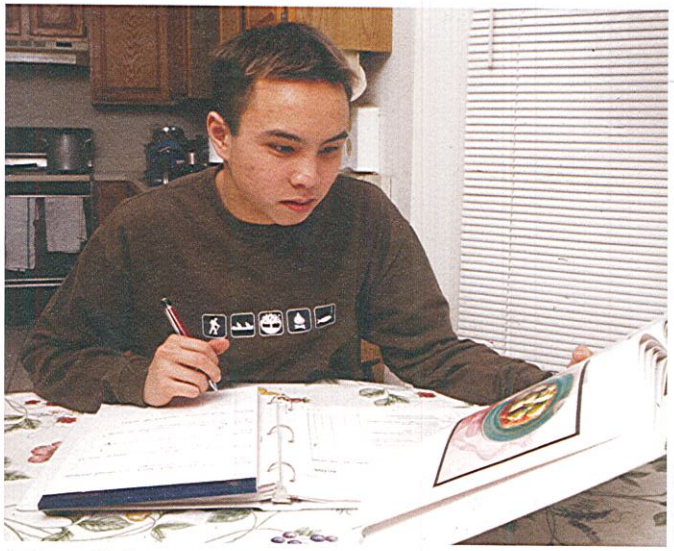


- When removing food from the microwave, lift the cover on the far side to let any steam out.

Coordinating a Timetable

Meals at camp or on the trail should be simple. One-pot meals, foil meals, or meals that require adding only hot water often are an easy choice. Save more complicated and time-consuming dishes for preparing at home.

Coordinating a timetable for some meals seems to be easier than others. For example, most casserole dishes are easy to keep warm. But there is no reason to be mashing potatoes while the grilled chicken on the table is getting cold.



A timetable is a great aid in meal planning and preparation.

The best way to plan a meal is to follow a schedule. Create a timetable, based on how long it takes to prepare each course or recipe. This eliminates much of the anxiety that can come from preparing a meal for others.

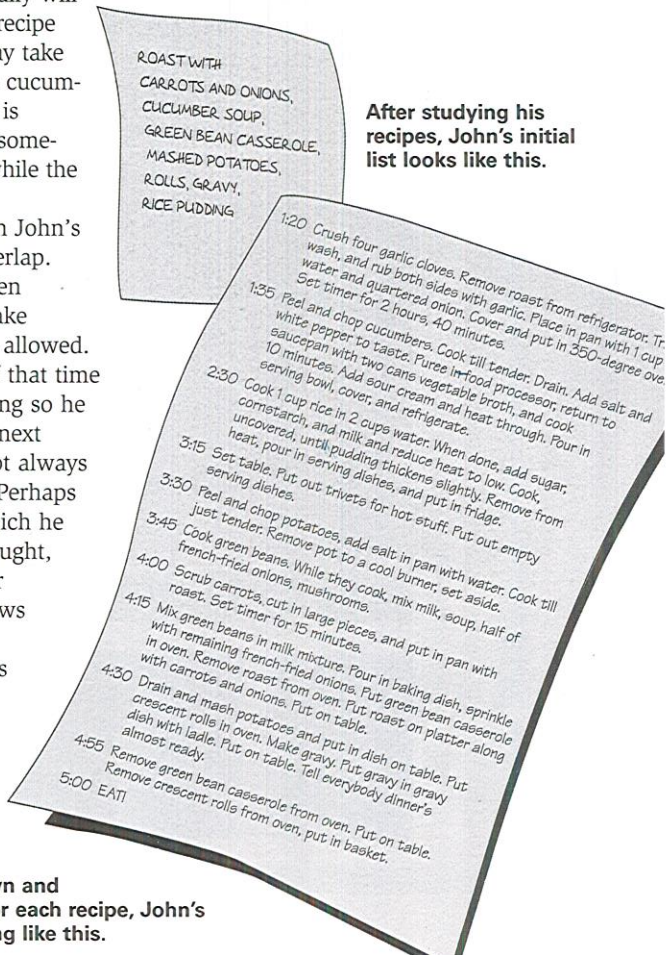
Here are some simple rules of thumb. Write down which course, or food, takes the longest to prepare, then the next-to-longest, and so on. From there, break it down into smaller steps. Making a roast, for example, involves trimming the fat, rinsing the meat, preheating the oven, seasoning the meat, putting it on a drip rack in a pan in the oven, and then cooking it for the remainder of the time. While the roast cooks, you have enough time to prepare other side dishes and the dessert. Bread, rolls, and the like are usually the last thing to be popped in the oven before a meal is served.

Here is an example. For Sunday dinner, John decides to make roast beef, mashed potatoes with gravy, green bean casserole, cucumber soup, crescent rolls, and rice pudding for dessert. He and his family are eating at 5 P.M.

John consults his recipes and discovers that, including time to make the gravy, the roast will take 3½ hours to complete. He puts the roast in first. He then sees that, with all the time allowed for various steps, the cucumber soup takes about 45 minutes to prepare, plus a few hours to chill afterward, since the soup should be served cold.

Remember, you usually will work on more than one recipe at a time. Although it may take a couple of hours for the cucumber soup to chill, once it is made, you can work on something else for the meal while the soup chills.

Notice that items on John's timetable sometimes overlap. The items shown between 3:30 and 4:30 seem to take longer than the hour he allowed. However, a great deal of that time the vegetables are cooking so he has time to prepare the next course. Also, he does not always include measurements. Perhaps it may be an item in which he uses exactly what he bought, or perhaps he is familiar with the recipe and knows how much to add. The main thing is that John's timetable is simply a tool for his use, so he can jot down as much or as little detail as he wants.

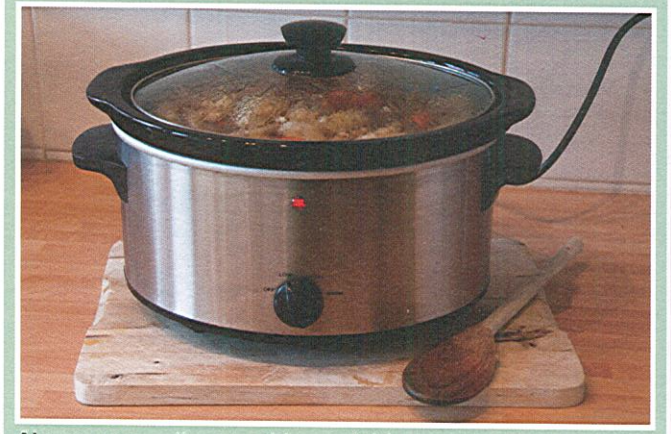


After studying his recipes, John's initial list looks like this.

When he has broken down and prioritized all the steps for each recipe, John's timetable looks something like this.

Crock Pots

Slow cookers (generally referred to as Crock Pots) are excellent time savers and help simplify meal planning. These appliances primarily have an electrical heat source. You can use them to simmer, steam, stew, broil, roast, and boil. Slow cookers are safe to use when you are not at home for recipes that will take a long time to cook. When used properly, slow cookers decrease the risk of burning you and your food. Many newer slow cookers have safety features to shut off automatically. You can find a number of slow cooker recipes online. Many of those recipes can be adapted to Dutch oven cooking at camp.



Always use appliances with an adult's supervision.

For requirements 5, 6, and 7, it's important that those you have served evaluate your meals on presentation and taste. Consider their comments as you evaluate your own meals. Then you will be prepared to discuss what you have learned with your counselor.

Using Spices and Herbs

Experimenting with spices and herbs is another healthy way to enhance the flavor of foods. Most comprehensive cookbooks have a chart that will show you which herbs and spices go best with various meats and vegetables.

Camp Cooking

Planning and preparation are key in camp cooking and important in making your cookout a rewarding experience.

Choosing Cooking Equipment

There are times when campfires are still the center of Scout life and may be appropriate. However, Scouts today are wiser about the environment and understand that fires can leave scars upon the land. Lighting campfires in heavily used campsites can mar surrounding forests as people gather up every stick of dead wood and break off tree branches for fuel. Instead, most Scout campers now use stoves for cooking.

Always fill a camp stove with fuel outdoors. Never loosen the cap or fill the tank near an open flame or pilot light, or while the stove is hot.

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

Selecting a Stove

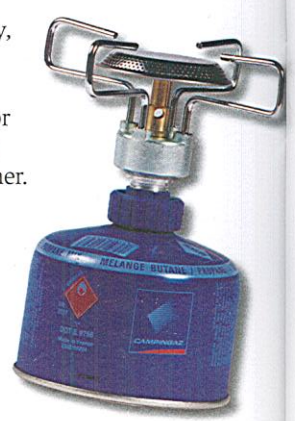
The stove you choose depends on the kind of cooking you will do, type of fuel you want to use, and weight you are willing to carry. Always read and follow the manufacturer's instructions for carrying, fueling, using, maintaining, and storing camp stoves.

White gas stoves equipped with pumps that pressurize their fuel tanks can be an advantage in cold weather.

Cartridge caution: Never place a windscreen around a cartridge stove—the cartridge might explode.

White Gas. White gas is a highly distilled fuel. Some white gas stoves must be preheated, often by squeezing a dab of flammable paste into a depression at the base of the burner stem. Preheating increases the pressure inside the fuel tank, forcing vaporized fuel up a stem and into a burner where it can be ignited with a match. Once the burner is roaring, it will keep the fuel tank hot enough to maintain a steady supply of vaporized fuel.

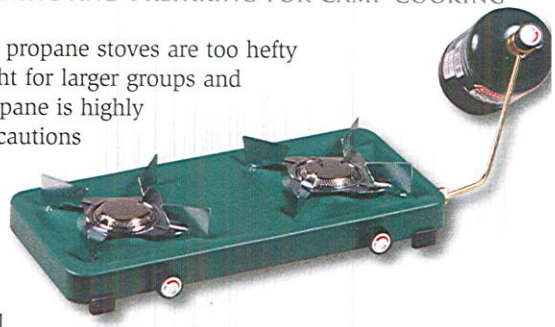
Cartridge Stoves. If you want simplicity, safety, and convenience, butane and propane cartridge stoves are your best choice. These stoves need no pumping or preheating; simply attach a fuel canister, turn the control knob, and light the burner.



Cartridge stoves work well in warm weather and at high altitudes, but they lose efficiency as the temperature drops.

Propane Tank Stoves. Two-burner propane stoves are too hefty for backpacking but can be just right for larger groups and when weight is not a big issue. Propane is highly flammable, so take appropriate precautions when using propane stoves.

Kerosene. This is a hot burning, nonexplosive fuel available almost anywhere. Kerosene camp stoves are unusual in North America but are frequently seen on international expeditions. A kerosene stove must be preheated before it can be lit.



Propane tank stoves are great for bigger groups and when transporting is not a big deal.

Grills

Many campgrounds have grills already set up. A simple portable grill with legs placed over your campfire also makes a good cooking area. The pots or pans can be placed on the grill, or foods can cook directly on the grill over coals.

Campfire Cooking

Before you decide to use a campfire as your source of heat for cooking, find out in advance if the area where you want to camp permits fires. If you build one, use an existing fire ring and use wood no thicker than your wrist. Dispose of ashes properly. Even where fires are allowed, a lightweight stove can make it easier for you to camp without leaving a trace, because

- Campfires can char the ground, blacken rocks, and sterilize soil. Vegetation might have a hard time growing where a fire has been, which is why you should always try to use an established fire ring.
- Fires consume branches, bark, and other organic material that would have provided shelter and food for animals and plants.
- Campfires must be closely watched at all times to prevent them from spreading into surrounding grasses, brush, and trees.

Portable charcoal grill

Charcoal. Charcoal makes outdoor cooking and grilling easy, as long as there are no regulations against its use where you camp. Dutch oven cooking, stick cooking, and cooking with foil packs are a snap with charcoal. Using self-lighting charcoal vastly decreases the amount of time it takes to get the coals perfect for grilling (when they are covered with gray ash throughout).

Cook Kits and Utensils

Deciding which utensils to take on a campout depends on what you plan to cook. Plan meals based on the length of the trip, your destination, and how you will get there.

Planning meals for a campout includes making a list of utensils. Pay close attention to recipes to ensure your list is complete. A standard chef's cook kit, which offers a great variety of tools and utensils, probably has what you need, but make sure.

When buying new gear, get the best you can afford.

In addition to the cooking utensils and pots and pans you will need to cook for a group, do not forget your own personal eating utensils. Also bring resealable plastic bags with herbs, pinches of spices, salt and pepper packets, and other seasonings or condiments to make your dishes even more mouthwatering.

Using Stoves Safely

In camp, follow all safety guidelines described in using a camp stove. Read your stove's instructions carefully and follow them exactly.

1. Never fuel, light, or operate a gas stove or lantern inside a tent, snow cave, or igloo; always do this outdoors.
2. Use, refuel, and store stoves and lanterns only with the supervision of a knowledgeable adult and in Scout facilities only where allowed.
3. Operate and maintain stoves and lanterns according to the manufacturer's instructions included with the product.
4. Store fuel in well-marked, approved containers (never in a glass container) and in a ventilated, locked box at least 20 feet from buildings and tents, and below 100 degrees F. Keep containers well away from campfires, burning stoves, and all sources of heat.
4. Allow hot stoves and lanterns to cool completely before changing compressed-gas cartridges or cylinders, or refilling from containers of liquid fuel.
6. Refill stoves and lanterns outdoors, a safe distance from flames, including other stoves, campfires, and personal smoking substances. Use cartridges or fuel expressly recommended for your stoves by the manufacturer. Use a funnel to pour liquid fuel into a stove or lantern. Recap the fuel container and stove or lantern. Before lighting the device, wait until any spilled fuel has evaporated.
7. Place the stove on a level, secure surface before operating. On snow, place the stove on an 8-inch-square piece of plywood or other flat surface to insulate it from the cold and make it more stable.
8. Have stoves and lanterns checked periodically by knowledgeable adults to make sure they are in top working condition.
9. To avoid possible fires, locate gas tanks, stoves, etc., below any tents since heavy leakage of gas will flow downhill the same as water.
10. Follow the manufacturer's instructions for lighting a stove. Keep fuel containers and extra canisters well away. Do not hover over the stove when lighting it. Open the stove valve quickly for two full turns and light carefully, with head, fingers, and hands to the side of the burner; then adjust down. Keep your head and body to one side in case the stove flares up.
11. Never leave a lighted stove or lantern unattended.
12. Do not overload a stove with a heavy pot or large frying pan. When cooking requires a pot capacity of more than 2 quarts, set up a separate grill with legs to hold the pot, then place the stove under the grill.
13. Carry empty fuel containers home for proper disposal. Do not place them in or near fires, or in trash that will be burned; empty fuel containers will explode if heated and should never be put in fireplaces or with burnable trash.

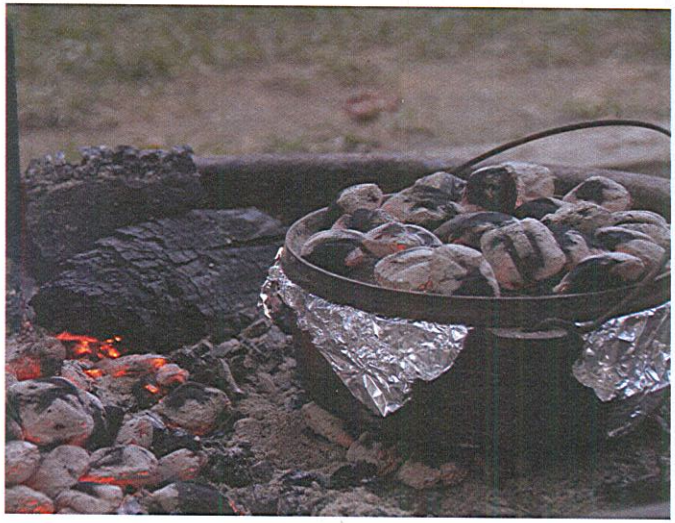
Dutch Oven Cooking

Some of the tastiest meals you will make and eat as a Scout will be cooked in a Dutch oven. This sturdy iron pot with a thick, heavy lid not only can cook one-pot meals but can also act as a small oven for making biscuits, breakfast casseroles, and fantastic fruit cobblers. Its thick build produces an even heat, ideal for slow simmering. Despite its weight, the Dutch oven's versatility makes it a valuable tool in any camp kitchen.

