




Cooking




MERIT BADGE SERIES




COOKING



BOY SCOUTS OF AMERICA




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Please turn in your Blue Cards and Prerequisites

<p>The applicant has personally appeared before me and demonstrated to my satisfaction that he has met all requirements for the (please print):</p> <p style="text-align: center;">Cooking</p> <p style="text-align: center;">Merit Badge</p> <p>Name of Counselor _____</p> <p>Address of Counselor _____</p> <p>City _____ ZIP Code _____</p> <p>Telephone number of Counselor _____</p> <p>Signature of counselor _____ Date _____</p> <p>Checked and recorded: _____</p> <p>Date _____ Initials _____</p> <p>Certificate and badge presented: _____ Date _____</p> <p>Applicant will turn in this portion to his unit leader for record posting.</p>	<p>APPLICANT'S RECORD</p> <p>Name _____</p> <p>has given me his completed application for the</p> <p style="text-align: center;">Cooking</p> <p style="text-align: center;">Merit Badge</p> <p>Completed on ____/____/____ by _____</p> <p>Signature of Counselor _____</p> <p>Signature of unit leader _____</p> <p>NOTE TO BOY SCOUT, VARSITY SCOUT, OR EXPLORER: Retain this copy for your permanent records.</p>	<p>COUNSELOR'S RECORD</p> <p>Applicant _____</p> <p><input type="checkbox"/> Troop <input type="checkbox"/> Team Unit number: _____</p> <p><input type="checkbox"/> Post</p> <p style="text-align: center;">Cooking</p> <p style="text-align: center;">Merit Badge</p> <p>Date Completed ____/____/____</p> <p>Remarks: _____</p> <p>It is suggested that the counselor keep this record for at least 1 year in case any question is raised later in regard to this award.</p>
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DANGER

**SCOUTS
COOKING**

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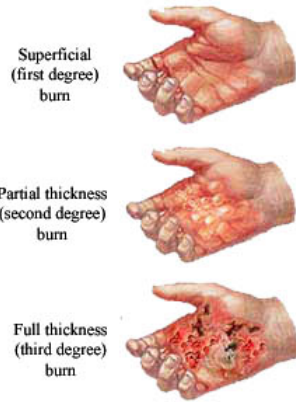
1. a. Explain to your counselor the most likely hazards you may encounter while participating in cooking activities and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.



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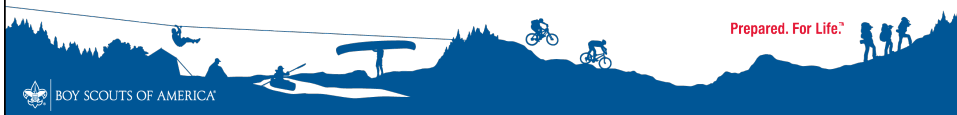
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1. b. Show that you know first aid for and how to prevent injuries or illnesses that could occur while preparing meals and eating, including burns and scalds, cuts, choking, and allergic reactions.



First and Second degree burns are treatable with ointments, loose dressings and keeping it clean.

Third degree burns require medical attention. Raise the burned area above the victims heart. Protect victim from drafts.



1. 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.

Back Blows and Abdominal Thrusts for Choking



1. Stand behind the person and wrap one arm around their chest. Firmly strike the person on the back between the shoulder blades 5 times.



2. If the back blows do not dislodge the object, wrap both your arms around the abdomen. Make a fist with one of your hands and place it thumb side in the center of the abdomen. Grasp your fist with the other hand.



3. Give 5 abdominal thrusts by making a quick hard movement inward and upward 5 times. Keep giving 5 back blows and 5 abdominal thrusts until the object is coughed up or the person loses consciousness.



FOOD SAFETY



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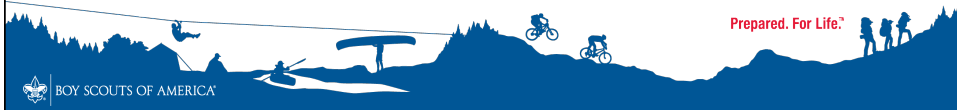
- Wash Hands with **HOT** water and soap then dry with a **CLEAN** towel
- Keep cold foods cold
- Keep hot Foods hot
- Freeze meat or poultry that will not be used within 2-3 days
- Unwrapped meat must be kept separate
- Meat should be cooked completely, if you aren't sure, use a thermometer
- Make certain safety seals on food in jars, containers, etc. are intact
- Leftovers properly cooled and stored should be stored for no more than 7 days
- Sanitize utensils and preparation surfaces to avoid cross contamination



