

Based on BSA 2016 Requirements



Cooking Merit Badge

Troop 88 - Gilbert, AZ





Week 1 & 2

Nutrition





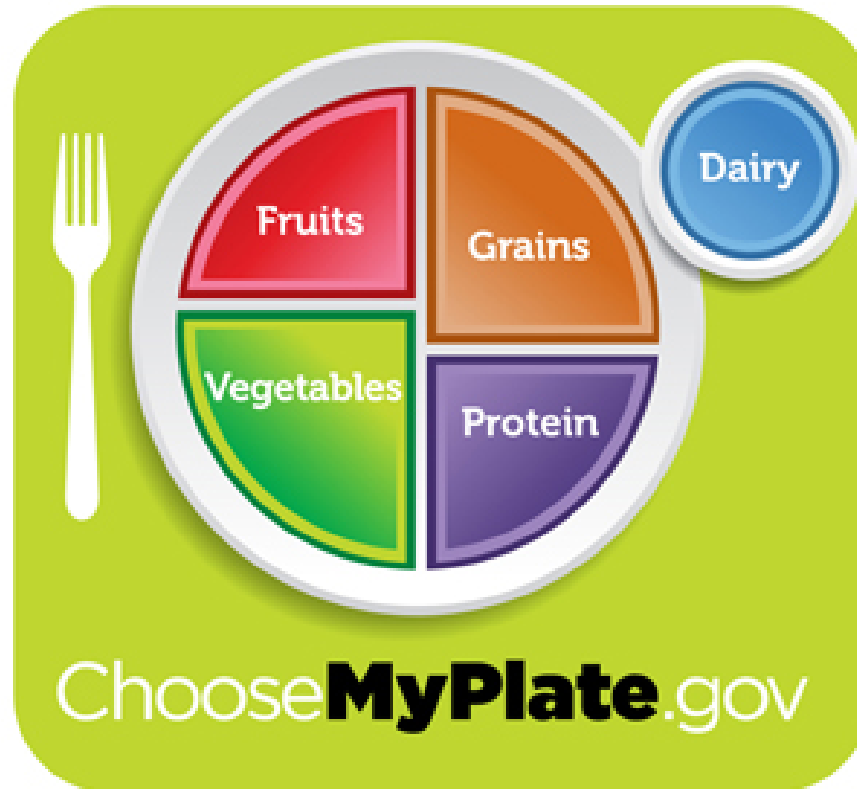
Nutrition

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.
- e. 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.



NUTRITION



FROM U.S. DEPARTMENT OF AGRICULTURE, 2011



MyPlate Checklist

Do you already know which Checklist you are looking for?

For professional reference, all of the MyPlate Daily Checklists are available below. You should use this table only if you already know which MyPlate Daily Checklist you are looking for. If not, calculate your own [MyPlate Daily Checklist](#). Note: If you are on a mobile device, you may need to rotate your phone to see the full table.

AGE GROUP	CALORIE LEVEL								
Ages 2-3	1,000	1,200	1,400						
Ages 4-8	1,200	1,400	1,600	1,800	2,000				
Ages 9-13	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
Ages 14+	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200



Calculator

MYPLATE CHECKLIST CALCULATOR

for

Age

Sex

Weight pounds






Height feet inches

Physical activity

[Calculate Food Plan](#)

My Daily Food Plan

Based on the information you provided, this is your daily recommended amount for each food group.

 <p>GRAINS 7 ounces</p>	 <p>VEGETABLES 3 cups</p>	 <p>FRUITS 2 cups</p>	 <p>DAIRY 3 cups</p>	 <p>PROTEIN FOODS 6 ounces</p>
<p>Make half your grains whole Aim for at least 3 1/2 ounces of whole grains a day</p>	<p>Vary your veggies Aim for these amounts each week: Dark green veggies = 2 cups Red & orange veggies = 6 cups Beans & peas = 2 cups Starchy veggies = 6 cups Other veggies = 5 cups</p>	<p>Focus on fruits Eat a variety of fruit Choose whole or cut-up fruits more often than fruit juice</p>	<p>Get your calcium-rich foods Drink fat-free or low-fat (1%) milk, for the same amount of calcium and other nutrients as whole milk, but less fat and Calories Select fat-free or low-fat yogurt and cheese, or try calcium-fortified soy products</p>	<p>Go lean with protein Twice a week, make seafood the protein on your plate Vary your protein routine—choose beans, peas, nuts, and seeds more often Keep meat and poultry portions small and lean</p>

Find your balance between food and physical activity

Be physically active for at least **60 minutes** each day.