If carrying or moving heavy equipment is not a problem, the Dutch oven is excellent for cooking many dishes.

Cooking With Foil

One of the camp cook's best friends is double-layered, heavyweight aluminum foil. It is great for cooking food in coals—and for creating simple, disposable pots and pans. Lighter-weight foils will not provide enough protection against punctures and extreme heat and the possibility of burnt food.



Coals can be placed on the heavy lid of a Dutch oven to increase the temperature inside the pot.

Foil wrapped as an airtight package around food and sealed with a drugstore or sandwich fold becomes a miniature pressure cooker. On a bed of hot coals with some heat on top, a foil packet of diced vegetables and meat will cook in 10 to 15 minutes, whole potatoes in 40 to 50 minutes.

Using foil, you can cook almost anything directly in the charcoal. Dutch ovens are also useful for cooking and baking this way. Place the Dutch oven on top of the coals, put coals on top of the Dutch oven's lid, then place your foil packet over the coals. You also can use foil to line the Dutch oven when baking. This makes for easy removal of items such as cakes. As a bonus, your cleanup is easy. Just remember that used foil must be packed out at camp.

Be sure to allow some space in your packages for expansion by not wrapping the uncooked food too tightly. If you want to allow food to brown or broil as in a skillet, leave the package open at the top (or fashion like a folded drinking cup with a flat bottom). The steam can escape and you can watch the cooking progress of your meal.

How to Fold Foil

There are three variations used in foil cooking.

Handle Wrap. Double-thickness, heavy-duty aluminum foil can substitute for simple pots at times. Just tear off a long enough section of foil so that you can double it, and then crimp and fold the foil into the shape you need.

Two-handled wrap

Bundle Wrap. Place food in the center of the foil. Bring the corners of the foil up into a pyramid shape, twisting the four corners together to seal. Leave room for expansion.

Bundle wrap

Drugstore Wrap. Place foil on a flat surface and place food in center of the foil. Fold the sides up. Tightly crimp and fold down several times, leaving space inside for expansion. Bring the open ends together, folding several times, and crimp to seal.

Drugstore wrap

What You Need to Know

The first step in planning for camp cooking is to find out the destination, the length of the trip, and the time of departure. Find out how many people are going and if anyone has any known allergies or dietary restrictions. Also get an idea of the group's daily activities while camping. If plans call for fishing one afternoon, for example, consider having the day's catch for dinner that evening. Have a backup plan, though, in case the fish do not bite.

Consider the season of the year. In summertime, people generally prefer lighter foods. In the winter, hot and hearty meals help keep the body warmer and replenish the storehouse of energy it burns keeping warm.

A hearty one-pot camp stew makes a delicious winter meal.

List the meals planned for the length of the campout. For example, if you are going to a nearby campsite, leaving Friday at 4 p.m. and returning Sunday afternoon at the same time, you will probably be responsible for dinner Friday, all three meals on Saturday, and breakfast and lunch on Sunday. Confirm this with your unit leader.

If weight or cooking time is a concern, consider preparing foods at home ahead of time to eat on the trail, such as jerky or nuts and dried fruits.

Using this knowledge, along with the nutrition guidelines described in the MyPlate model (see the chapter called "Choosing What to Eat"), will help you create flavorful meals for your campout. Consult the recipes in this pamphlet as you prepare your menus.

Make your own marinades using a little vinegar or fresh lemon juice or lime juice and some spices. In a pinch, just about any prepared salad dressing will do. Marinating meat in this mixture will add even more flavor and tenderness. Always properly discard the marinade juices after you remove meat from a marinade.

Timing a Meal in Camp

Here's an example of how to prepare a well-timed camp dinner of One-Pot Chicken and Vegetable Rice, 100 percent whole grain rolls, yogurt, and Campfire Apple S'mores. If all patrol members pitch in, this should take no more than 30 minutes of hands-on time.

3:00 Set up preparation area. Be sure that surfaces are clean and food handlers wash their hands before helping.

3:15 Begin cutting and chopping onion, peppers, zucchini, and green beans; set aside. Chop garlic; set aside. Zest the lemon and set aside.

3:45 Begin cooking brown rice according to directions. Set a timer.

4:00 Set the table, put out trivets for the hot pan. Set out rolls and condiments on the table.

4:10 Measure out oil, salt, and pepper for cooking the chicken; set aside.

4:15 Cut chicken breasts into bite-size pieces.

4:30 In 12" sauté pan, sauté chicken and vegetables according to the recipe. Then add the cooked brown rice, lemon zest, mix well again, and sauté until thoroughly heated.

4:55 Remove sauté pan, place on table for serving.

5:00 Eat and enjoy your meal! The yogurt can be self-served as each member finishes dinner.

Treating Water

You will need water for drinking, cooking, and cleanup—several gallons a day per Scout. Public supplies (drinking faucets and fountains) are safest and often can be found in frontcountry campsites. Camping in dry regions requires careful planning for how you will transport water to camp.

Water treatment tablets quickly lose their potency once the container is opened; be sure to check the expiration date before you go camping.

Open Water

Water taken from streams, rivers, lakes, and springs may contain bacteria and parasites too small to see and must be properly treated before use. Use one of the following methods to treat any water that does not come from a tested water source.

Boiling. Bringing water to a rolling boil for a full minute or more is the most effective way to kill any organisms that water might contain.

Treatment Tablets. Sold in small bottles, these tablets make a lightweight option. However, they are not always effective against all harmful organisms. The label usually tells you to drop one or two tablets into a quart of water and then wait 30 minutes before drinking. The treatment may leave a chemical taste in the water. After the tablets have had a full 30 minutes to take effect, you can improve the flavor by adding some drink mix. If you will be using treatment tablets, be sure to add these to your shopping list.

Filters. Water treatment filters are effective and easy to use. Some operate by pumping water through pores small enough to strain out bacteria. Others contain chemicals or carbon.

Follow the manufacturer's instructions for the water filter you plan to use.

Iodine Caution

Anyone who is allergic to iodine or shellfish cannot use water treated with tablets. Iodine can also be harmful to small children, people with thyroid problems or who take lithium, women over 50, pregnant women, and people with liver or kidney disease.

Making a Shopping List

Plan your meals and your shopping trips carefully, taking into consideration as precisely as possible how much of each ingredient you will need. List everything you will need to buy. Your counselor can help you determine the quantity of each item for the number of people you will be feeding.

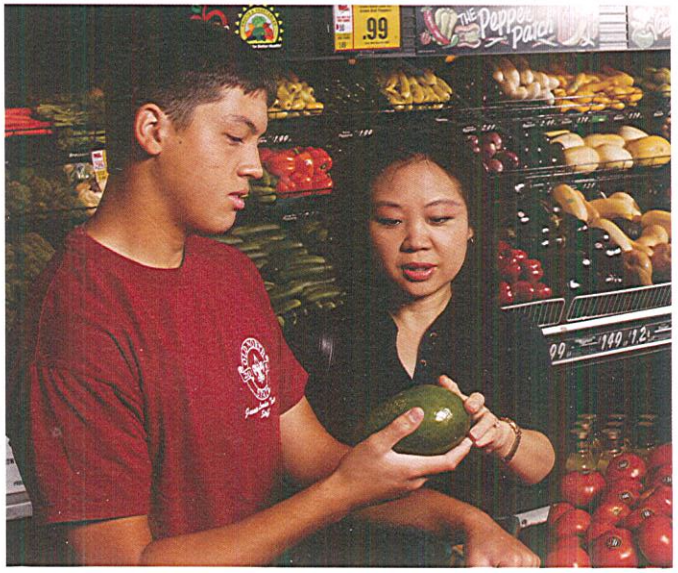
Include on your shopping list resealable plastic bags, foil, and other nonfood items that will be needed. Read each recipe carefully and jot down how many resealable bags you will need and the sizes required to repackage ingredients.

Take your shopping list to the store and jot down prices for each item. Back home, total the price for the items, adding sales tax, if it applies. Divide the amount by the number of people who will be eating. This is the amount you should collect from each Scout for his part of the food bill.

The "Cooking" chapter in the *Boy Scout Handbook* includes a handy chart for single-serving sizes.

Shopping Smart

Price is important when shopping, but equally important is value—getting the most for your money.



Shelf labels allow you to compare the unit prices of items to find the best value.

Most stores have shelf labels that tell not only the price of an item, but also the unit price. The store has done the math for you to show the cost per unit of an item rather than per package. For a jar of jam, the unit price might be what 1 ounce of jam costs. This means the store has divided the total price by the number of ounces in the jar, so you can compare the price of different sizes and brands of the jam. The jar with the lowest unit price may be the least expensive, but it may not always be the best value or the most practical for camping purposes.

You will often—but not always—find that buying in larger quantities is more economical. The larger item may cost more than a smaller size, but you get a great deal more of the item. However, always consider how much you plan to use. It is not wise to buy a gallon of jam for a weekend campout. If the economy size is much more than you will need, buy a smaller size.

Another money-saving tip is to use plain-label (also known as generic) or store brands. They are often of comparable quality but can cost less than name-brand goods.

Equipment, Utensils, and Other Necessities

Take your notebook and review your recipes again. This time, make a list of the equipment and utensils necessary to prepare each recipe. This will make packing easier and less stressful.

Do not forget herbs, spices, cooking oils, and nonfood items. Here are some other "unforgettables."

Water Containers. It may be convenient to have a few collapsible plastic water containers for use in camp cooking. Common container sizes are 1 gallon and 2½ gallons.

Cleanup Materials. Soapless scouring pads, a rinse agent, and a little biodegradable soap will take care of most of your dishwashing needs in camp. As soon as they are washed, stow cooking and personal eating gear in a small fishnet hammock strung between two trees, or in a mesh bag tied to a branch.

Trash Bags. Large plastic trash bags work well as storage sacks, emergency ponchos, or pack covers, for suspending food on bear lines, and to pack out trash at the end of a trip.

Preparing for Camp Cooking

You know how long you will be gone, how many people you will be serving, and what and how you will be cooking. You have shopped for the food and even figured out each Scout's share. The only thing left is to cook, right? Well, almost.

As you repackage foods and pack what you will need for camp, practice safe food handling methods to help prevent cross-contamination.

Before Leaving Home

Getting food to the campsite takes a little planning.

Measuring Food. Measuring is important in cooking. Take only what you need for the trip. Gather the recipes, resealable plastic bags in different sizes, and the food you will be taking. Pack one recipe at a time and precisely measure each ingredient. Be organized so that in camp, you need only minimal preparation.

Some food preparation, such as slicing and chopping, can be done in advance, saving time in camp. You can tape instructions for food preparation to the outside of the plastic bags.

Packing Food. Repackage multiple-packaged foods into sealable plastic bags to reduce the amount of litter you will generate. Where necessary, put ingredients in separate bags. If a recipe calls for several similar ingredients to be mixed (flour, salt, and pepper, for instance), put these all in one bag.

Keep all perishable foods refrigerated until you leave, then store them in a cooler. Keep all refrigerated foods for the campout in a separate section of your refrigerator, if possible. Putting them in a separate bag will make it easier to gather everything when it is time to pack.

After packing all the ingredients for a meal, recheck each recipe to make sure everything is there. Label the packages and put all the ingredients in one larger bag. Separate each bag by meal and day; when you are ready to prepare lunch on Saturday, you only need to look for the bundle labeled "Saturday lunch."

Pack food so that each meal is easily accessible as it is needed. As you pack the box, consider the order of the items, and pack in reverse. First, put in those packages needed for the last meal, then the next to last, and so on—so that the ones needed first are closer to the top or the front. By the end of the trip, everything will have been easily located and the organization will have paid off.

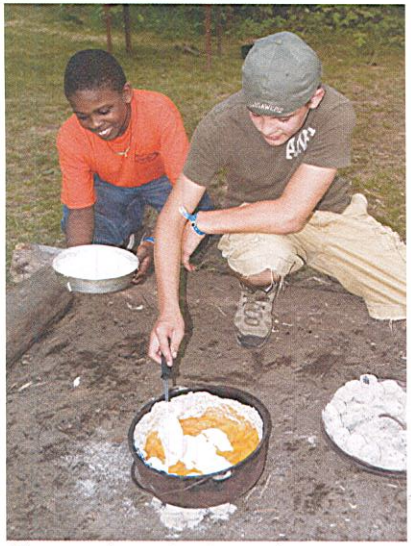
After repackaging, don't forget to label each bag.

As you put an ingredient in a resealable plastic bag, carefully remove the air from the bag as you close it. A bag with excess air inside takes up more space and might split if squashed. Also, perishable food such as vegetables will stay fresher without oxygen inside.

Packing the Cooking Gear. Pack cooking equipment carefully. Forgetting a single item could be disastrous. Pack similar items together: Group utensils together, all pots together, and so on. Pack knives and other sharp utensils safely. Make a simple knife sheath using a flattened paper towel roll.

Setting Up the Camp Kitchen

With your counselor, select a safe place to cook—at least 10 feet away from anything combustible, since you will be working with fire. Keep supplies put away until it is time to cook. If using a stove, set it up now, following the manufacturer's instructions. Once the stove is set up and working and you have a pot of water ready for washing dishes and clean water to use for cooking, the camp kitchen is ready.



Always select a level spot for your cook site that is at least 10 feet away from anything that might catch fire.

Campfire Cooking

Whether using a stove, grill, or campfire as your source of heat for cooking, manage fire responsibly and make safety a primary concern. Unmanaged fires can cause serious and widespread damage to the land and can injure humans and animals. Never leave a stove in use unattended. Keep anything flammable, from fuel to matches to paper towels, away from the fire source.

Place pots or pans directly on the campfire and cook using firewood as fuel. One good way to do this is to build the campfire within a circle of rocks, then place a grate or grill on top of the rocks. Upon arrival at the campsite, use an established fire ring. Build your own only if there is no existing fire ring.

Putting Out the Fire

When the cooking is done, thoroughly and properly extinguish your campfire. Carelessness can cause uncontrollable fires in the wilderness. Be responsible for putting the fire cold out—beyond a doubt.

The best way to put out a campfire is with water (do not use dishwater, which may have small food particles and an odor that will attract wildlife). Sprinkle—do not pour—water directly on the fire to prevent the water from rushing into the ground with fire still burning where the water did not hit. Use a stick to stir the wet embers with the water. Continue sprinkling and stirring until the fire is completely cold out.

Charcoal Cooking. Charcoal can be used in place of small sticks or split wood. Build the fire within a circle of rocks to get it going quickly. Regular coals must burn about 40 minutes, until a coat of light gray ash appears, before the fire is ready to use. Quick-start coals are usually ready in 10 minutes.

Cooking on a Grill. First use a wire grill brush to clean the grill, especially if food will go directly on the grill. Starting a fire under the grill will help burn away anything remaining on its surface. Pots and pans can be placed directly on the grill. Food can go either directly on the grill or in foil bags. Cooking directly on the grill gives food a unique, delicious flavor.

Another heating device, canned flammable jelly, is easy to light and can be closed up after cooling and reused again later. Perfect for warming up single servings, it does not efficiently produce enough heat to cook a group meal.