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FOOD BORNE ILLNESS



Poor Food Handling Can Lead To

- **Upset stomach**
- **Vomiting**
- **Diarrhea**
- **Dehydration**
- **Possible hospitalization**
- **Death in extreme cases**



Salmonella Enteritidis- bacteria linked to raw, under cooked eggs, poultry, unwashed raw vegetables and fruits

- **Symptoms**- nausea, vomiting, fever, abdominal pain, diarrhea, dehydration, weakness and loss of appetite
- **Treatment** - illness usually lasts 4 to 7 days, and most persons recover without antibiotic treatment
- **Prevention**- Keep eggs and poultry refrigerated, cook food thoroughly, wash all fruits and vegetables, wipe up raw meat juice from counter and sanitize, clean utensils etc.

Escherichia Coli Enteritis (E. Coli)- bacteria normally live in the intestines of people and animals. Most E. coli are harmless, and actually are an important part of a healthy human intestinal tract. However, some E. coli are pathogenic, meaning they can cause illness, either diarrhea or illness outside of the intestinal tract. The types of E. coli that can cause diarrhea can be transmitted through contaminated water or food, or through contact with animals or persons

- **Symptoms**- nausea, vomiting, diarrhea (often bloody), fever, and abdominal cramps
- **Treatment** – hydration is important. Antibiotics should not be used to treat this infection
- **Prevention**- foods need to be prepared in sanitary conditions, cook food thoroughly, and store cold foods below 40 degrees

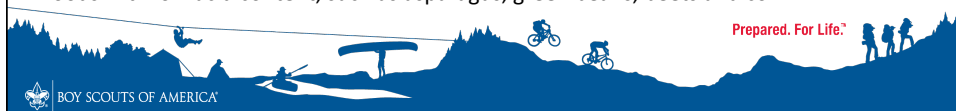


Hepatitis- Hepatitis A is one of five viruses that causes inflammation of the liver. The others are B, C, D and E. Hepatitis A is usually spread when a person ingests fecal matter — even in microscopic amounts

- **Symptoms** - sudden fever, nausea, abdominal discomfort, dark urine, Jaundice.
- **Treatment** – No Treatment
- **Prevention**- A vaccine can prevent the disease in many cases. Wash hands with soap and warm water before preparing and eating food, scrub under fingernails, cook shellfish thoroughly, drink water from approved sources only, keep bathrooms clean and disinfected.

Botulism- Botulism is a muscle-paralyzing disease caused by a toxin made by the bacterium Clostridium botulinum. Foodborne botulism is caused by eating foods that contain the botulinum toxin.

- **Symptoms**- double vision, blurred vision, drooping eyelids, slurred speech, difficulty swallowing, dry mouth, and muscle weakness that moves down the body, usually affecting the shoulders first, then the upper arms, lower arms, thighs, calves, etc. Paralysis of breathing muscles can cause a person to stop breathing and die
- **Treatment** –antitoxin and supportive care
- **Prevention**- never use food from bulging containers/cans, use caution with home-canned foods with low acid content, such as asparagus, green beans, beets and corn.



Norovirus - very contagious virus. You can get norovirus from an infected person, contaminated food or water, or by touching contaminated surfaces. The virus causes your stomach or intestines or both to get inflamed.

- **Symptoms** – nausea, forceful vomiting, watery diarrhea, and abdominal pain, and in some cases, loss of taste. General lethargy, weakness, muscle aches, headache, coughs, and low-grade fever may occur.
- **Treatment** – No Treatment. Norovirus infection cannot be treated with antibiotics because it is a viral (not a bacterial) infection
- **Prevention**- Proper hand washing and sanitation is an effective method for reducing the transmission of norovirus pathogens.

Listeria is a serious infection usually caused by eating food contaminated with the bacterium *Listeria monocytogenes*

- **Symptoms**- fever and muscle aches, sometimes preceded by diarrhea or other gastrointestinal symptoms.
- **Treatment**- antibiotics
- **Prevention**- safe food preparation, consumption, and storage.
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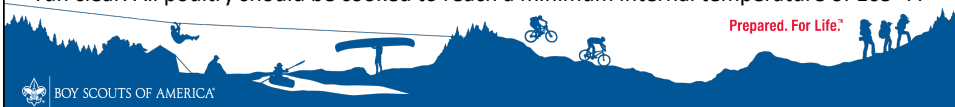