Know your limits on fats, sugars, and sodium

Your allowance for oils is **6 teaspoons** a day.

Limit Calories from solid fats and added sugars to **270 Calories** a day.

Reduce sodium intake to less than **2300 mg** a day.







Your results are based on a 2200 Calorie pattern.

Name: _____

This Calorie level is only an estimate of your needs. Monitor your body weight to see if you need to adjust your Calorie intake.

My Daily Food Plan Worksheet

Check how you did today and set a goal to aim for tomorrow

Write in Your Food Choices for Today	Food Group	Tip	Based on a 2200 Calorie pattern. Your Goals Are:	Match Your Food Choices with Each Food Group	Estimate Your Total
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	 <p>GRAINS</p>	Make at least half your grains whole grains	7 ounce equivalents (1 ounce equivalent is about 1 slice bread; 1 ounce ready-to-eat cereal; or ½ cup cooked rice, pasta, or cereal)	<hr/> <hr/> <hr/> <hr/>	<hr/> ounce equivalents
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	 <p>VEGETABLES</p>	Aim for variety every day; pick vegetables from several subgroups: Dark green, red & orange, beans & peas, starchy, and other veggies	3 cups (1 cup is 1 cup raw or cooked vegetables, 2 cups leafy salad greens, or 1 cup 100% vegetable juice)	<hr/> <hr/> <hr/> <hr/>	<hr/> cups
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	 <p>FRUITS</p>	Select fresh, frozen, canned, and dried fruit more often than juice	2 cups (1 cup is 1 cup raw or cooked fruit, ½ cup dried fruit, or 1 cup 100% fruit juice)	<hr/> <hr/> <hr/> <hr/>	<hr/> cups
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	 <p>DAIRY</p>	Include fat-free and low-fat dairy foods every day	3 cups (1 cup is 1 cup milk, yogurt, or fortified soy beverage; 1½ ounces natural cheese; or 2 ounces processed cheese)	<hr/> <hr/> <hr/> <hr/>	<hr/> cups
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	 <p>PROTEIN FOODS</p>	Aim for variety—choose seafood, lean meat & poultry, beans, peas, nuts, and seeds each week	6 ounce equivalents (1 ounce equivalent is 1 ounce lean meat, poultry, or seafood; 1 egg; 1 Tbsp peanut butter; ¼ cup cooked beans or peas; or ½ ounce nuts or seeds)	<hr/> <hr/> <hr/> <hr/>	<hr/> ounce equivalents
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	 <p>PHYSICAL ACTIVITY</p>	Be active every day. Choose activities that you like and fit into your life.	Be physically active for at least 60 minutes each day.	Some foods and drinks, such as sodas, cakes, cookies, donuts, ice cream, and candy, are high in fats and sugars. Limit your intake of these.	<hr/> minutes

How did you do today? Great So-So Not so Great

My food goal for tomorrow is: _____

My activity goal for tomorrow is: _____



NUTRITION

- MyPlate Meal Planning
 - Fruits
 - Vegetables
 - Grains
 - Proteins
 - Dairy
- Lets see how we did on our sack lunches today
 - Discussion – does your sack lunch meet the myplate guidelines?

Portion Distortion

What you're served



1/2 lb. cheeseburger, French fries, 3/4 cup ketchup, tomato slice and lettuce.

1,345 calories

53 grams fat

What's one serving



1/4 lb. cheeseburger, half the French fries, 2 tablespoons ketchup, tomato slice and lettuce.

685 calories

33 grams fat

DID YOU KNOW?

- Americans are the heaviest of people in developed countries. The U.S. surgeon general has called obesity a national epidemic.
- 61 percent of Americans are overweight.