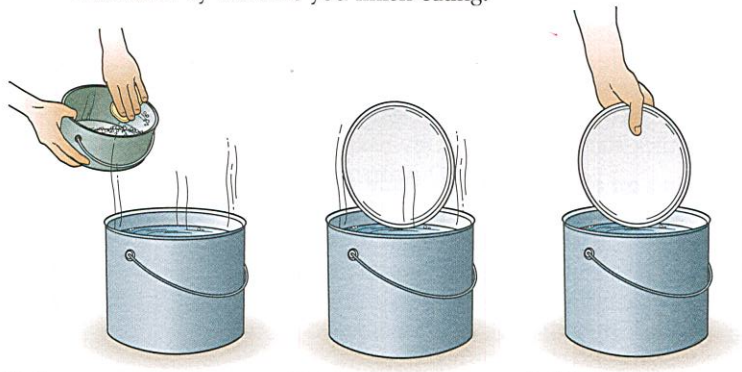
Find a source of treated water, or begin the water treatment process now. Set aside a bucket or large pot of water for washing dishes.

Getting It All Done on Time

With thoughtful menu selections and a little organization and planning, getting dishes on the table at the same time should be easy. If charcoal cooking, allow time to heat the coals. Then start with the food that takes the longest to cook. For example, baked potatoes will take at least 45 minutes to cook. If grilled fish, a salad, and baked potato are on the menu, get the potatoes cooking first, then prepare the rest of the meal.

Cleaning Up

Clean and put away the cooking gear as quickly as possible after the meal, even if you are not yet leaving camp. Not only will you be able to enjoy the next activity, but the longer pots and pans sit, the tougher they are to clean. Put on a pot of water before you serve a meal. That way you will have hot dishwater by the time you finish eating.



Hot Hot Cold

Begin cleanup by setting out three pots.

Hot-water wash pot—hot water with a few drops of biodegradable soap.

Hot-water rinse pot—clear, hot rinse water.

Cold-water rinse pot—cold water with a sanitizing tablet or a few drops of bleach to kill bacteria.

Scrape excess food into a garbage bag that you will pack out. Then, scrub dishes in the hot-water wash pot. Use hot-pot tongs to dip items in the hot rinse water. Follow with a dip in the cold-water rinse pot. Lay clean dishes and cookware on a plastic ground sheet and let them air dry.

All Scouts are responsible for cleanup and washing their own eating gear. If everyone cleans one pot, pan, or utensil, the work will be done in no time.

Dishwater Disposal. For campouts lasting no more than a couple days, use a small kitchen strainer to remove food bits from your wash water and put them in your trash. Carry the wash and rinse water away from camp and at least 200 feet (about 80 adult steps) from any water source. Give it a good fling, spreading it over a wide area.

For longer stays at one site, dig a sump hole away from camp and at least 200 feet from water sources. Make a hole about 1 foot across and 2 feet deep. Pour dishwater into the hole over a piece of screen to catch the food particles. Shake the food particles into a trash bag. Fill the sump hole when you break camp, and replace any ground cover.

Pack out all food scraps. Do not bury or scatter leftovers in the woods; animals will almost always find them. Food scraps are unhealthy for animals and can attract them to campsites where they may lose their fear of humans. This can be dangerous for them and for you.

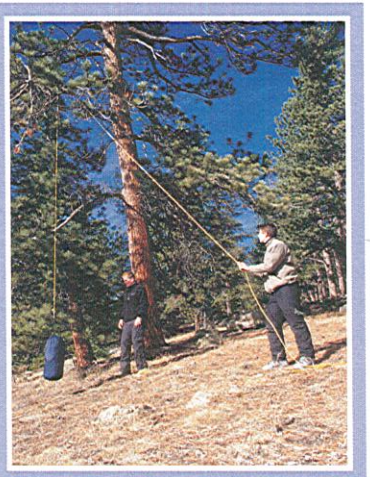
Disposing of Garbage. When camping, set a goal to leave no trace that humans were ever there. Always pack out everything that was packed in, including all food packaging, foil, food scraps, and recyclables. Leave the campsite exactly as it looked when you arrived, if not in better shape.

Storing Food. At camp, store food where it will be safe from animals, insects, dust, debris, and bad weather. Frontcountry campers can use vehicles, coolers, or plastic buckets with tightly fitted lids as storage units. In the backcountry and wherever bears may be present, a bear bag is the best answer. Not only will your food be secured, hanging anything with an aroma will give bears no reason to linger in your camp.

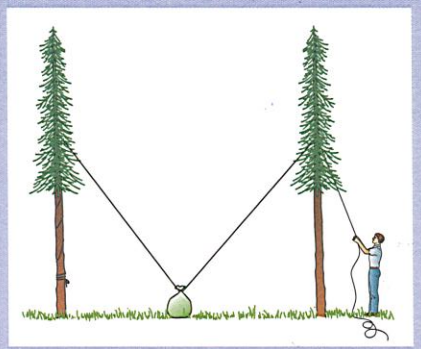
Land managers of camping areas frequented by bears can give you further information about the best ways to store your food.

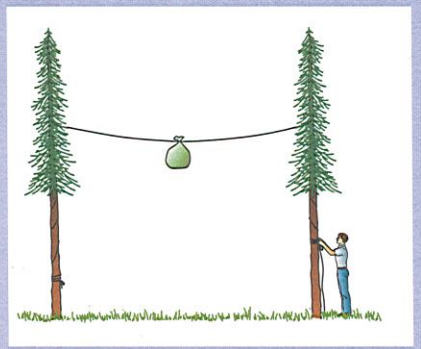
Protect Your Smellables

Here are three ways to suspend food and other "smellables" to keep them safe from wildlife.



1. Find a tree with a sturdy branch about 20 feet above the ground. Tie one end of a strong cord around a rock and toss it over the branch. Then untie the cord around the rock. Stash your provisions in a plastic trash bag or a burlap bear bag lined with a trash bag, and tie it to one end of the cord. Raise the bag until it is well out of reach of standing bears, and tie the free end to a tree trunk.
2. If there is not a good branch nearby, find two trees about 20 to 30 feet apart. Toss a line over a branch close to the trunk of one tree, then toss the other end of the line over a branch of the second tree. Tie your bear bag to the center of this line, and hoist it high between the two trees.
3. Outsmart those bears that are clever enough to claw loose the tied end of a cord. Divide your provisions equally between two bear bags. Raise one up to a high branch, as you would in the first method. Tie the free end of the cord to the second bag, lift it overhead, and use a stick or hiking staff to shove it out of reach of animals. The bags will counterbalance one another, keeping them safe. To retrieve the bags, use a stick to push one bag even higher, causing the other to come down within your grasp.





Trail Cooking

Trail cooking can be the most creative and fun cooking opportunity. Trail cooking refers to any form of overnight or day activity that would require a meal on the go—something quick, light, and easily stored. Things to consider when planning trail meals are nutritional value, environment, weather, weight, and mode of transportation.

As you plan your meals for camp and trail cooking, keep the Outdoor Code in mind.

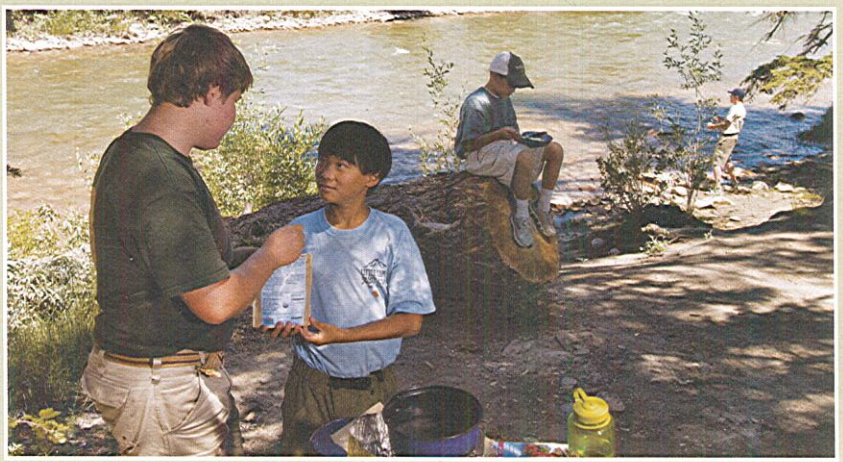
As an American, I will do my best to

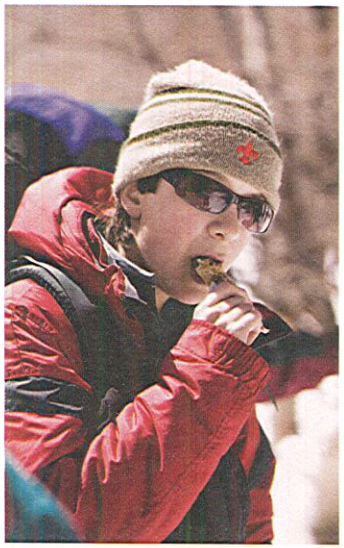
Be clean in my outdoor manners. I will treat the outdoors as heritage. I will take care of it for myself and others. I will keep my trash and garbage out of lakes, streams, fields, woods, and roadways.

Be careful with fire. I will prevent wildfire. I will build my fires only when and where they are permitted and appropriate. When I have finished using fire, I will **make sure it is cold-out.** I will leave a clean fire ring, or remove all evidence of my fire.

Be considerate in the outdoors. I will treat public and private property with respect. I will follow the principles of Leave No Trace for all outdoor activities.

Be conservation-minded. I will learn about and practice good conservation of soil, waters, forests, minerals, grasslands, wildlife, and energy. I will urge others to do the same.





To plan the menus for trail cooking, use the same principles described in the sections about menu planning and shopping for camp cooking. See the recipes section of this pamphlet, cookbooks, and especially vegetarian magazines for nutritional meals to prepare along the trail. Utilize the MyPlate nutrition guidelines (see the chapter called "Choosing What to Eat"), and keep in mind the need to choose nutritious foods that will last as long as you need for your outing.

Portability is important to trail cooking, especially as you consider the combined weight of your food and equipment while planning your trip. Some destinations may require that meals be limited to a maximum weight per person or group. Everything needed for meals must be carried, so all excess weight must be eliminated. This calls for planning simpler, lighter meals that require no refrigeration, heavy equipment, or utensils.

No-trace camp cooking means whatever you take to camp must be brought home, including litter, cans, and leftover food. Do not throw trash into water sources or bury it in the woods, and make sure the campsite is in better shape than you found it.

Save space when packing out cans by rinsing them out, carefully cutting out the ends, and flattening them.

One option for any outdoor adventure is a prepackaged meal called MRE (Meal Ready to Eat), designed to be high in nutritional value, lightweight, and easily transportable. Other options to consider are prepackaged dehydrated or dried foods (either homemade or purchased). Items that fall into this category would be jerky (beef, venison, or other dried meats), dried fruits (raisins, cranberries, bananas), nuts, granola, quinoa, and cereal. Mix your favorites to make a trail snack of your liking. For even greater ease, consider energy bars, which are easy to pack and eat while walking. For the most part, these are considered to be nonrefrigerated items.

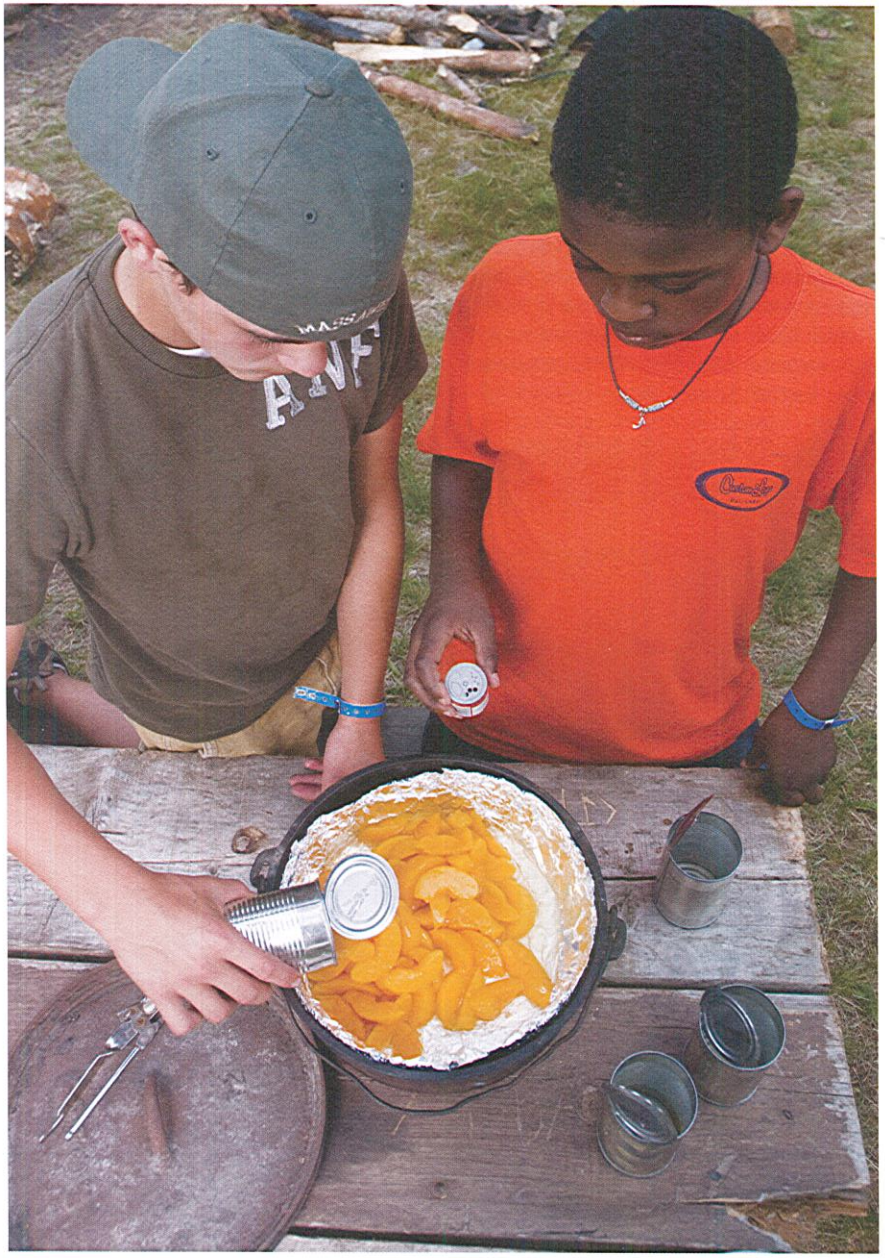
Even though you are out on the trail, you can still enjoy some simple, hot options (requiring a heat source and preparation to become ready to eat) such as dried soup, oatmeal, rice, and pasta.

Because the outdoors usually requires greater physical activity, you may want to enhance your nutritional needs by adding powder mixes or supplements to your water. For example, powdered protein mixes and sports drinks enriched with vitamins can easily be added to hot or cold water, and mixes weigh less than the ready-to-drink versions.

It is very important to consider how your food will be kept safe (refer to the "First Aid, Foodborne Illnesses, and Food-Related Conditions" chapter) when planning for your outing. Refrigeration is at a minimum or nonexistent because coolers and ice packs may be too heavy. Storing your food in resealable freezer bags will help protect your food from cross-contamination and the elements as well as provide you with a sealable trash bag at cleanup time.

Dry, prepackaged foods are convenient, tasty, lightweight, and require no refrigeration.

Remember to follow the USDA's MyPlate nutrition model as a guide, and learn how to pack lightly for trail meals.



Choosing What to Eat

Just being aware of what your body needs is half the battle to staying fit for life. The other half is eating healthy and being physically active. Remember, the old adage rings true: You are what you eat. When you learn about the nutritional benefits of the different food groups, you can begin to prepare healthy and well-balanced meals.