Staphylococcal Enteritis- common bacterium found on the skin and in the noses of up to 25% of healthy people and animals. Usually it causes no illness in these healthy people unless it is transmitted to food products

- **Symptoms**- toxins are fast acting, sometimes causing illness in as little as 30 minutes after eating contaminated foods. Patients typically experience several of the following: nausea, retching, vomiting, stomach cramps, and diarrhea.
- **Treatment** - The best treatments for these patients are rest, plenty of fluids, and medicines to calm their stomachs. The toxin is not affected by antibiotics.
- **Prevention**- wash hands and utensils before serving food, cook meat thoroughly, refrigerate leftovers promptly and in covered containers. Do not prepare food if you have a nose or eye infection. Do not prepare or serve food for others if you have wounds or skin infections on your hands or wrists.

Campylobacter jejuni -is the most common bacterial cause of diarrhea in the United States. Thrives in birds; spreads through raw and undercooked poultry, raw milk, and untreated water

- **Symptoms** - diarrhea, cramping, abdominal pain, and fever
- **Treatment** – No treatment - Hydration
- **Prevention** - Make sure that the meat is cooked throughout (no longer pink) and any juices run clear. All poultry should be cooked to reach a minimum internal temperature of 165 °F.



Cryptosporidium (Crypto)- is a microscopic parasite that causes the diarrheal disease cryptosporidiosis.

- **Symptoms**- Symptoms of cryptosporidiosis generally begin 2 to 10 days (average 7 days) after becoming infected with the parasite. The most common symptom of cryptosporidiosis is watery diarrhea.
- **Treatment** -Symptoms of cryptosporidiosis generally begin 2 to 10 days (average 7 days) after becoming infected with the parasite. The most common symptom of cryptosporidiosis is watery diarrhea.
- **Prevention**- Wash hands with soap and water for at least 20 seconds, rubbing hands together vigorously and scrubbing all surfaces:



FOOD ALLERGIES & AVERSIONS

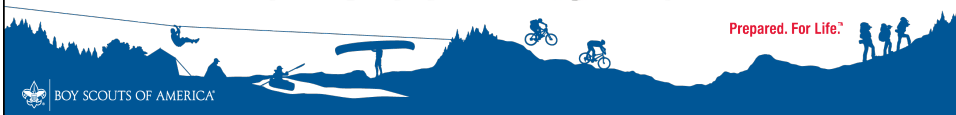


ALERT!

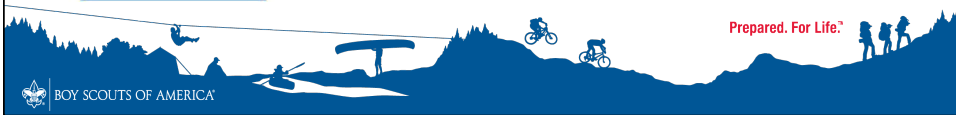
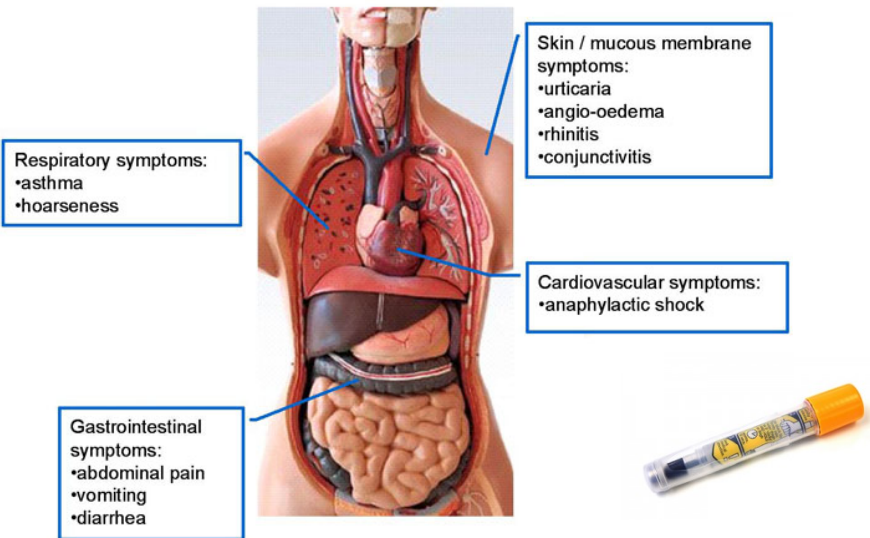
**FOOD
ALLERGIES**



1. e. Discuss with your counselor food allergies, food intolerance, food-related diseases, and your awareness of these concerns.