- Consuming an extra 100 calories daily for a year, without using them up, can lead to a weight gain of 10 pounds.
- Every gram of carbohydrate or protein equals 4 calories.

- The number of overweight people in the world – 1.1 billion – now equals the number of undernourished people.
- With each decade as we age, we need 100 fewer calories per day.

- Every gram of fat equals 9 calories.
- 10 calories a day (2 hard candies) of unexpended energy puts on an extra pound a year.



The Chicago Partnership for Health Promotion is funded by the USDA Food Stamp Program. The University of Illinois at Chicago Neighborhoods Initiative is the Land Grant Administrative Hub for CPHP. The USDA, UIC and CPHP are equal opportunity providers and employers. www.sphp.uic.edu

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NUTRITION

- Carbohydrates – Good vs. Bad





NUTRITION

- Protein – Good vs. Bad





NUTRITION



- Saturated fats occur naturally in many foods. The majority come mainly from animal sources, including meat and dairy products. Examples are fatty beef, lamb, pork, poultry with skin, beef fat (tallow), lard and cream, butter, cheese and other dairy products made from whole or reduced-fat (2 percent) milk. These foods also contain dietary cholesterol.
- In addition, many baked goods and fried foods can contain high levels of saturated fats. Some plant foods, such as palm oil, palm kernel oil and coconut oil, also contain primarily saturated fats, but do not contain cholesterol.



NUTRITION



- Trans fats (or trans fatty acids) are created in an industrial process that adds hydrogen to liquid vegetable oils to make them more solid. Another name for trans fats is “partially hydrogenated oils.” Look for them on the ingredient list on food packages.
- Trans fats can be found in many foods – but especially in fried foods like French fries and doughnuts, and baked goods including pastries, pie crusts, biscuits, pizza dough, cookies, crackers, and stick margarines and shortenings. You can also spot trans fats by reading ingredient lists and looking for the ingredients referred to as “partially hydrogenated oils.”



NUTRITION

- Dietary Fiber



- Sodium

Naturally occurring sodium is in foods such as **celery**, beets and **milk**. Packaged and prepared foods, like canned soups, **lunch meats** and frozen dinners, often have sodium added during manufacturing. This sodium might be in the form of **salt** or other forms of sodium (like baking soda) that show up in our food.



NUTRITION

- Fruit and Vegetables
 - 5 servings per day of fruit and veggies
 - 5 different colors should be the goal
 - At least one serving should be green
- Fruit contains sugar although it is natural sugar. 2 servings per day is usually enough.
- Vegetables should be half of the content of your plate



NUTRITION

- Sugar
 - 4 grams of sugar = 1 teaspoon of sugar
 - Human body is only designed to handle 16 to 20 grams per day
 - Average child or teen in U.S. consumes 40 to 80 teaspoons of sugar per day
 - 1 official serving size of Cheerios has 10 grams of sugar



NUTRITION

- Why sugar is a problem
 - Body cannot process more than 16-20 grams per day
 - Too much overloads the pancreas, and burns up the ability to produce insulin
 - Sugar and processed carbs show up as triglycerides when cholesterol is checked
 - Diabetes then develops – 40% of diabetics have significantly shortened lifespan due to stroke, kidney failure and heart attack

- 4 grams = 1 teaspoon



NUTRITION

- Sugar Facts
 - 8 ounces (1 cup) of sweetened drink per day will result in 15 lbs of excess weight gain per year (Soda, tea, vitamin water, gatorade, etc)
 - The average school lunch contains 20 teaspoons (80 grams) of sugar. Breakfast is even worse
 - There is no such thing as store bought healthy yogurt. Today's mass produced yogurt is simply ice cream
 - Artificial sweeteners have even more side effects and cause as many or more problems than sugar.



NUTRITION

- Calories
 - Calories are used to measure the amount of energy potential in foods
 - Humans need calories to produce energy in the same way that a fire needs wood to produce heat
 - Calories are burned by all activities – even sleeping and breathing
 - Heavy or strenuous activity burns more calories than sedentary activity



NUTRITION

- In general calorie requirements are around 2200 calories per day for most older teens and adults (males). Females require a little less, young and growing kids need more.
- In any given day, calories should be...
 - 40% from protein
 - 30% from carbohydrate
 - 30% from fat
- Not enough calories = excess weight loss
- Too many calories = excess weight gain
- Rate of burn for different calories – slow burning is usually preferred over fast burning, except during heavy bursts of activity. Sometimes you need both!