MyPlate: A Blueprint for Healthy Eating

To help people make better dietary choices, the U.S. Department of Agriculture has created nutrition guidelines called MyPlate. This plan focuses on the types of foods people should eat as well as the quantity, which vary with a person's age, sex, and physical activity level. The plans emphasize fruits, vegetables, whole grains, and fat-free or low-fat milk and dairy products. Also included are lean meats, poultry, fish, beans, eggs, nuts, and a very low intake of oils. Solid fats and added sugars (empty calories) are limited to small amounts.

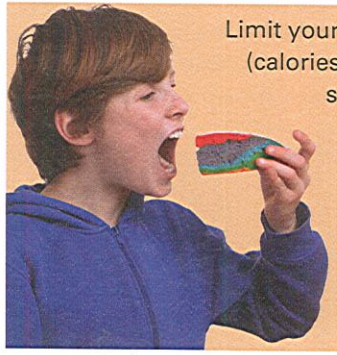
Whole grains are complex carbohydrates. They provide the body with energy and stamina. While it takes longer to burn complex carbohydrates, you should try to make sure at least half (or 3.5 ounces) of your grain intake comes from whole grains. This food group includes whole wheat bread, oatmeal, and brown rice.

According to the USDA's daily food plans, the average 12-year-old Scout who exercises 30 to 60 minutes per day should consume about 2,200 calories a day. He should include, on average, 7 ounces of grains, 3 cups of vegetables, 2 cups of fruit, 3 cups from the dairy group, and 6 ounces from the protein foods group. A 15-year-old Scout who is physically active less than 30 minutes a day should follow the same daily food plan as the 12-year-old who is more active. If you have any medical conditions or food allergies, consult a nutritionist or your primary care physician regarding what your calorie intake should be and what you should eat.

You can learn more about the USDA's daily food plans by visiting (with your parent's permission) http://www.ChooseMyPlate.gov. Go to "SuperTracker and other tools," choose "Daily Food Plan," plug in your age, sex, height, weight, and physical activity, and get a custom blueprint for healthy living.

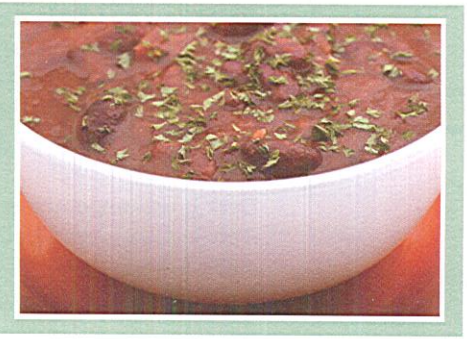
Protein Group

Meat, poultry, seafood, beans, peas, eggs, nuts and seeds (peanuts, peanut butter, pecans, hazelnuts, almonds, walnuts, sunflower seeds), and processed soy products (tofu, tempeh, soy burgers) all are part of this food group. Beans and peas (pinto, black, kidney, and navy beans, black-eyed peas, chickpeas, falafel, lentils, split peas) are included in this group as well as the vegetable group, because they provide nutrients similar to other protein foods and to other vegetables.



Limit your intake of empty calories (calories from solid fats and added sugars) to less than 290 calories a day. Solid fats include butter, cream, beef and pork fats, shortening, and the "hidden" fats found in processed meats, cheeses, and whole milk.

Many Americans eat too many high-fat proteins like hot dogs, sausage, or bacon. Choose leaner proteins instead such as chicken, turkey, and fish. You could also challenge yourself to have at least one meatless dinner each week, such as meatless chili with beans.



Proteins are the building blocks for bones, muscles, and other body parts. Proteins also provide energy.

Most meat choices should be lean, such as skinless poultry. Seafood contains healthy oils, so choose it twice a week in place of meat or poultry. If you are not allergic to nuts, they are another protein food option that contains healthy oils.

Grains Group

Foods made from wheat, rice, oats, cornmeal, barley, or other cereal grains are all grain products. These include bread, pasta, oatmeal, breakfast cereals, tortillas, and grits. Grains are divided into two subgroups: whole grains and refined grains. Whole grains contain the entire grain kernel, including the bran, germ, and endosperm. Whole wheat flour, bulgur (cracked wheat), oatmeal, whole cornmeal, and brown rice are examples of whole grains. They provide dietary fiber, iron, and many B vitamins.

If you have ever eaten a hearty bowl of oatmeal and then hiked several miles, you might have noticed that you did not feel hungry again until your patrol broke for lunch. This is because complex carbohydrates from whole grain foods take longer for your body to process and so provide energy over a longer time period.

Refined grains have been milled, which means much of the nutrients and vitamins have been removed, such as the bran and germ. Refined grain products include white flour, degermed cornmeal, white bread, and white rice. Most refined grains are enriched, which means that iron and certain B vitamins are added back after processing, but fiber is not. Foods produced from refined grains include white bread, grits, noodles and pasta (other than whole grain varieties), white rice, and pita bread.

Vegetable Group

Any vegetable or 100 percent vegetable juice counts in the vegetable group. Vegetables can be raw or cooked, frozen, canned, dried, or dehydrated. They can be eaten whole, cut up, or mashed. Vegetables are organized into five subgroups, based on their nutrient content.

Some vegetables fall under more than one category. For example, lentils, butternut squash, and chickpeas are also considered starchy vegetables.

Dark green vegetables: bok choy, broccoli, dark green leafy lettuce, greens (collard, turnip, mustard, kale), spinach, watercress

Red, orange, and yellow vegetables: acorn squash, beets, butternut squash, carrots, pumpkin, summer squash, sweet peppers (red and orange)

Beans and peas: black beans, garbanzo beans (chickpeas), kidney beans, lentils, navy beans, pinto beans, soybeans, split peas, white beans

Starchy vegetables: fresh black-eyed peas, green peas, lima beans, plantains, potatoes, sweet corn, sweet potatoes, yams

Other vegetables: artichokes, asparagus, avocados, beets, brussels sprouts, cabbage, cauliflower, celery, cucumbers, eggplant, green beans, green peppers, okra, onions, radishes, turnips, zucchini

Eat your veggies! Choose fresh, frozen, canned, or dried. Fresh is best, then frozen, then canned.

You should consume more fruits and vegetables than any other categories. These foods provide important vitamins and minerals that your body needs to function properly. They also provide roughage, or fiber, which helps keep your digestive system healthy.

Fruit Group

All whole, cut up, pureed fruit and 100 percent fruit juice count as part of the fruit group. Fruits can be fresh, canned, frozen or dried. Fruits can be a tasty sweet treat in place of foods loaded with added sugars.

Berries: blackberries, blueberries, kiwi, raspberries, strawberries

Citrus fruits: clementines, grapefruit, lemons, limes, nectarines, oranges, tangelos, tangerines

Melons: cantaloupe, casaba, honeydew, watermelon

Pitted (stone) fruits: apricots, cherries, mangoes, nectarines, peaches, plums

Other fruits: apples, bananas, grapes, pears, pineapples

In place of favorite standbys, try something different: tangelos instead of oranges; mango instead of peaches or nectarines; kiwi fruit instead of watermelon. If you are drinking juice, make sure your juice is 100 percent fruit juice, without added sugars like high fructose corn syrup. Read the label.

Although the tomato is typically treated as a vegetable because it is used more often in savory dishes rather than sweet ones, it is actually a fruit.

Dairy Group

The foods and beverages in this group include those made from milk and calcium-fortified soymilk. Examples include milk, yogurt, cheese, puddings, and ice cream. When choosing foods from this group, it's usually best to select low-fat or fat-free versions. Fats in milk, yogurt, cheese, and ice cream count against your empty-calorie limit. If you choose sweetened milk products, the added sugars also count against your empty-calorie limit.

All dairy products provide calcium to help build strong bones and teeth. Almost all milks and some yogurts are fortified with vitamin D, which helps your body to absorb calcium.

Skim (fat-free) milk contains the same amount of calcium and other essential nutrients as whole milk, but has less fat and fewer calories.

For people who are lactose intolerant, lactose-free and lower-lactose products are available, including lactose-free milk, hard cheeses, and yogurt.

Milk: fat free (skim), low-fat (1 percent fat), reduced-fat (2 percent fat), whole milk, flavored milk, lactose-reduced, and lactose-free milk

Other milk-based products: flavored and fruit yogurts, yogurt-based drinks, ice milk, ice cream, frozen yogurt, chocolate milk, sour cream, cream cheese, processed American cheese

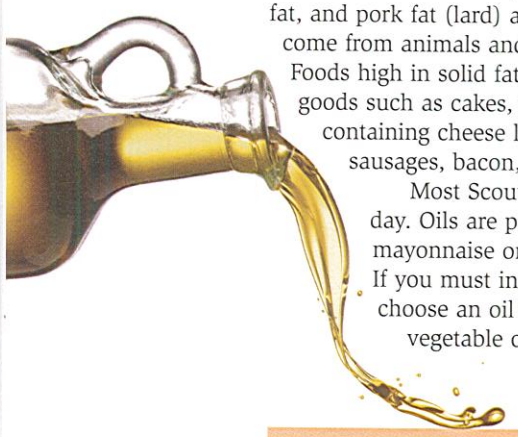
Hard natural cheeses: Cheddar, mozzarella, Parmesan, Swiss

Soft cheeses: Ricotta, goat (feta), Brie

Oils and Fats

Oils are fats that are liquid at room temperature, such as the vegetable oils used in cooking. Oils come from many different plants and from fish. Although they provide some essential nutrients, oils and fat are *not* a food group. Your body needs oils only in very small quantities. Therefore, oils are included in the daily food plans.

Fats such as butter, margarine, shortening, beef fat, chicken fat, and pork fat (lard) are solid at room temperature. Solid fats come from animals and can also be made from vegetable oils. Foods high in solid fats include many desserts and baked goods such as cakes, cookies, and donuts; cheese and foods containing cheese like pizza and nachos; hot dogs, sausages, bacon, and ribs; and ice cream.



Most Scouts need 5 to 6 teaspoons of oils a day. Oils are part of many of the foods you eat, like mayonnaise on sandwiches or in salad dressings. If you must increase the amount of oil you consume, choose an oil instead of a solid fat. For example, use vegetable oil rather than butter when cooking.

Oils from plant sources, such as vegetable and nut oils, contain no cholesterol. Even so, these products are fattening and should still be consumed in very small amounts.

Common oils include canola, sunflower, corn, cottonseed, olive, peanut, safflower, and soybean. Some foods (nuts, some fish, olives, avocados) are naturally high in oils. Mayonnaise, some salad dressings, and margarine are mostly oil. Check the nutrition label to find margarines with zero grams of trans fat. Most of these oils are high in monounsaturated or polyunsaturated fats, low in saturated fats, and are considered "good" because they help lower cholesterol levels. A few plant oils, such as coconut oil, are high in saturated fats and for nutritional purposes are considered solid fats.

Empty calories. Empty calories are calories from solid fats and added sugars that provide calories but few or none of the nutrients your body needs to grow and stay healthy. If you choose foods with a lot of empty calories, it is harder to eat enough of the foods you need for health—vegetables, fruits, whole grains, dairy, and protein foods.

Added sugars are sugars and syrups that are added to foods or beverages when they are processed or prepared. They do not include the natural sugars in milk and fruits. The major sources of added sugars for Americans are soft drinks, energy drinks, sports drinks, and sweetened fruit drinks; candies; desserts and baked goods such as cakes, cookies, and donuts; and ice cream.

You may have noticed that some foods contain a lot of both solid fats and added sugars. In some foods, like most candies and sodas, all the calories are empty calories. However, empty calories from solid fats and added sugars can also be found in some other foods that contain important nutrients. For example, chocolate milk has some empty calories, but also has the nutrients found in milk.

Some foods with empty calories can be found in forms with less solid fat or added sugars. Low-fat cheeses and low-fat hot dogs can be purchased. You can choose water, low-fat milk, or sugar-free soda instead of drinks with sugar.

A small amount of empty calories is okay, but most people eat *far more* than is healthy. It is important to limit empty calories to the amount that fits your calorie and nutrient needs. You can lower your intake by eating and drinking foods and beverages containing empty calories *less often* or by decreasing the *amount* you eat or drink.

It can be hard to think ahead when you are young. However, if you develop good eating habits now, it will be easier for you to lead a healthier life and may help prevent many of the health problems that are linked to poor eating habits.

Preparing Foods Healthfully

The way a food is prepared can affect its nutritional value, so be aware of how food is prepared in order to make nutritious meals and eat for health. For example, a baked potato stuffed with fresh, steamed vegetables has little sodium and fat, and lots of vitamins and minerals. The same baked potato with butter, sour cream, cheese, and crumbled bacon is high in sodium (salt) and empty calories from solid fat.

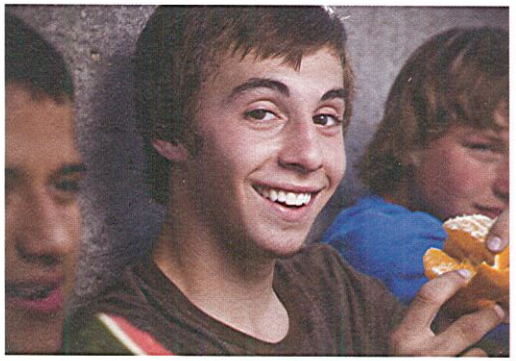
Fried potatoes, like French fries and hash browns, are often high in sodium as well as fat. Try making oven-baked fries seasoned with spices instead of salt. To minimize adding sugar to a recipe, consider caramelizing the natural sugars in onions and root vegetables to sweeten a sauce, or adding ripe fruits or dried cranberries to cookies.

Eating a wide variety of healthy foods will help ensure that you are maintaining a well-balanced diet and developing good eating habits.

Consuming too many sweets and fried foods can cause your weight to skyrocket while your energy and overall health may decline. Eating poorly can cause serious health problems, too. We can choose healthy foods that may help to manage, reverse, and prevent chronic diseases such as obesity, diabetes, heart disease, and some cancers. Think of food as medicine for a healthy body, soul, and mind.

General Food Preparation

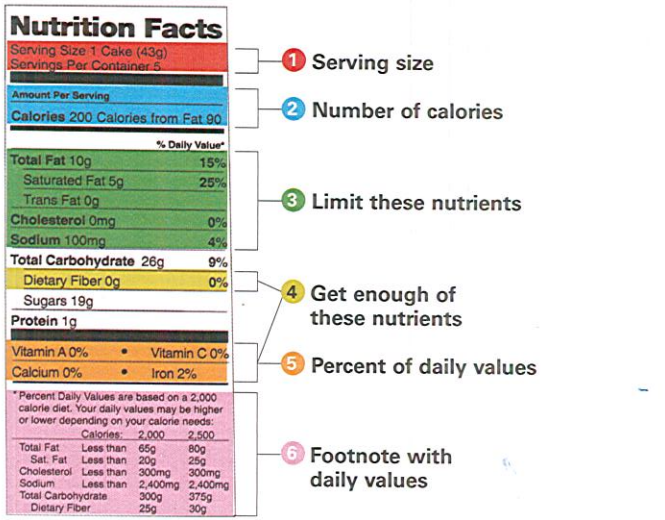
Knowing about cooking methods and about the different food groups will provide you with the knowledge you need to prepare excellent meals.



A good substitute for sweets is fruit. An apple or orange can satisfy your sweet tooth and provide essential nutrients.

Learn How to Read the Label

The food label is regulated by the Food and Drug Administration and based on a 2,000 calorie diet, but your calorie needs might be different. Check out the serving size. Remember that one package may contain more than one serving. Use the serving size to determine the total number of calories and nutrients per package. Consider the calories. When comparing foods, remember that 400 or more calories per serving for a single food is high. Keep track of the calories you eat throughout the day.



Determine your "target" calories per day and get your own daily food plan by visiting http://www.choosemyplate.gov. Choose nutrients wisely. When making daily food choices, pick foods that are lower in certain fats, cholesterol, and sodium. When comparing "%DV" ("percent daily value"), remember—5%DV is low; 20%DV is high.