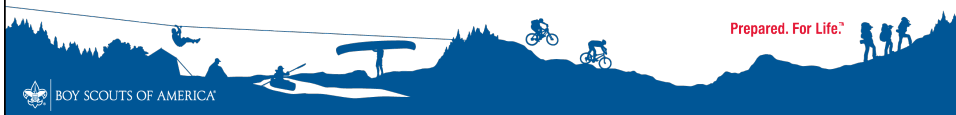
Food Allergy: Symptoms





Food Aversions

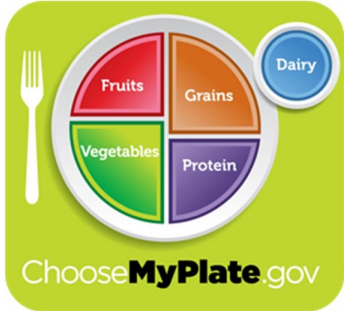
- **Personal Preferences**
 - Things people don't like to eat
 - Vegetarians – different types of vegetarians
- **Religious Prohibitions**
 - Abstinence from eating pork (Jewish/Islamic)
 - Abstinence from eating beef (Hindu)
 - Seasonal dietary restrictions (Fish Friday's for some Christians)
 - Others?



NUTRITION



ChooseMyPlate



Fruits:
Focus on fruits.

- Eat a variety of fruit.
- Chose fresh, frozen, canned or dried fruit.
- Go easy on fruit juices.

Vegetables:
Vary your veggies.

- Eat more green dark veggies.
- Eat more orange veggies.
- Eat more dry beans and peas.

Physical Activity
Find your balance between food & physical activity.

- Be physically active for 30 minutes most days of the week.
- Children and teenagers should be physically active for 60 minutes everyday or most days of the week.

Oils:
Know your fats.

- Make most of your fat sources from fish, nuts and vegetable oils.
- Limit solid fats like butter, stick margarine, shortening, and lard.

Milk:
Get your calcium-rich foods.

- Go low-fat or fat-free
- If you don't or can't consume milk, chose lactose-free products or other calcium sources.

Grains:
Make at least half your grains whole.

- Eat at least 3 ounces of whole grain bread, cereal, rice, or pasta everyday.
- Look for the word "whole" before the grain name on the list of ingredients.

Meats & Beans
Go lean on protein.













- Choose low-fat or lean meats and poultry.
- Bake it, broil it or grill it.
- Vary your choices with more fish, beans, peas, nuts, and seeds.

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Portion Distortion

What's a healthy portion?
If you're not sure how much you should eat, everyday objects offer guidance on what makes up a healthy portion size

VEGETABLES	MEAT	PASTA	ICE CREAM	FISH	PANCAKE
					
1 cup = Baseball	3 ounces = Deck of cards	½ cup = Tennis ball	½ cup = Two golf balls	3 ounces = Checkbook	4-inch compact disc
BAKED POTATO	CHEESE	MUFFIN	BUTTER	PEANUT BUTTER	BAGEL
					
Computer mouse	1½ ounces = Four stacked dice	A large egg or light bulb	1 teaspoon = Thumb tip	2 tablespoons = Ping-pong ball	Hockey puck

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Recommended Number of Food Guide Servings per Day

	Children			Teens		Adults			
	2-3	4-8	9-13	14-18 Years		19-50 Years		51+ Years	
	Girls and Boys			Female	Male	Female	Male	Female	Male
Vegetables and Fruit	4	5	6	7	8	7-8	8-10	7	7
Grain Products	3	4	6	6	7	6-7	8	6	7
Milk and Alternatives	2	2	3-4	3-4	3-4	2	2	3	3
Meat and Alternatives	1	1	1-2	2	3	2	3	2	3