NUTRITION

- Activities which increase calorie needs:
 - Cold weather
 - More fat calories
 - Hot food and drinks so the body doesn't have to burn so many calories to maintain warmth
 - Endurance activities
 - Protein, slow and fast burning carbohydrates
 - Short high intensity activities
 - Protein, fast burning carbohydrates



NUTRITION

- Calculating Calorie Needs
- There are a number of complex formulas for determining caloric needs
- Several things play a role
 - Age
 - Weight & Height
 - Level of activity
- Multiple calculators available on internet
- Average teen male needs 2000 to 2400 calories a day for low to moderate activity



NUTRITION

- Electrolytes
 - When sweating people need more of the following:
 - Sodium
 - Magnesium
 - Potassium
 - Without electrolytes your heart and muscles will not work properly
 - Replacing water alone is not enough – too little electrolytes and too much with water is a dangerous combination
 - If it is windy or very dry, you may even not know that you are sweating
 - In hot or arid weather, alternate every other bottle of water with a bottle of electrolyte solution



NUTRITION

- How to read food labels
- See Handout



NUTRITION

- Putting it all together
- Individually
 - Plan 1 meal on the myplate worksheets
- In small groups...
 - Plan 2 meals on the myplate worksheet
 - Discuss the meals you have planned with your group
 - Give and receive feedback to other group members about the meal plans

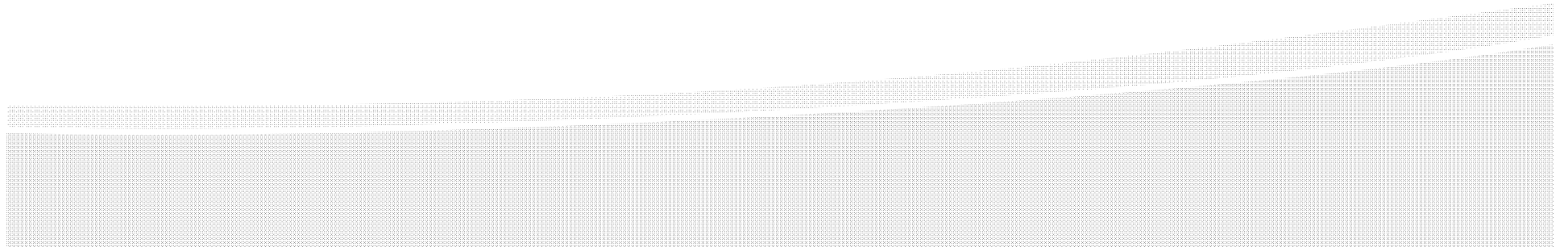


NEXT

- Need a couple of volunteers to do the following for the next meeting:
 - With your parents permission, visit www.calorieking.com
 - Have them sign you up for a free 7 day trial
 - Using calorie king, keep a diary of the foods you eat and the exercise you do for the next 7 days
 - Be sure and log the “little extras” like butter, dressing etc.
 - Bring a print out of the diary with you to the next classroom session
- (The diary itself is not a requirement for the merit badge, but we will use it to take a look at our usual eating habits and compare it to healthy eating)

 Week 3

Health & Safety





Health & Safety

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. Discuss with your counselor food allergies, food intolerance, and food-related illnesses and diseases. Explain why someone who handles or prepares food needs to be aware of these concerns.
- e. Discuss with your counselor why reading food labels is important. Explain how to identify common allergens such as peanuts, tree nuts, milk, eggs, wheat, soy, and shellfish.



SAFETY

- **Likely Hazards**
 - Cuts
 - Burns & Scalds
 - Choking
 - Allergic Reactions
 - Food Borne Illness

- Know first aid for all of them but...