Get more of these nutrients: Potassium, fiber, vitamins A and C, iron, and calcium. Choose foods with a higher %DV of these important nutrients.

Limit these nutrients: Trans fat, saturated fat, cholesterol, sodium, and sugars. Choose foods lower in these nutrients, and limit your consumption of trans fat as much as possible.

Choose your favorite snacks and measure out single servings. Keep them in resealable plastic bags or containers so you can grab and go.

The label doesn't show a %DV for trans fat or sugars. However, you can still look at the nutrition facts label and choose the foods with lower or zero grams of trans fat and sugar when comparing two foods. Go online (with your parent's permission) and learn fun ideas on how to "Spot the Block" (Nutrition Facts Label) in food packages at http://www.fda.gov/spottheblock.

Fruit cups and canned or frozen fruit can make great sweet snacks, as long as you choose those that are low in sugar.

Chill out in the freezer section and look for nutrition labels. Compare frozen vegetables, including ones with and without sauce, and go for the one with the lowest fat content and the highest amount of vitamin A. On frozen pizzas, try to find the one lowest in fat and sodium and highest in calcium and iron.

The nutrition facts label can be extremely helpful if you are shopping with food allergies, intolerances, and diseases in mind. All FDA-regulated manufactured food products that contain

- Food allergens (milk, soy, peanut, wheat, egg) as an ingredient are required by U.S. law to list specific words on the product label.
- A crustacean shellfish as an ingredient are required by U.S. law to list the specific crustacean shellfish on the product label. For example, a food containing crab must list "crab" on the product label.
- U.S. law requires the specific tree nut to be listed on the product label. For example, a food containing almonds must list "almonds" on the product label.

Refer to the "How to Read a Food Label" document on the FARE website at http://www.foodallergy.org for a listing of all ingredients that are associated with a particular allergen.

Special Dietary Restrictions

If you have dietary restrictions or are preparing meals for those who do, it's good to have an awareness about those matters.

Be aware of any food allergies of those for whom you are cooking. If necessary, provide alternative food choices from the same food group. For example, offer calcium-fortified soymilk to someone allergic to milk.

Vegetarianism

People who do not eat meat, seafood, or poultry but do eat eggs, cheese, and other dairy products are considered lacto-ovo vegetarians. Vegans ("vee-guns") do not eat any dairy or animal products, including eggs, meat-based broths, or gelatin. For calcium, they rely on calcium-fortified soymilk, other calcium-fortified beverages, and some leafy greens. Vegetarians rely on plant-based protein foods (beans, peas, nuts, seeds, soy products) for protein and iron, and dairy alternatives for calcium.

Consider the needs of those who are vegetarian when creating menus. For example, a bean burrito makes a good substitute for a chicken burrito. Meatless, soy-based versions of burgers, hot dogs, chicken nuggets, bacon, and sausage also are available.

Meatless spaghetti sauce served with whole wheat pasta could be offered as an alternative for someone who is a vegetarian.

Religion

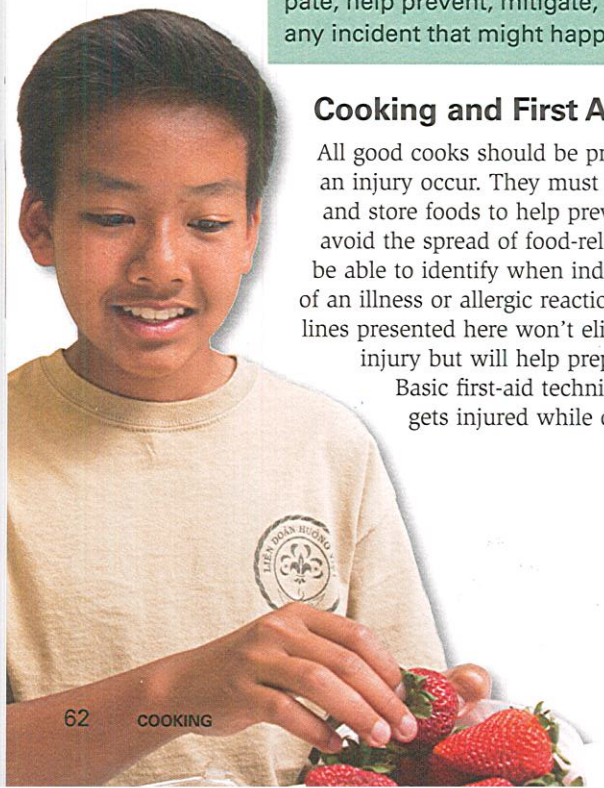
People of different faiths may not eat certain foods at any time, or on a particular day, or during a certain time of the year. It is helpful to know about these restrictions if you need to plan ahead to accommodate anyone's diet.

Take the time to find out the individual dietary requirements of those you are serving so that you can accommodate their needs.

Food Health and Safety

Safety is always a Scout's primary consideration. Along with considering the gear needed, the environment, and any necessary protection from the elements, the first consideration in preparing for any meal would be the safety of the people you are serving.

Prevention goes hand in hand with mitigation, which means "to lessen in force or intensity" and "to make less severe." By taking precautions to manage risk and the possibility of injury, you can be prepared to anticipate, help prevent, mitigate, and respond to just about any incident that might happen while you are cooking.



Cooking and First Aid

All good cooks should be prepared to take action should an injury occur. They must know how to properly prepare and store foods to help prevent cross-contamination and avoid the spread of food-related illnesses. They should also be able to identify when individuals become sick as a result of an illness or allergic reaction. Following the safety guidelines presented here won't eliminate your risk of a cooking injury but will help prepare you in case of an accident. Basic first-aid techniques can be used if someone gets injured while cooking.

A first-aid kit is useful for treating injuries, but you should manage risk by relying first on safety and prevention.

Burns and Scalds

Burns are caused by contact with flame, hot objects, chemicals, electrical sources, radiated heat, frozen surfaces, friction, or radiation. Scalds are burns caused by contact with boiling fluids or steam. Treatment for minor burns and scalds is the same. Burns are generally characterized by degree, or the severity of the skin and tissue damage.

Superficial (first-degree) burns. Mild burns, such as you might get from touching a baking dish that has just come out of an oven, will cause a painful reddening of the skin. These are called superficial burns, which affect only the outer layer of skin. Here is how to treat a superficial burn.

Step 1—Move the victim to safety, away from the source of the burn.

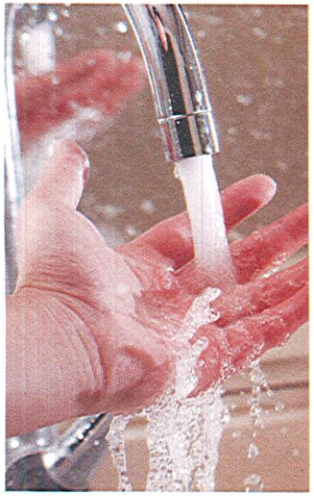
Step 2—Cool the burn. Hold the burn under cold water or apply cool, wet compresses until the pain eases.

Step 3—Cover the burn. Allow the burn area to dry, then cover loosely with a sterile gauze pad and bandage. Superficial burns do not usually require further medical treatment unless they affect more than 20 to 25 percent of the body.

Remember to check the scene before you proceed. Always get a victim to a safe place before proceeding with treatment.

Superficial burn | Partial thickness | Full thickness

Partial-thickness (second-degree) burns. A partial-thickness burn affects the outer layer of skin and part of the layer below it. Such burns are more serious than superficial burns and typically include a reddening and blistering of the skin. A scald from exposure to boiling water is an example of a partial-thickness burn. The treatment for partial-thickness burns is the same as for superficial burns.



The terrible thing about burns is that the skin continues to burn and more damage is created until you can cool down the affected area of the person's body.

Full-thickness (third-degree) burns. Full-thickness burns are very serious and can be life threatening. They destroy the outer layer of skin and the layer below that. A victim who has been exposed to open flames, electricity, or chemicals may sustain such a burn. The skin may be burned away and the flesh charred. If nerves are damaged, the victim may feel no pain. Such burns require immediate medical attention. Unless the victim is having trouble breathing, have the victim lie down. Try to raise the burned areas above the level of the victim's heart if possible, and protect the victim from drafts. Do not try to remove any clothing, as it may be sticking to the victim's flesh. After cooling the burn, cover the area with sterile dressings, treat for shock, and seek immediate medical attention.

Get immediate treatment for severe (third-degree) burns or if the burn affects breathing, the head, neck, hands, feet, or torso.

Get immediate medical treatment if the victim has

- Trouble breathing
- Burns that cover more than one body part or a large surface
- Burns that may have affected the airway (such as burns to the mouth and nose)
- Any partial-thickness or full-thickness burns that affect the head, neck, hands, feet, or torso
- Full-thickness burns and is younger than age 5 or older than age 60
- Burns from chemicals, explosions, or electricity

For more detailed information about how to treat burns, see the *First Aid* merit badge pamphlet.

Cuts

Knives, broken glass, and more may cause injury to people who are cooking. Follow these steps to treat minor cuts.

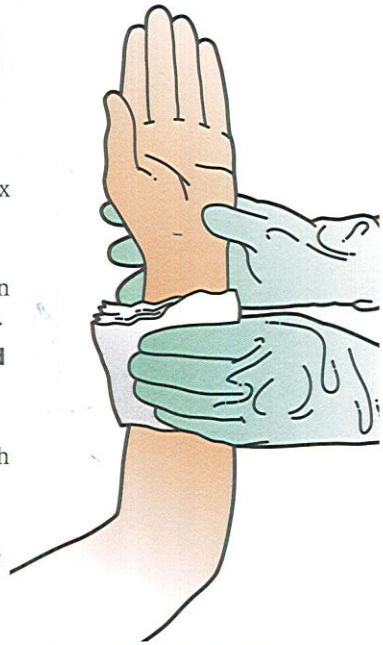
Step 1—Stop the bleeding. Apply pressure with a clean, absorbent cloth or your fingers. (Wear nonlatex disposable gloves.)

Step 2—If the bleeding soaks through, apply a second bandage on top. Leave the first bandage on to preserve the clotting that has already taken place.

Step 3—If the bleeding continues, **raise the wound** above the patient's heart level.

Step 4—Once bleeding stops, **clean the wound** gently with soap and water, or flush the wound with water to remove all debris and dirt.

Step 5—Apply triple antibiotic ointment if the person has no known allergies or sensitivities to the medication. Cover with a clean bandage.



Applying direct pressure on a wound will stop most bleeding.

Preventing Cuts

Following a few precautions can help you stay safe.

- Keep knives and scissors sharp.
- When not in use, safely store sharp items separate from other utensils, such as in a knife block.
- Never catch a falling knife. Let it fall, pick it up, and wash it.
- Use proper utensils for specific tasks. It is never a good idea to open a can with a knife.
- When using a knife, always place the item you are cutting on a flat surface such as a wooden cutting board. Put a damp paper or dish towel under the cutting board to help keep it stable.
- Learn how to properly and safely use a knife; cut away from yourself, making sure your fingers are not in the knife's path.

To help reduce your risk of injury, curl your fingertips as you hold the piece of food you are cutting.

Choking

Choking occurs when a foreign object such as food becomes lodged in the throat or windpipe, blocking the flow of air. A person who is choking and can cough, speak, or breathe is still getting some air to the lungs. Encourage him or her to cough up the object, and be ready to administer first aid if it is needed. If the person is coughing weakly or making high-pitched noises, or if the person can't cough, speak, or breathe, you will need to take quick action.

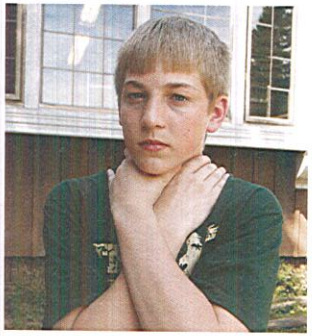
Have someone call for help, then do the following:

Step 1—If the child or adult is conscious, give a series of five back blows as shown. From behind, place one arm across the person's chest and lean forward. Firmly strike the person's back with the palm of your hand. Follow the five back blows with abdominal thrusts as described in steps 2 and 3.

Step 2—Stand behind the victim. Put your arms around the waist and clasp your hands together. The knuckle of one thumb should be just above the victim's navel but below the rib cage.

Step 3—Thrust your clasped hands inward and upward with enough force to pop loose the obstruction.

Step 4—Repeat steps 1 through 3 until the obstruction clears or medical help arrives.



The universal sign for choking is hands clutched to the throat.

General Food-Related Allergies, Illnesses, and Conditions

Every cook should have some knowledge about food allergies, foodborne illnesses, how to avoid them, and how to help prevent their spread.

Allergic Reaction

A food allergy results when the immune system mistakenly targets a harmless food protein—an allergen—as a threat and attacks it. An allergic reaction may include a range of symptoms from mild (rashes, hives, itching, swelling, etc.) to severe (trouble breathing, wheezing, loss of consciousness, etc.) and even life threatening.

For some people with food allergies, a life-threatening reaction called anaphylactic shock (anaphylaxis) can occur. Symptoms can include a swelling of throat tissues or tongue that makes breathing difficult or even impossible. Any Scout who has a food allergy that could cause anaphylactic shock should share that information with his fellow Scouts and let the unit leaders know where anaphylaxis medications can be accessed at a moment's notice.

Although nearly any food is capable of causing an allergic reaction, only eight foods account for 90 percent of all food allergies in the United States: peanuts, tree nuts, milk, egg, wheat, soy, fish, and shellfish.

It's important to be aware of any allergies of those for whom you are cooking. For instance, people who are allergic to peanuts cannot consume foods cooked in peanut oil. Keep in mind that some individuals who are highly sensitive could have an allergic reaction just by being present where peanut oil is used for cooking.

Whenever possible, if you need to make substitutions in cooking, provide alternatives from the same food group. For example, for someone who is allergic to shellfish, you could serve a different type of protein such as chicken or turkey. Instead of pineapple, serve apples. You can still manage to serve a well-rounded, healthy, and tasty meal to anyone who has a food allergy.

People who know they are susceptible to anaphylaxis should carry emergency kits that contain an injection of epinephrine, a rapidly acting hormone that reverses the effects of anaphylactic shock.

Illnesses and Prevention

Staying safe while handling food and equipment should be a Scout's top priority. Failure to follow safe-food handling procedures could result in foodborne illness, which is preventable and happens when a person eats contaminated food. The symptoms are often flu-like, and many people may not recognize that the illness is caused by harmful bacteria or other adverse elements in food. Much of the information presented here can be found on the website of the Centers for Disease Control and Prevention (see the resources section).

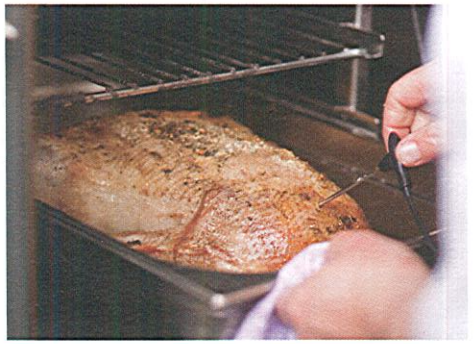
For information about the safe internal temperature of cooked foods, see the U.S. Department of Agriculture's website at http://www.foodsafety.gov/keep/charts/mintemp.html.

Campylobacter jejuni. Individuals can be exposed to this bacterium via contaminated water, raw or unpasteurized milk, and raw or undercooked meat, poultry, or shellfish. Exposure will cause diarrhea, abdominal pain, nausea, headache, and fever. These symptoms may appear two to five days after eating the contaminated food, and the illness may last five to seven days. To help prevent the spread of *C. jejuni*, properly cook chicken, meat, and seafood to a safe minimum internal temperature. Consume only pasteurized milk and juice, and water that comes only from trusted sources. Always wash your hands with soap and water after using the bathroom.