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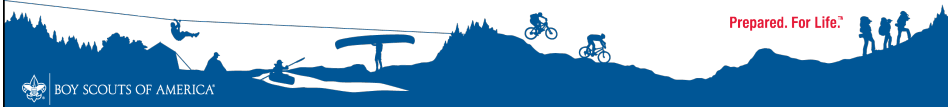
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Calorie	A calorie is a unit that measures the amount of energy that food provides to the body LIMIT
fat	Fats may be either solid or liquid at room temperature, depending on their structure and composition. Although the words "oils", "fats", and "lipids" are all used to refer to fats. LIMIT
saturated fat	A fat that contains only saturated fatty acids, is solid at room temperature, and comes chiefly from animal food products. Some examples of saturated fat are butter, lard, meat fat, solid shortening, palm oil, and coconut oil.
trans fat	An unhealthy substance, also known as trans fatty acid, made through the chemical process of hydrogenation of oils. Hydrogenation solidifies liquid oils and increases the shelf life and the flavor stability of oils and foods that contain them. Trans fat is found in vegetable shortenings and in some margarines, crackers, cookies, snack foods and other foods. ELIMINATE
sugar	Sugar is the generalized name for sweet-flavored substances, most of which are used as food. There are various types of sugar derived from different sources. Sugars are also listed under multiple names. Keep an eye out for fruit juice concentrate, honey, glucose, fructose, maltose, dextrose, corn syrup, molasses and malt syrup. ELIMINATE

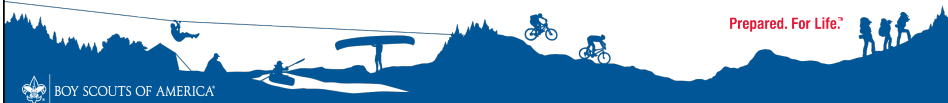
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cholesterol	Your body needs some cholesterol to make hormones, vitamin D, and substances that help you digest foods. Your body makes all the cholesterol it needs. However, cholesterol also is found in some of the foods you eat. Cholesterol travels through your bloodstream in small packages called lipoproteins (lip-o-PRO-teens). These packages are made of fat (lipid) on the inside and proteins on the outside. Two kinds of lipoproteins carry cholesterol throughout your body: low-density lipoproteins (LDL) and high-density lipoproteins (HDL). Having healthy levels of both types of lipoproteins is important. LIMIT
sodium	Sodium is a major mineral found in the fluid surrounding the cells in your body where it helps to regulate blood pressure and fluid volume, and it also helps maintain pH balance. Your muscles and nervous system also need sodium to function properly. The most common form of sodium is table salt, but at least a little bit of sodium occurs naturally in many foods. Significant sources include dairy products, beets, and celery. Processed foods usually contain a lot of sodium in the form of preservatives and flavor enhancers. LIMIT
carbohydrate	Carbohydrates are sugars and starches, which provide energy for humans and animals, and cellulose which make up many plant structures. "Carbs," as they are now commonly referred to, have become both a blessing and a curse, as the process of modern food production has changed the way they are consumed. LIMIT



dietary fiber	Dietary fiber is defined as the parts of plants that cannot be digested in our bodies. Fiber is important for proper bowel function and helps reduce blood cholesterol levels and may lower risk of heart disease. Fiber-containing foods such as fruits help provide a feeling of fullness with fewer calories. HEALTHY
protein	Protein builds, maintains, and replaces the tissues in your body. Your body uses the protein you eat to make lots of specialized protein molecules that have specific jobs. For instance, your body uses protein to make hemoglobin the part of red blood cells that carries oxygen to every part of your body. Other proteins are used to build cardiac muscle. Whether you're running or just hanging out, protein is doing important work like moving your legs, moving your lungs, and protecting you from disease. Best sources are beef, poultry, fish, eggs, dairy products, nuts, seeds, and legumes like black beans and lentils. HEALTHY



3. 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.

Nutrition Facts	
Serving Size 1 Cake (43g) Servings Per Container 6	
Amount Per Serving	
Calories 200 Calories from Fat 90	
% Daily Value*	
Total Fat 10g	19%
Saturated Fat 5g	28%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 100mg	4%
Total Carbohydrate 26g	8%
Dietary Fiber 0g	0%
Sugars 19g	
Protein 1g	
Vitamin A 0%	Vitamin C 0%
Calcium 0%	Iron 2%

- 1 Serving size
- 2 Number of calories
- 3 Limit these nutrients
- 4 Get enough of these nutrients
- 5 Percent of daily values
- 6 Footnote with daily values

Cholesterol 0mg	0%
Sodium 170mg	7%
Total Carbohydrate 36g	12%
Dietary Fiber less than 1g	3%
Sugars 17g	
Protein 2g	
Vitamin A 10% • Vitamin C 0% • Calcium 0% • Iron 10%	
Thiamin 10% • Riboflavin 10% • Niacin 10% • Vitamin B ₆ 10%	
Folic Acid 8%	
* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:	
Calories	2,000 2,500
Total Fat	Less than 65g 80g
Saturated Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Calories per gram	Fat 9 • Carbohydrate 4 • Protein 4

CONTAINS WHEAT AND SOY INGREDIENTS.
 Distributed by Kellogg Sales Co., Battle Creek, MI 49916 USA
 *FILLING MADE WITH EQUAL TO 10% FRUIT



COOKING METHODS



Baking is a food cooking method that uses prolonged dry heat by convection, rather than by thermal radiation, normally in an oven, but also in hot ashes, or on hot stones. The most common baked item is bread but many other types of foods are baked. Heat is gradually transferred "from the surface of cakes, cookies and breads to their centre. As heat travels through it transforms batters and doughs into baked goods with a firm dry crust and a softer centre".