SAFETY

- **The first step in first aid is prevention**
- If you are the grub master how might you prevent the following?
 - Choking
 - Burns & Scalds
 - Cuts
 - Allergic Reactions
 - Food borne illness



SAFETY

- **Stove Safety**
 - Never use or light near, or in, a tent or enclosed area
 - Maintain stoves to mfg specifications.
 - Store fuel only in approved containers
 - Allow hot stoves to cool before storing, etc.
 - Never leave a lighted stove unattended
 - Do not overload with large or overly full pot
 - Use pot grabbers to pick up hot items



SAFETY

- **Common food allergens:**
 - Peanuts – often life threatening
 - Tree Nuts
 - Eggs
 - Shellfish
 - Milk
 - Wheat
 - Soy



SAFETY

- **Food Borne Illness**
 - Almost always preventable
 - Most often caused by improper storage, handling or cooking of food products, Inadequate **HAND WASHING**, or cleaning of utensils or surfaces
 - Most commonly associated with meat, seafood, eggs, dairy products, and produce



SAFETY

- Raw Meat & Dairy must be kept cold
 - Less than 40 degrees Fahrenheit
- Meat should be cooked soon after removing from refrigeration
- Cooked food should be kept hot
 - above 140 degrees Fahrenheit
- Keep COLD foods COLD, and HOT foods HOT
- USE A FOOD THERMOMETER IF IN DOUBT



SAFETY

- Check seals on food in jars, containers or bags
- Freeze raw meat if it will not be used within 2 days.
- Discard leftovers if not eaten within three days
- Keep raw meat separate from other foods
- **WASH HANDS** frequently while cooking



SAFETY

- Parasitic diseases
 - Worms and little critters
 - <http://www.cdc.gov/parasites/az/index.html>
- Bacterial diseases
 - Microscopic single celled organisms
- Viral diseases
 - Subcellular, or prion particle
 - Uses host organism's cells to live



SAFETY

- **Campylobacter jejuni (C. jejuni)**
 - Contaminated water, raw or unpasteurized milk and raw or undercooked meats, poultry, or seafood.
 - **Symptoms**
 - Diarrhea, abdominal pain, nausea, headache and fever. Symptoms may appear 2-5 days after exposure and last 5-7 days.
 - **Prevention**
 - Properly cook chicken, meat and seafood to a safe internal temperature.
 - Consume only pasteurized milk and juice and water that comes from trusted sources.
 - **WASH HANDS** with soap and warm water, and scrub under fingernails after using the bathroom



SAFETY

- **Botulism**

- A deadly disease caused by failure to maintain food at proper temperatures, in properly sealed containers
- **Symptoms**
 - dry mouth, double vision, nausea, vomiting, diarrhea, abdominal cramps, sore throat, dizziness, constipation, muscle weakness, muscle paralysis, difficulty swallowing and breathing
- **Prevention**
 - never use food from bulging containers/cans, strange odor or appearance, refrigerate leftovers quickly, and reheat all refrigerated leftover foods to proper temperature



SAFETY

- **Cryptosporidium**
 - Drinking water, recreational water (lakes, public pools and hot tubs) and contaminated foods.
 - **Symptoms**
 - Dehydration, diarrhea, abdominal pain, nausea, vomiting, fever and weight loss. Symptoms may appear 2-10 days after exposure and last 7-14 days.
 - **Prevention**
 - **WASH HANDS** with soap and warm water, and scrub under fingernails before and after handling raw food.
 - Wash all fruits and vegetables.
 - Avoid water that may be contaminated and do not drink from swimming pools or untreated water from shallow wells, rivers, lakes, etc.



SAFETY

- **Escherichia Coli Enteritis (E. Coli)**
 - Bacteria present in human poop, can be transmitted from one person to another, can be a deadly illness for elderly adults and young children.
 - **Symptoms**
 - nausea, vomiting, diarrhea, fever, and abdominal cramps.
 - **Prevention**
 - **WASH HANDS** after using restroom or after handling raw produce
 - Refrigerate foods below 44 degrees
 - Wash all fresh produce



SAFETY

- **Hepatitis**

- Hepatitis A virus can be present in human poop

- **Symptoms**

- Fever, Fatigue, Loss of appetite, Nausea, Vomiting, Abdominal pain, Grey-colored stools, Dark urine, Joint pain, Jaundice