Clostridium botulinum. This bacterium produces a nerve toxin that causes foodborne botulism. *C. botulinum* can be found in improperly canned foods, garlic in oil, and vacuum-packed and tightly wrapped foods. Symptoms usually appear in 18 to 36 hours, but can sometimes appear in as few as six hours or as many as 10 days after eating the affected food. Symptoms include double vision, blurred vision, drooping eyelids, slurred speech, difficulty swallowing, dry mouth, and muscle weakness. Left untreated, some symptoms may progress and can be deadly. Do not use damaged (crushed, dented) canned foods or those showing signs of swelling, leakage, punctures, holes, or rusting.

Cryptosporidium. This microscopic parasite spreads disease most frequently via drinking water, recreational water (public pools, lakes, hot tubs), and contaminated food. Symptoms begin two to 10 days after infection, may last one to two weeks, and can include dehydration, stomach cramps or pain, fever, nausea, vomiting, and weight loss. Prevent the spread of *Cryptosporidium* by washing your hands before and after handling raw foods. Wash all fruits and vegetables.

Wash your hands after using the bathroom, handling animals or animal waste, and after gardening. Avoid water that might be contaminated, and do not drink water from swimming pools or untreated water from shallow wells, lakes, rivers, etc.



Before eating, always use a thermometer to make sure the poultry you are cooking has reached a safe internal temperature.

Escherichia coli. The pathogenic (harmful) varieties of *E. coli* spread via human and animal waste and contaminated foods such as uncooked or undercooked beef (especially ground beef) and unpasteurized milk and juices. Symptoms, which include severe diarrhea (often bloody), abdominal cramps, vomiting, and a low-grade fever, can begin two to eight days after consumption and may last about five to seven days. To help prevent the spread of *E. coli*, cook ground beef to a safe minimum internal temperature of 160 degrees F/71 degrees C; avoid unpasteurized milk, juice, or cider, and soft cheeses made from raw milk. Rinse fruits and vegetables under running tap water. Wash your hands with warm water and soap after using the bathroom and handling animals or animal waste.

Hepatitis A. This virus spreads primarily from the improper handling of food or the consumption of contaminated food or water, and human-to-human contact. Symptoms appear on average 28 days after exposure and may include fever, nausea, and abdominal discomfort, followed by several days of jaundice. To avoid exposure, drink water only from approved sources. Wash your hands before handling food and after using the bathroom. A preventive vaccine is available.

Listeria monocytogenes. This bacterium causes the deadly infection listeriosis, which can spread from contaminated ready-to-eat foods such as hot dogs, deli meats, fermented or dry sausage; soft cheeses made with unpasteurized milk; and raw foods (meat, poultry, seafood, fresh fruits and vegetables). Symptoms include fever, muscle aches, and sometimes nausea or diarrhea. If infection spreads to the nervous system, symptoms such as headache, stiff neck, confusion, loss of balance, or convulsions can occur.

Avoid exposure by cooking raw meat, poultry, and seafood to a safe minimum internal temperature, and by keeping work surfaces and knives clean. Keep your refrigerator tidy and at 40 degrees F or lower; quickly wipe up any spills, especially from hot dogs and deli meat packages; raw meat, poultry, and seafood; and raw eggs. Wash your hands before and after handling raw foods and eggs. Rinse all fruits and vegetables thoroughly under running water, and scrub produce such as melons and cucumbers.

To report a case of any suspected foodborne illness from a USDA-inspected product, call the USDA Meat and Poultry Hotline toll-free at 888-674-6854.

Norovirus. This highly contagious virus can be found in contaminated food, water, or surfaces, and from human waste (including vomit). Symptoms include diarrhea, vomiting, and stomach pain. This virus spreads quickly from person to person and causes a large number of foodborne disease outbreaks in the United States, especially among people together in one place, like a cruise ship or a campout. To help prevent the spread of norovirus, wash your hands often. Wash fruits and vegetables and cook seafood thoroughly; avoid raw oysters and shellfish. The virus can stay in the infected person's stool for two weeks and longer. Carefully clean and disinfect surfaces and thoroughly wash the clothing of anyone who has been infected. An infected person should not prepare or serve others food and should not care for those who are sick.

Salmonella. There are more than 2,300 varieties of *Salmonella* bacteria, which can be found in raw or undercooked eggs, poultry, and meat; unpasteurized milk and juice; cheese and seafood; and contaminated fresh fruits and vegetables. Those infected with *Salmonella* may develop diarrhea, fever, and abdominal cramps. The symptoms usually appear 12 to 72 hours after eating and may last four to seven days. To avoid becoming infected, cook raw meat, poultry, and egg products to a safe temperature. Do not eat raw or undercooked eggs. Avoid consuming raw or unpasteurized dairy products and juice. Thoroughly wash all produce before consuming.

Staphylococcus aureus. This bacterium multiplies rapidly at room temperature and causes gastrointestinal illness that can be passed from person to person through improper food handling.

Illness can happen quickly—in as little as 30 minutes after exposure. Symptoms typically include nausea, vomiting, stomach cramps, and diarrhea. The toxin produced by this bacterium is heat resistant and cannot be destroyed by cooking. Foods that have caused this type of food poisoning include sliced meats, puddings, and sandwiches. To help prevent staphylococcal food poisoning, keep hot foods hot (over 140 degrees F) and cold foods cold (40 degrees F or colder). Wash your hands thoroughly with warm water and soap before handling and preparing food. Avoid preparing food if you have any wounds on your hands or wrists, or nose, skin, or eye infections. Wash hard surfaces with hot water and soap before and after preparing food.

Wash your hands with soap and water before handling food.

Food-Related Conditions

Unlike food allergies, food intolerances do not involve the immune system. Although these conditions may cause some of the same symptoms as a true food allergy, they do not trigger anaphylaxis, a potentially life-threatening reaction.

Lactose intolerance and non-celiac gluten sensitivity. Two common intolerances are lactose intolerance and non-celiac gluten sensitivity. People with lactose intolerance are not able to digest lactose, a type of sugar found in dairy products The symptoms of lactose intolerance such as cramps, gas, bloating, and diarrhea typically occur within 30 minutes to two hours after consuming dairy products.

People who have non-celiac gluten sensitivity experience the same digestive symptoms as those who have celiac disease and gluten sensitivity. However, they also face nongastrointestinal-related symptoms such as headache, joint pain, and numbness in the legs, arms, and fingers. Simply put, they just don't feel good when they consume foods containing gluten.

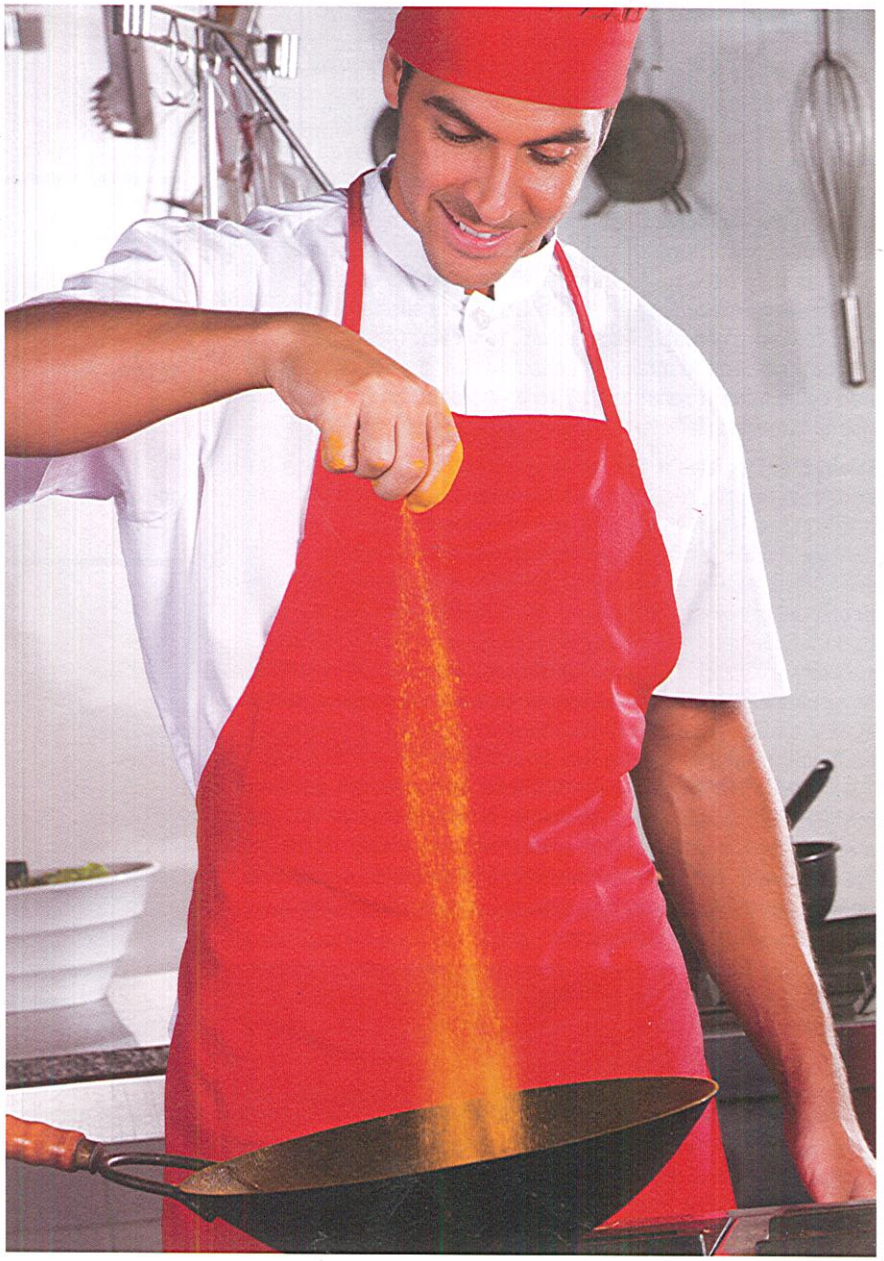
Celiac disease and gluten sensitivity. Some people have adverse reactions to gluten, which is found in wheat, rye, barley, and perhaps oats. Celiac disease can cause many symptoms, including bloating and gas, diarrhea, constipation, headaches, itchy skin rash, and pale mouth sores. The symptoms may vary among affected individuals.

When people with celiac disease eat gluten, their immune reaction may damage the lining of the small intestine, preventing proper absorption of the nutrients in food. Over time, patients may become malnourished. Symptoms of those affected by non-celiac gluten sensitivity are similar to those who have the actual celiac disease; however, the same antibodies and intestinal damage as celiac disease do not accompany non-celiac gluten sensitivity. These two conditions are on the rise in America.

Diabetes. Diabetes is the name given to disorders in which the body has trouble regulating its blood-glucose, or blood-sugar, levels. There are two major types of diabetes: type 1 and type 2. Type 1 diabetes is an autoimmune disease in which a person's pancreas stops producing insulin, a hormone that enables people to get energy from food. T1D usually strikes in childhood, adolescence, or young adulthood, and lasts a lifetime. Just to survive, people with T1D must take multiple injections of insulin daily or continually infuse insulin through a pump. Type 2 diabetes is a metabolic disorder in which a person's body still produces insulin but is unable to use it effectively. T2D is usually diagnosed in adulthood and does not always require insulin injections. However, increased obesity has led to a recent rise in cases of T2D in children and young adults. Taking insulin does not cure any type of diabetes, nor does it prevent the possibility of the disease's devastating effects, such as kidney failure and blindness.

Many grocery stores offer gluten-free items such as gluten-free crackers and gluten-free cookie mix.

With awareness of food allergies, intolerances and related diseases, and adequate planning and preparation, it is possible for all Scouts to enjoy a safe and nutritious meal at home or at camp.

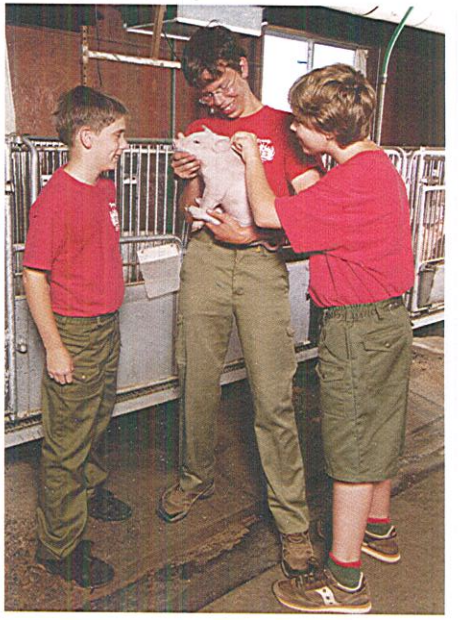


Careers in the Food Industry

If you enjoy cooking, the food industry has a wide variety of careers.

Look Beyond the Kitchen

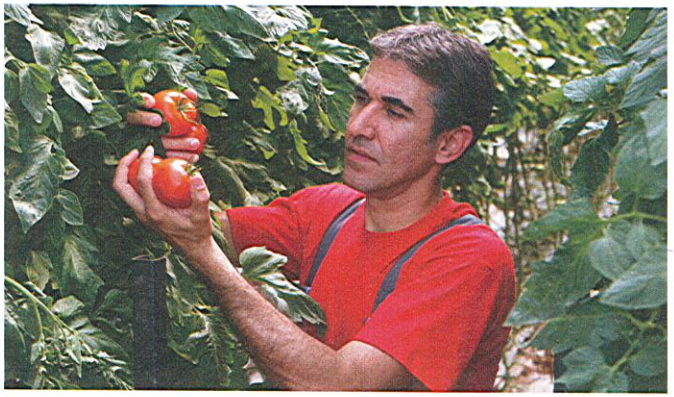
If you have a passion for food, you may have thought about a profession as a chef or working in a restaurant kitchen. However, think about where the food you eat might have originated. Who makes the frozen meals your family buys? Who regulates and inspects the companies that produce those meals? From farm to table, each step in the process requires highly trained people who work very hard to provide the highest quality food to meet your nutritional needs.



Education

Some Scouts, such as those who live in rural or agricultural areas, have the opportunity to learn about food earlier than other Scouts do because it is part of their daily lives. However, Scouts in urban areas may need to seek out opportunities to learn about raising animals and growing produce or how to process food so that it is nutritious and safe to eat. Some school districts provide specialty classes in agriculture or food preparation for those who are interested.

Your counselor can help you find information on coursework and the type of degree needed for the career that interests you.



There are culinary and trade schools that specialize in teaching specific food preparation skills and food service management. There are some colleges and universities with a variety of agricultural, food service, and food science programs with the opportunity to earn a bachelor's, master's, or doctoral degree. Others may have food research labs where they perform research on allergies, intolerances, and diseases, and test new foods and vitamins.

Our food comes from a variety of places, and goes through a "food chain" that involves many people with a variety of expertise, all charged with providing safe, nutritional food to consumers like you.

For more information about the food service industry, check out the library, the Internet (with your parent's permission), and school counselors. Ask your school counselor about ProStart, a program developed by the Hospitality Business Alliance. ProStart is available in many states to high school juniors and seniors. It combines classroom learning with hands-on industry experience.

With greater innovation and new emerging technologies, more career paths within the food industry evolve every year. Listed below are some of the most popular.