Boiling is the rapid vaporization of a liquid, which occurs when a liquid is heated to its boiling point, the temperature at which the vapor pressure of the liquid is equal to the pressure exerted on the liquid by the surrounding environmental pressure.

Pan frying is a form of frying characterized by the use of minimal cooking oil or fat (compared to shallow frying or deep frying); typically using just enough oil to lubricate the pan (although, in the case of a greasy food such as bacon, no oil or fats may be needed). As a form of frying, pan frying relies on oil as the heat transfer medium and on correct temperature and time to retain the moisture in the food. Because of the partial coverage, the food must be flipped at least once to cook both sides.



Simmering is a food preparation technique in which foods are cooked in hot liquids kept at or just below the boiling point of water (which is 100 °C or 212 °F at average sea level air pressure), but higher than poaching temperature. To keep a pot simmering, one brings it to a boil and then reduces the heat to a point where the formation of bubbles has all but ceased, typically a water temperature of about 94 °C (200 °F).

Steaming works by boiling water continuously, causing it to vaporize into steam; the steam then carries heat to the nearby food, thus cooking the food. The food is kept separate from the boiling water but has direct contact with the steam, resulting in a moist texture to the food. This differs from double boiling, in which contact with steam is undesired.

Microwave is a kitchen appliance that heats food by bombarding it with electromagnetic radiation in the microwave spectrum causing polarized molecules in the food to rotate and build up thermal energy in a process known as dielectric heating. Microwave ovens heat foods quickly and efficiently because excitation is fairly uniform in the outer 25–38 mm of a dense (high water content) food item; food is more evenly heated throughout (except in thick, dense objects) than generally occurs in other cooking techniques.

Grilling usually involves a significant amount of direct, radiant heat, and tends to be used for cooking meat quickly. Food to be grilled is cooked on a grill (an open wire grid such as a gridiron with a heat source above or below



4. b. Discuss the benefits of using a camp stove on an outing vs. a charcoal or wood fire.



Propane burns cleanly and efficiently, and produces a hot, steady flame. Also, it works well at high altitude and temperatures well below freezing. However, most propane stoves are too heavy for backpacking,

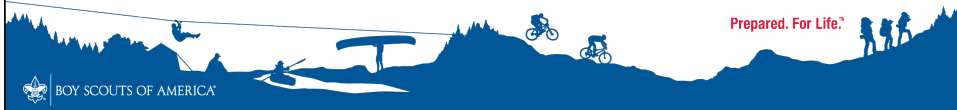


Flavor: “When you’re cooking over a charcoal fire, the natural wood smoke flavors complement the food,”



cooking with wood takes a lot longer than on a gas or charcoal grill. If you are cooking on a grill grate over firewood, you ideally want to cook on glowing embers, not on open flames which will char and burn your food. To get that core of hot wood embers takes time and a lot of wood.

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4. c. Discuss how the Outdoor Code and no-trace principles pertain to cooking in the outdoors



Minimize Campfire Impacts

Campfires can cause lasting impacts to the backcountry. Use a lightweight stove for cooking.

Where fires are permitted, use established fire rings, fire pans, or mound fires.

Keep fires small. Only use sticks from the ground that can be broken by hand.

Burn all wood and coals to ash, put out campfires completely, then scatter cool ashes.

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MEAL PLANNING



CAMPOUT MENU PLANNER

DATE: _____

Saturday breakfast	Drink	
	Entree	
	Side dish	
Saturday lunch	Drink	
	Entree	
Saturday snack		
Saturday dinner	Drink	
	Entree	
	Side dish #1	
	Side dish #2	
	Dessert	
Sunday breakfast	Drink	
	Entree	

ITEMS TO BUY

Saturday breakfast	Saturday lunch	Saturday dinner	Sunday breakfast	Patrol box staples



Let's Get Cookin'