- **Prevention**

- A vaccine can prevent this disease
- **WASH HANDS** with soap and warm water, and scrub under fingernails prior to handling food
- Cook shellfish thoroughly
- Drink water from approved sources only
- Keep bathrooms clean and disinfected



SAFETY

- **Listeria monocytogenes**
 - Causes deadly infection listeriosis, spread from contaminated ready to eat foods like, hot dogs, deli meats, fermented or dry sausages, soft cheeses and raw foods (meat, poultry, seafood, fresh fruits, and vegetables)
 - **Symptoms**
 - Fever, muscle aches and sometimes nausea or diarrhea
 - **Prevention**
 - Avoid exposure to raw meat, poultry and seafood
 - **WASH HANDS** with soap and warm water, and scrub under fingernails prior to handling food
 - Keep work surfaces and knives clean
 - Thoroughly rinse fruits and vegetables



SAFETY

- **Norovirus**
 - Highly contagious virus found in contaminated food, water and surfaces. Also found in human waste such as vomit.
 - **Symptoms**
 - Diarrhea, vomiting and stomach pain. Symptoms usually appear in 12-72 hours
 - **Prevention**
 - **Frequently WASH HANDS** with soap and warm water, and scrub under fingernails prior to handling food
 - Keep work surfaces and knives clean
 - Thoroughly wash fruits and vegetables and heat food thoroughly
 - Thoroughly wash clothes of persons that have been infected



SAFETY

- **Salmonella Enteritis**
 - Bacteria found in uncooked eggs, poultry, vegetables, and fruit.
 - **Symptoms**
 - nausea, vomiting, fever, abdominal pain, diarrhea, dehydration, weakness and loss of appetite.
 - **Prevention**
 - Thoroughly cook food
 - Wash all fruit and vegetables
 - Wipe and sanitize all surfaces after contact with meat
 - Clean all utensils after using
 - **WASH HANDS** before, between, and after handling of food products



SAFETY

- **Staphylococcal Enteritis**
 - Bacteria present in environment. Multiplies in warm temperatures, thrives on protein.
 - **Symptoms**
 - nausea, diarrhea, headache, fever, chills, weakness and dizziness.
 - **Prevention**
 - Thoroughly cook food
 - Maintain food at proper temperatures
 - Clean all utensils after using
 - **WASH HANDS** before and after handling food



SAFETY

- **Trichinosis**
 - Caused by parasitic worm *Trichinella Spiralis*. Larvae can remain alive in humans for years. Parasite passed to humans by eating undercooked or raw meat infected with the parasite.
 - **Symptoms**
 - Stomach ache, nausea, vomiting, and diarrhea. This occurs within one week of digesting the parasite. Usually from pork.
 - **Prevention**
 - Cook meats all the way through, especially pork.



SAFETY

- **Norovirus**
 - Highly contagious virus found in contaminated food, water and surfaces. Also found in human waste such as vomit.
 - **Symptoms**
 - Diarrhea, vomiting and stomach pain. Symptoms usually appear in 12-72 hours
 - **Prevention**
 - **Frequently WASH HANDS** with soap and warm water, and scrub under fingernails prior to handling food
 - Keep work surfaces and knives clean
 - Thoroughly wash fruits and vegetables and heat food thoroughly
 - Thoroughly wash clothes of persons that have been infected