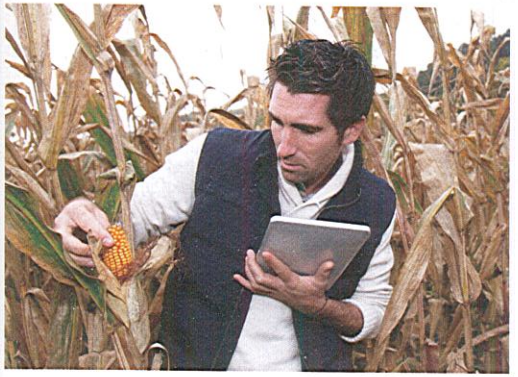
Production and Manufacturing Professionals

Production and manufacturing professionals handle the beginning of the food process. This includes getting your food from the farm, ranch, vineyard, or forest to the processing facility, where food is transformed into the edible product you consume. People are needed to plant, grow, harvest, transport, and process the food.

The processing stage needs people to work specialty equipment, pack containers, load or unload trucks, and manage a warehouse and delivery routes. The people handling these products have very specific training to handle your food safely. These people would have training in the agricultural, butchering, or other related fields. A variety of merit badges currently available can provide you additional information about some of these specialty careers. See the resources section under "Scouting Literature."

Research and Development

Companies constantly need new varieties of food and beverages. Some companies have their own R&D laboratories. Others may hire test kitchens or university labs to create and test new recipes. Chefs and other food professionals try out new flavor combinations, food additives, and packaging processes to meet the demands of society. Places like these brought us MRE, or Meals Ready to Eat.



The USDA Food Safety and Inspection service helps ensure that the nation's commercial supply of meat, poultry, and egg products is safe, wholesome, and correctly labeled and packaged.

Food and Beverage Service Professionals

The food and beverage service industry includes the people who work at your favorite restaurant, school cafeteria, on cruise ships, etc. The people needed for this industry require training and experience in management, sales, warehousing, and transportation in addition to those who work in the direct food (preparation, service, quality control) areas of the business.

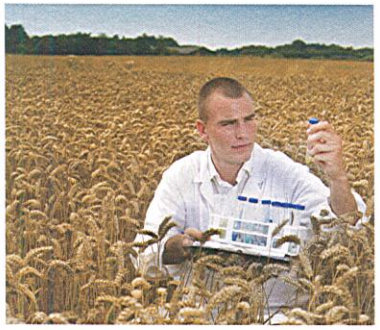
There are companies that specialize in managing food service areas such as cafeterias, Scout camps, and other organizations. Industries such as tourism (cruise ships), transportation (airlines, trains), special venues (sports complexes, theatres, amusement parks), and travel (highway rest stops, airports) also need food and beverage service professionals. These places need skilled people to cook, manage, and promote their services.

Food and Medicine Professionals

Food affects us all, and some careers focus on the effects of food on humans and animals. Universities in the field of agriculture study the effects of what we feed our animals. Nutritionists advise us on how to eat healthy and study which foods are best sources of energy and healthiest for you. Researchers explore the effects of food-related illness and allergies on our bodies and develop treatments to combat those effects.

Government, Public Health, Nonprofit Professionals

Multiple government agencies already exist to address potential risks present in many aspects of the food industry. Your state or county board of health monitors retail establishments, restaurants, and any food service providers. Organizations such as the U.S. Department of Agriculture and the FDA provide guidelines and seek regulations for safer food production. The Center for Food Safety and Applied Nutrition at the FDA oversees all other food production facilities. Both the USDA and the FDA have education and outreach departments to help consumers improve their diet and safely prepare foods.



Additional Opportunities

Magazines, newspapers, and blogs all have staff that write about the food and beverage industry including reviews of local restaurants and eateries. Advertising agencies have dedicated staff members who specialize in promoting food on radio, TV, and the Internet. Some major companies also hire technology specialists to design Web pages, apps, videos, and commercials to promote their products.

If you have a passion about food and cooking, the career possibilities are nearly endless. Your position might not involve being in a kitchen, but it's definitely an exciting world to explore.

Nonprofit agencies provide support to local food banks, homeless shelters, and places that need food professionals to feed their clients.

A wide range of talented professionals such as inspectors, investigators, veterinarians, and scientists are dedicated to protecting public health by ensuring that food products are safe to eat. For more information about public health and student employment opportunities, visit (with your parent's permission) http://www.foodsafetyjobs.gov or http://www.usajobs.gov.

Menus and Recipes

This chapter includes some tasty and relatively easy recipes. Any of them may be used to complete your merit badge requirements. You may also feel free to choose your own recipes from other resources. Remember to keep in mind the needs of those you will be cooking for, such as food allergies, when planning meals.

Practicing and developing your cooking style will help you gain the confidence you need to prepare a variety of tasty meals.

Sample Menus

Here are some sample menus that you could use or adapt to your group's taste.

Camp Breakfasts

Choice 1: oatmeal with chopped fruits, skim milk or soy milk

Choice 2: Fruit Pancakes, orange juice

Trail Breakfasts

Choice 1: peanut butter and banana on whole-grain bread, hot chocolate

Choice 2: whole-grain cereal with nuts and fruits, fruit juice

Once you pick a recipe, always read the recipe from beginning to end before you get started. Make sure you have all the ingredients and utensils, and that your stove, oven, or grill is in good working order.

Take a small notebook to track the planning done for camp cooking. Use your notes and records of supplies and meals to plan the next camping trip.

Camp Lunches

Choice 1: whole-wheat or whole-grain wrap with store-bought hummus, Dijon Green Bean Potato Salad, chocolate milk

Choice 2: One-Pot Chicken and Vegetable Rice, Easy Fruit Cobbler, fruit juice

Trail Lunches

Choice 1: Sloppy Jims on whole-wheat sandwich buns, carrot sticks, fruit punch

Choice 2: veggie burger on whole-grain bread, oatmeal cookie, tea

Camp Dinners

Choice 1: Foil Pick-a-Meal with whole-grain pita bread, sliced fresh fruit, chocolate milk

Choice 2: pizza, fresh fruit with yogurt, iced tea

One-Pot Meals

Choice 1: Coffee Can Dinner, whole-grain rolls, yogurt, fruit juice

Choice 2: Campfire Hobo Stew Foil Dinner, whole-grain rolls, fresh sliced fruit, milk

Trail Dinners

Choice 1: Southwestern Beans and Rice, whole-wheat rolls, honey granola bars, fruit juice

Choice 2: Camp Kabob, whole-grain rolls, Dive Into the Dark Side Bars, hot chocolate

Meals Cooked in Foil

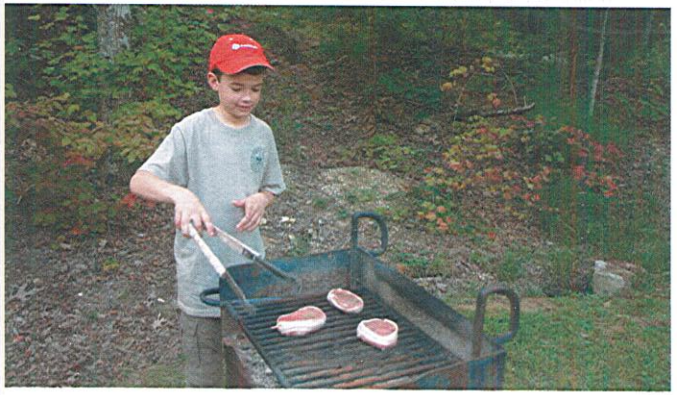
Foil dinner meals will add some spice to your campouts. Be sure to always use heavy-duty foil. Prepare all ingredients in uniform, bite-size pieces (cubes, strips, etc.).

Adding the meat/protein first, place the ingredients on a large double thickness of heavy-duty aluminum foil. You can also make four smaller, individual-sized packets. Season to taste with salt and pepper. Fold and crimp foil in a drugstore wrap, being sure to leave space for expansion. (See the "Camp Cooking" chapter.) Bury each packet in the coals. Cook until done, about 20 to 25 minutes.

At home: Follow the same instructions, but bake foil packets in the oven 20 to 25 minutes at 350 degrees.

Carefully open the packets to avoid the steam, and check to make sure meats are thoroughly cooked before serving.

Measurements	Equivalent
¼ teaspoon	15 drops
1 teaspoon	⅓ tablespoon
1 tablespoon	3 teaspoons
2 tablespoons	1 fluid ounce
4 tablespoons	¼ cup or 2 fluid ounces
8 tablespoons	½ cup or 4 fluid ounces
16 tablespoons	1 cup
1 cup	8 fluid ounces
2 cups	1 pint
1 pint	16 fluid ounces
4 cups	1 quart
1 quart	32 fluid ounces
4 quarts	1 gallon (in the United States)



Some recipes do not "double" well, in particular for baking, but the recipe will often make a note of this.

Foil Pick-a-Meal

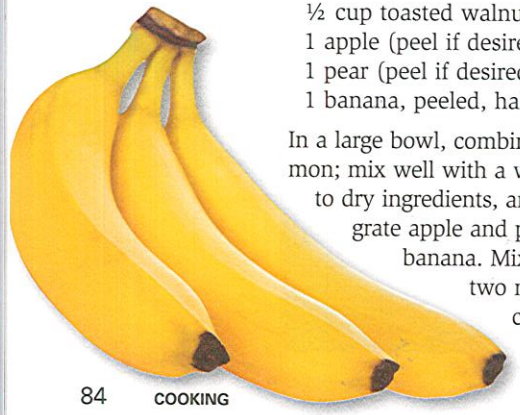
Here is a way to quickly multiply the variety in your meals. Pick one item from each column to feed four, and follow the instructions below. Pick whatever sounds good to you.

1 pound ground meat	4 potatoes, chopped	4 carrots, sliced in sticks	1 medium onion, diced
4 boneless chicken breasts	3 cups cooked rice	1 cup chopped broccoli or sweet peppers	1 7-ounce can mushrooms, drained
4 veggie burgers	4 sweet potatoes, sliced	1 cup chopped zucchini	4 pineapple rings
1 pound salmon filet	4 slices bacon, cut in 1-inch pieces	1 cup baked beans	1 lemon, sliced
4 ham steaks	2 cups corn chips	1 cup shredded cheese, any variety	1 large apple, chopped
8 hot dogs	12 ounces pasta (any kind), cooked	1 8-ounce can peas	1 small can chopped green chilies
2 to 3 cups chili	8 whole-grain tortillas	1 cup sliced green beans	1 cup salsa or 1 medium tomato, chopped
1 12-ounce can tuna mixed into a 10¾-ounce can cream of mushroom soup, undiluted	4 cups corn		1 cup diced celery

Camp Breakfast Recipes

Fruit Pancakes

- 1⅓ cups whole-wheat flour
- 1 tablespoon baking powder
- ¾ teaspoon salt
- ½ teaspoon cinnamon
- 1⅓ cups water
- 1 tablespoon vanilla extract
- ½ cup toasted walnuts, chopped
- 1 apple (peel if desired)
- 1 pear (peel if desired)
- 1 banana, peeled, halved, and thinly sliced



In a large bowl, combine flour, baking powder, salt, and cinnamon; mix well with a wire whisk. Add water and vanilla extract to dry ingredients, and mix well with wire whisk. Add nuts, grate apple and pear into pancake mixture, then add the banana. Mix well. If batter is a little thick, add up to two more tablespoons of water. Measure 1/4 cup of batter for each pancake; use a preheated, nonstick wiped with a light film of vegetable oil. Makes 12 pancakes.

Quick Sausage and Eggs

- 1 pound (16 ounces) pork or turkey sausage
- 12 eggs
- 1 cup milk
- ½ cup shredded cheese, any variety

Crumble and brown the sausage over medium-high heat, then drain grease and cool completely. Scramble the eggs with the milk and cook in a greased pan over medium heat; allow the eggs to cool. Store the sausage and eggs separately in resealable plastic bags. At camp, reheat the sausage and eggs in a greased, disposable foil pan (for easy cleanup) over the fire, grill, or propane stove. Top with shredded cheese. Serves four to six.

Camp Lunch or Dinner Recipes

Dijon Green Bean Potato Salad

- 1 pound (about 4 cups) fresh green beans, cut into 3/4-inch pieces
- 2 pounds red-skinned new potatoes, diced
- ½ cup country Dijon mustard
- 3 tablespoons extra-virgin olive oil
- 5 tablespoons white grape juice
- 1 teaspoon minced garlic
- 2 tablespoons fresh parsley, chopped
- salt and black pepper, to taste
- 15-ounce can cannellini beans, drained and rinsed
- 1 red pepper, diced
- ½ red onion, thinly sliced

Cook green beans in boiling water until tender. Remove with slotted spoon and set aside to cool. Repeat procedure with potatoes and set aside to cool. In large mixing bowl, combine Dijon, olive oil, grape juice, garlic, parsley, salt, and pepper, and whisk until well blended. Add cannellini beans, potatoes, green beans, red peppers, and onion; gently toss until well coated. Serves 10.

One-Pot Chicken and Vegetable Rice

2 tablespoons extra-virgin olive oil
1 pound boneless chicken breasts, cut into bite-size pieces
½ medium-size sweet onion, diced
1 tablespoon minced garlic
1 red pepper, diced
1 yellow pepper, diced
1 zucchini, diced
1 cup sliced green beans
salt and black pepper to taste
1 cup cooked brown rice
zest of 1 lemon

In a 12-inch sauté pan, heat the oil, then add chicken and onion and sauté until onions become translucent, about five minutes. Add garlic and sauté one minute; add peppers, zucchini, and green beans, and sauté until just tender. Add salt, pepper, and lemon zest; mix well. Stir in rice and cook until thoroughly heated. Serves four.

Camp Kabobs

Cut up steak or chicken (about 4 to 6 ounces per serving) and fresh vegetables at home. Place meat and vegetables in separate, resealable plastic bags. At camp, add 3 ounces of prepared Italian salad dressing to the bag of chicken or a teaspoon of garlic powder and 3 ounces of soy sauce to the bag of steak; marinate for 20 to 30 minutes. When ready to cook at camp, use metal or wood kabob sticks and load them up with the same item—all mushrooms should go on their own sticks, all meat on their own, etc. The cooking time for the different vegetables will vary, as will the cooking time for the meat or chicken. This way, you can judge when each item is properly cooked. Position the skewers of meat first, then hard veggies, then softer ones like mushrooms, over the fire for a few minutes; turn regularly. Add foil-baked potatoes and whole-grain bread or rolls for a complete meal.

Coffee Can Dinner

For each serving you will need:
1 carrot
2 celery ribs
2 strips bacon
8 ounces (½ pound) lean ground beef
1 medium potato, sliced
½ cup sliced onion
1 medium tomato, sliced
salt and black pepper, to taste
coffee can with metal lid

Cut carrot in half lengthwise. Cut celery and carrot into 2-inch lengths. Cut bacon strips in half. Mold two meat patties. Place two pieces of bacon on bottom of can. Place half of each ingredient in layers, in order listed here. Season to taste with salt and pepper. Repeat with second half of ingredients, again seasoning with salt and pepper. Cover the can with the lid of another pot (or use a double layer of foil). Place the closed coffee can on top of glowing coals for 25 minutes. Open the lid and check after 10 minutes. If it is browning too rapidly, pour 2 tablespoons of water into the can.

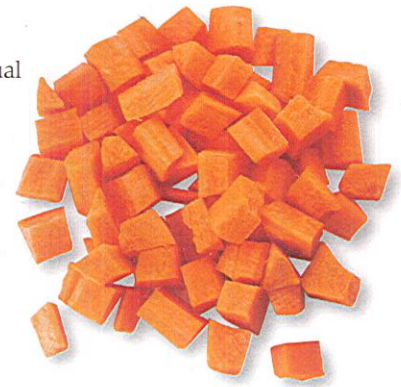
This recipe can be done only when cooking with a campfire.

Dab a small amount of non-hydrogenated margarine or olive oil on an ear of corn before wrapping it in foil. Roast on the coals for 10 minutes.