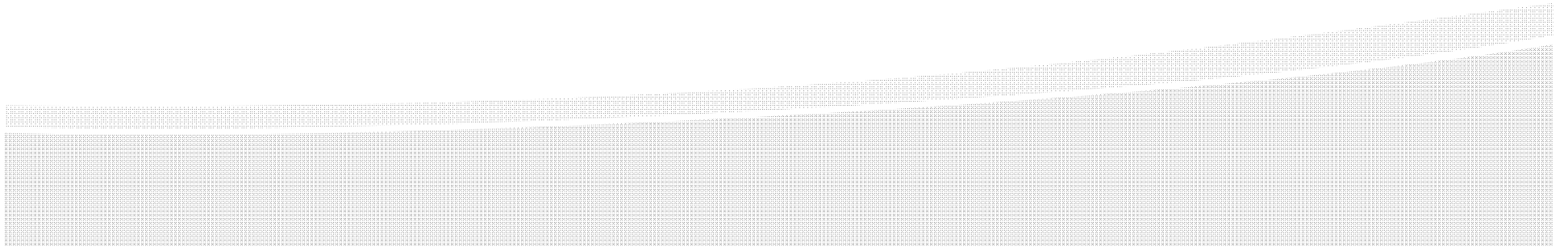
SAFETY

- **PROPER HANDWASHING**
- Water temp is not important, friction is
 - Wet hands
 - Apply Soap
 - Lather and scrub hands, including under nails and between fingers and at the same time...
 - Start saying the alphabet at a relaxed pace
 - When you get to the letter Z, rinse and dry



Week 4

Cooking Basics & Careers





BASICS OF COOKING

Four Parts to the Cooking Merit Badge

Safety

Nutrition

Planning

Preparation



Cooking Basics

Do the following:

- a. Discuss EACH of the following cooking methods. For each one, describe the equipment needed, how temperature control is maintained, and name at least one food that can be cooked using that method: baking, boiling, broiling, pan frying, simmering, steaming, microwaving, grilling, foil cooking, and use of a Dutch oven.
- b. Discuss the benefits of using a camp stove on an outing vs. a charcoal or wood fire.
- c. Describe with your counselor how to manage your time when preparing a meal so components for each course are ready to serve at the same time.



Food Related Careers

Do the following:

- a. 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.



Cooking at Home

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) and how you kept your foods safe and free from cross-contamination. 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 10 cooking methods from requirement 3, 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.



Camp Cooking

Do the following:

- a. 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. Your menu should include enough food for each person, keeping in mind any special needs (such as food allergies) and how you keep your foods safe and free from cross-contamination. These five meals must include at least one breakfast, one lunch, one dinner, AND at least one snack OR one dessert. List the equipment and utensils needed to prepare and serve these meals.
- b. 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.
- c. Share and discuss your meal plan and shopping list with your counselor.
- d. In the outdoors, using your menu plan for this requirement, cook two of the five meals you planned using either a lightweight stove or a low-impact fire. Use a different cooking method from requirement 3 for each meal. You must also cook a third meal using either a Dutch oven OR a foil pack OR kabobs. Serve all of these meals 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.
- 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 planning and preparation help ensure successful outdoor cooking.
- g. Explain to your counselor how you cleaned the equipment, utensils, and the cooking site thoroughly after each meal. Explain how you properly disposed of dishwater and of all garbage.
- h. Discuss how you followed the Outdoor Code and no-trace principles when preparing your meals.



Trail and Backpacking Meals

Do the following:

- a. 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). Be sure to keep in mind any special needs (such as food allergies) and how you will keep your foods safe and free from cross-contamination. List the equipment and utensils needed to prepare and serve these meals.
- b. 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.
- c. 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.
- d. While on a trail hike or backpacking trip, prepare and serve two meals and a snack from the menu planned for this requirement. At least one of those meals must be cooked over a fire, or an approved trail stove (with proper supervision).
- 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 planning and preparation help ensure successful trail hiking or backpacking meals.
- f. Discuss how you followed the Outdoor Code and no-trace principles during your outing. Explain to your counselor how you cleaned any equipment, utensils, and the cooking site after each meal. Explain how you properly disposed of any dishwater and packed out all garbage.



PLANNING

- What to cook and how much
- What equipment is needed
- What safety concerns are present
- How much time is available
- How much cleanup is needed
- Nutritional considerations
- Food allergies in group
- Proper food storage
- Timing of meal

WHAT ELSE MIGHT YOU WANT TO CONSIDER?