Campfire Hobo Stew Foil Dinner

16 ounces (1 pound) ground beef or stew meat, cut into small pieces
chopped vegetables of your choice (green beans, carrots, onions, zucchini, bell peppers)
1 clove garlic, minced
salt and black pepper, to taste
4 tablespoons butter

Cut off four pieces of aluminum foil for individual packets. Spray the foil with cooking spray. Add meat first, then vegetables. Top with seasonings and then butter. Close foil on all sides, leaving some room for expansion. Be sure to mark your packet so it does not get mixed up with someone else's. Put the packets into the coals. Check for doneness in about 10 minutes. Serves four.



Trail Chow

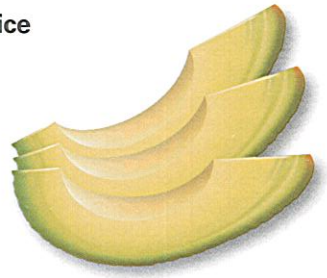
Sloppy Jims

1 tablespoon canola oil
½ medium-size sweet onion, diced
1 tablespoon minced garlic
½ red pepper, diced
½ green pepper, diced
1 pound 99 percent lean ground turkey breast
¼ teaspoon thyme
salt and black pepper, to taste
1 cup ketchup
1 tablespoon Dijon mustard
1 teaspoon white vinegar
1 teaspoon agave nectar or honey

Place canola oil in large nonstick sauté pan on medium heat and spread to coat pan bottom. Add onion and sauté until light golden. Add garlic, sauté one minute, then add red and green peppers and sauté until peppers are tender. Add turkey, breaking into small pieces, and season with thyme, salt, and black pepper. Stir turkey frequently with rubber spatula or wooden spoon on medium heat and continue to break into small pieces. When turkey becomes firm and cooked, add ketchup, mustard, vinegar, and agave nectar. Stir until well mixed and cook for three to five minutes, until heated through. Serves eight.

Southwestern Beans and Rice

½ piece whole-wheat pita
15-ounce can black beans
1½ cups black bean salsa
½ cup low-sodium V8 juice
1 medium-size tomato, diced
½ cup canned corn
2 cups cooked brown rice
2 tablespoons scallion, sliced
¼ of an avocado, sliced



In a bowl, combine beans, salsa, V8 juice, tomato, and corn. To serve, place 1/2 cup brown rice in a small bowl, top with 1/4 of the bean mixture, 1/4 of the scallions, several avocado slices, and the pita bread. Serves four.

Campfire Apple S'mores

2 apples
dark chocolate, broken into squares
pineapples slices

Cut apples in half crosswise, then cut into round slices the width of your apple. Poke out the seeded center. Place one choclate piece on top of one apple slice. Spear pineapple slices on a skewer. Toast over campfire or grill over low heat. Place toasted pineapple slice on top of the apple slice with chocolate and top with another apple slice. Serves four.

Recipes to Make at Home

Vegetarian Pasta

12 ounces whole-wheat macaroni
28 ounces sweet potato, peeled and diced
3 cups unsweetened almond milk
12 ounces extra-firm tofu
1 teaspoon salt
1 teaspoon Dijon mustard
¼ teaspoon coarsely ground black pepper
¼ teaspoon nutmeg
2 pinches cayenne pepper
8 ounces shredded Cheddar cheese alternative

In cook pot, cook macaroni according to instructions on the package. Remove, strain, rinse, and set aside in a bowl covered with plastic wrap. In a saucepan, combine sweet potato with almond milk. Simmer uncovered over medium heat until sweet potatoes are tender, about 20 minutes. Strain sweet potatoes into a bowl, reserving almond milk. Measure almond milk and add new almond milk to equal 3 cups. Place sweet potatoes in blender with almond milk, tofu, salt, mustard, black pepper, nutmeg, and cayenne and blend until smooth. In large bowl, combine sweet potato sauce, macaroni, and Cheddar cheese alternative, and mix well. Place in a 9-by-13-inch baking pan, and bake at 350 degrees for 20 minutes. Serves six.

Chicken Divan

6 to 8 chicken breast halves, cooked and cooled
2 10-ounce boxes frozen chopped broccoli
2 cans (10¾ ounces each) condensed cream of chicken soup
4 to 5 tablespoons mayonnaise-style salad dressing
juice from half a lemon
8 ounces (about 2 cups) cheddar cheese, shredded
1 3-ounce can onion rings (or 1 cup bread crumbs)

Remove the cooked chicken meat from the bones and cut into bite-size pieces. Cook the broccoli according to the package instructions. In a large bowl, combine the soup, salad dressing, and lemon juice. Layer the broccoli, chicken, and cheese alternately in a 13-by-9-inch baking pan. Pour the soup mixture over the top and bake, uncovered, at 350 degrees for 15 minutes. Sprinkle the onion rings on top; continue baking 15 minutes longer or until heated through. Serves eight to 10.

Dive Into the Dark Side Bars

1 cup toasted walnuts
1½ cups golden raisins
5 brown rice cakes
1 tablespoon agave nectar or honey
¼ teaspoon cinnamon
1 tablespoon vanilla
2 tablespoons orange juice
5 ounces 70 percent dark bittersweet chocolate
5 tablespoons milk or orange juice
1 tablespoon prepared coffee

Place walnuts in food processor and pulse until fine. Add raisins and pulse until mixture becomes sticky. Add rice cakes and pulse until fine and mixture is loose. Add agave nectar, cinnamon, vanilla, and orange juice, and process until gummy. Spread evenly in an 8-by-8-inch baking dish and cover mixture with plastic wrap, pressing into the bottom of the pan with a flat-bottomed object to evenly distribute. Remove plastic wrap. Combine chocolate, skim milk or orange juice, and coffee, and place over a double boiler, heating on a low flame while stirring until chocolate is melted and smooth. Pour chocolate over top of pressed walnut mixture, cover, and refrigerate at least one hour before serving. Cut into 24 portions and serve.

Oven-Baked Sweet Potato Home Fries

1½ tablespoons canola or extra-virgin olive oil
2 teaspoons minced garlic
2 teaspoons cumin
salt and black pepper, to taste
2 pounds sweet potatoes, washed, peeled, and diced

Combine oil with garlic and seasonings and mix well. Add potatoes, tossing until well coated. Place on nonstick baking pan and bake at 375 degrees for about 35 minutes or until tender. Serves eight.

Desserts and Snacks

Honey Granola Bars

1¼ cups quick-cooking oats
¼ cup whole-wheat flour
¼ cup toasted wheat germ
2 teaspoons cinnamon
¼ cup honey
⅓ cup dried apricots or any dried fruit of your choice

Mix together the first four ingredients. Stir in honey until mixture is moist and crumbly. Fold in fruit. Coat an 8-inch square pan with nonstick cooking spray. Press the mixture into the pan; bake at 300 degrees for 18 to 20 minutes or until lightly browned. Cool, then cut into bars and pack or serve.

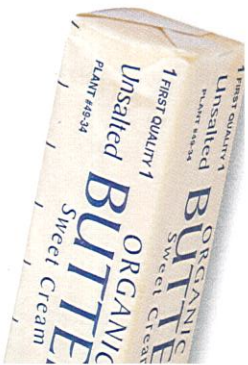
Easy Fruit Cobbler

2 21-ounce cans cinnamon apple pie filling
1 box white or yellow cake mix
2 cups water
1 stick butter, melted

Line Dutch oven with foil. Empty pie filling into Dutch oven. Evenly sprinkle cake mix over pie filling. Add water and melted butter. **Do not mix.** Secure the Dutch oven lid. Place oven on 10 hot coals. With tongs, place eight hot coals on lid of Dutch oven. Cook about 1 hour. Serves up to 12.

For variety: Try cherry filling with chocolate cake mix and blueberry filling with lemon cake mix.

At home: Lightly grease a 13-by-9-inch pan. Preheat the oven to 350 degrees. Pour pie filling into pan. Sprinkle dry cake mix evenly over pie filling. Carefully pour water and melted butter over dry cake mix. Do not stir. Bake in oven 35 to 40 minutes.



The Cook's Glossary

bake. To cook by dry heat as in a conventional oven, Dutch oven, or in aluminum foil.

baste. To moisten food while cooking with a liquid such as broth, meat drippings, or special sauces.

Baste

blanch. To plunge food into boiling water briefly, then into cold water to stop the cooking process.

boil. To cook in water or other liquid hot enough to bubble (212 degrees F for water at sea level; subtract 2 degrees for each 1,000 feet of elevation; double the given cooking time for boiling at 5,000 feet).

braise. To cook meat tender by browning hot oil or other liquid, then cooking in a covered pan, usually with added liquid.

broil. To cook meat directly over or in front of an open fire.

calorie. In nonscientific terms, a calorie is a unit of heat used to calculate the energy your body burns up. For instance, it takes more energy for your body to use up or burn off a teaspoon of olive oil than it would a teaspoon of yogurt. This is why a teaspoon of olive oil has more calories than does a teaspoon of yogurt.

ChooseMyPlate.gov. A website that provides guidelines for healthy eating recommended by the U.S. Department of Agriculture.

cold out. A test to ensure that a campfire is completely out. A fire is cold out when there are no hot coals and the ashes are cool to the touch.

cut in. To blend cooking fat, usually butter or shortening, with flour to make a dough by pressing in with a fork or cutting into fine chunks using a knife.

deep-fry. To cook by immersion in very hot oil.

dredge. To coat meat with flour, often seasoned, before browning or frying.

Dredge

Dutch oven. A thick, heavy covered pot that is ideal for cooking foods that need to simmer slowly for a long time or for cooking one-pot meals.

fry. To cook in an open pan with a small amount of oil.

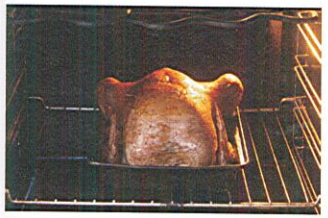
generic-brand foods. Grocery store items not considered brand-name foods that have comparable quality. Generic (also called "plain label") foods often are more economical.

marinate. To tenderize or flavor meat or vegetables by immersing in spiced vinegar and oil, salad dressing, or commercial marinade sauce.

panfry. To cook meat in a very hot skillet with a minimum of oil. This method makes it possible to cook food by broiling over a gas or electric stove.

poach. To cook just below the boiling point of (usually) water.

roast. To cook meat and vegetables with dry heat, as in a pan in an oven or in aluminum foil covered by hot coals.



Roast

sauté. To brown food quickly using a small amount of oil in a pan. The oil and pan must be hot before cooking begins.

scald. To heat just below the boiling point. Also, scalds are burns caused by contact with boiling fluids or steam.

sear. To seal surfaces of meat by exposing to intense heat so that juices are contained.

simmer. To cook in liquid just barely at the boiling point.

staple. An item—usually dry—commonly found in a cook's pantry, such as salt, pepper, flour, rice, dried pasta, and dried beans.

steam. To place food on a rack or special device over boiling or simmering water in a covered pan.

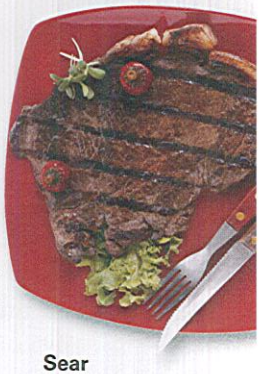
steep. Using a liquid (usually hot water) to extract the flavor from something dry (such as tea or dried herbs) by soaking.

tenderize. To render meat easier to cook or chew by softening the tissues by pounding, with a commercial tenderizing powder, or by marinating.

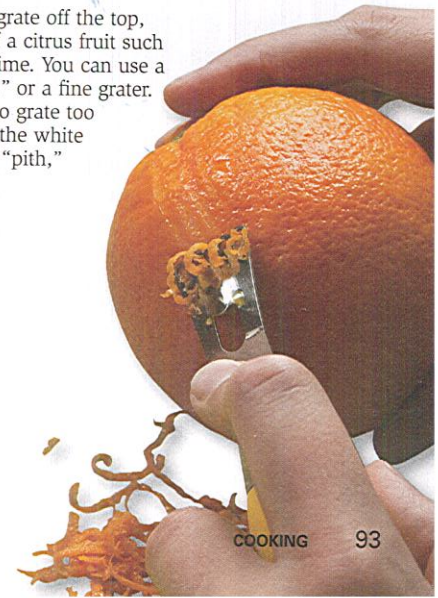
vegan. A person who restricts his or her diet so as not to consume any meat or any kind of animal products, including dairy products, eggs, and broth.

vegetarian. A person who restricts his or her diet so as not to consume meat.

zest. To finely grate off the top, colored layer of a citrus fruit such as a lemon or lime. You can use a knife, a "zester," or a fine grater. Be careful not to grate too deeply and get the white part, called the "pith," which is bitter.



Sear



Resources for Cooking

Scouting Literature

Boy Scout Handbook; Fieldbook; Deck of First Aid; Basic Illustrated Cooking Outdoors; Cooking the Dutch Oven Way; Emergency First Aid pocket guide; *The One Pan Gourmet; The Outdoor Dutch Oven Cookbook; Edible Wild Plants* pocket guide; *Be Prepared First Aid Book; Backpacking, Camping, Fire Safety, First Aid,* and *Public Health* merit badge pamphlets

Visit the Boy Scouts of America's official retail website at http://www.scoutstuff.org for a complete listing of all merit badge pamphlets and other helpful Scouting materials and supplies.

Books

Conners, Tim, and Christine Conners. *The Scout's Backpacking Cookbook.* Globe Pequot Press, 2012.

Eddy, Jackie, and Eleanor Clark. *The Absolute Beginner's Cookbook: Or How Long Do I Cook a Three-Minute Egg?,* 3rd ed. Clarkson Potter, 2002.

General Mills. *Betty Crocker Kids Cook!* Wiley Publishing, 2007.

Hodgman, Ann. *One Bite Won't Kill You.* Houghton Mifflin Co., 1999.

Miller, Dorcus S. *Backcountry Cooking: From Pack to Plate in 10 Minutes.* Mountaineers Books, 1998.

New Junior Cookbook. Better Homes and Gardens, 2012.

Siegel, Helene, and Karen Gillingham. *Totally Camping Cookbook.* Ten Speed Press, 1996.

Winston, Mary. *American Heart Association's Kids Cookbook.* Clarkson Potter, 1993.

Periodicals

Before you subscribe to a magazine, check out a copy at your local library or a nearby bookstore. Here are a few that may interest you: *Bon Appétit, Cook's Illustrated, Eating Well, Southern Living, Taste of Home, Vegetarian Times.*

Organizations and Websites

American Diabetes Association
Toll-free telephone: 800-342-2383
Website: http://www.diabetes.org

American Heart Association
Website:
http://www.deliciousdecisions.org

Centers for Disease Control and Prevention
Website: http://www.cdc.gov

ChooseMyPlate
Website: http://www.choosemyplate.gov

Cooking Schools
(Cooking schools in the United States)
Website: http://www.cooking-schools.us

The Cook's Thesaurus
Website: http://www.foodsubs.com

Culinary Institute of America
Toll-free telephone: 800-CULINARY
Website: http://www.ciachef.edu

Epicurious
Website: http://www.epicurious.com

Exploratorium
Website: http://www.exploratorium.edu/cooking

Food Allergy Research and Education
Website: http://www.foodallergy.org

Food Network
Website: http://www.foodtv.com

The Healthy Fridge
Website: http://www.healthyfridge.org

International Dutch Oven Society
Website: http://www.idos.org

Juvenile Diabetes Research Foundation
Website: http://jdrf.org

Meals.com
Website: http://www.meals.com

National Foundation for Celiac Awareness
Website: http://www.celiaccentral.org

The Recipe Link
Website: http://www.recipelink.com

U.S. Department of Agriculture
Website: http://www.foodsafety.gov

U.S. Food and Drug Administration
Website: http://www.fda.gov
Toll-free telephone for safe food information: 888-723-3366

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