PLANNING

- There are many considerations when planning a meal especially when cooking for a larger group
- Use of Troop meal planning worksheet



Boy Scout Troop 88 - Patrol Meal Planning Worksheet

PATROL:		CAMPOUT DATE:	
PATROL NAME:		CAMPOUT LOCATION:	
<p>The patrol leader is responsible for getting patrol meal money from the treasurer, shopping along with the rest of the patrol and getting patrol food to the campsite.</p>			
ATTENDANCE		SHOPPING LIST	
PL:		STAPLES	HAVE NEED
APL:		Paper Towels	
3:		Aluminum Foil	
4:		Garbage Bags	
5:		Ziploc Bags	
6:		Seasonings	
7:		Sugar	
8:		Dish Soap	
9:		Charcoal	
MENU		FOOD BUYERS - DO NOT SUBSTITUTE THE SCOUTMASTER HAS APPROVED THIS PLAN AS IS!	
SATURDAY BREAKFAST			
Main Course:			
Side(s):			
Drink:			
SATURDAY LUNCH			
Main Course:			
Side(s):			
Drink:			
SATURDAY DINNER			
Main Course:			
Side(s):			
Drink:			
SUNDAY BREAKFAST			
Main Course:			
Side(s):			
Drink:			

Scoutmaster Signature: _____



PLANNING

- Take only what is needed. Measure food quantity ahead of time.
- Prep (Slice, chop etc.) food before going.
- Repackage foods to reduce trash.
- Use zip top bags to limit space/remove air.
- Check to make sure you have all the ingredients
- Pack food so each meal is easily accessible.
- Stay organized.
- Do not forget to pack the cooking gear



PLANNING

- Outdoor Code and Leave No Trace
- **The Outdoor Code**
 - As an American, I will do my best to -
 - Be clean in my outdoor manners
 - Be careful with fire
 - Be considerate in the outdoors, and
 - Be conservation minded.
- How does this impact the kind of meals and cooking methods you will use outdoors?



DISCUSSION

- The cobra patrol is going on a backpacking trip.
- The GM has decided he wants to make fried chicken for dinner.
 - What are the potential problems?
 - How can they be prevented?
- After giving it some thought, he decided instead to make chicken in foil packets
 - What are the potential problems?
 - How can they be prevented?
 - What will make this meal more filling?
 - How can it be made easier, lighter, faster?



DISCUSSION

- Mark made tuna salad and peanut butter cookies for a picnic to be held outdoors at a park. The weather is very warm as it is summer. It will be a couple of hours before people get to eat the salad as they are busy doing activities
- What are the potential problems?
- How can they be prevented?



DISCUSSION

- You have a group of 4 campers for this weekend's campout. There is a burn ban in place. The weather is cool, you will be hiking on rough terrain and carrying all of your gear and food into the site. The weather is expected to be about 55 during the day. You only have one stove burner, and only one pot to cook in.
- Using the meal planning worksheet, plan 3 meals for your group
- Discuss with the class why your groups plan is a good meal plan for this activity
- How could this meal plan be made...
 - Lighter
 - Faster to cook
 - Cheaper
 - Easier to clean up



PREPARATION

- 7 Methods of cooking needed for merit badge
 - Baking
 - Boiling
 - Pan frying
 - Simmering
 - Steaming
 - Microwaving
 - Grilling
- Of course there are others such as sautee, braise, roast, deep fry, but these 7 should be the focus



PREPARATION

- Stoves vs Wood Fire
- Advantages of wood fire cooking
- Disadvantages of wood fire cooking
- Advantages of stoves
- Disadvantages of stoves



PREPARATION

- Outdoor Code and Leave No Trace
- Keeping the Outdoor Code and Leave No trace in mind...
 - How can you reduce the environmental impact of the cooking method?
 - How can you reduce the environmental impact of packaging ?
 - How are dishes done at Philmont?



SAFETY

Off to the kitchen to prepare a snack!

GloGerm Experiment

- Scouts are divided into two teams
- Both teams powdered but...
- Team 1 washes hands before powdering, after powdering and during food prep
- Team 2 washes hands prior to powdering but not prior to or during prep
- View the results with black light



PLANNING

- As a group, plan a menu for the next session to demonstrate the different cooking methods
- We will cook and eat this meal as a group
- Meal must meet MyPlate rules
- Group outing to shop for this meal @ grocery store



PLANNING

- Meal planning session
 - Plan 3 full days of meals for home
 - Plan 5 meals and one snack or desert for campouts
 - Plan 1 breakfast, 1 lunch, 1 dinner and one snack for backpacking



MERIT BADGE OVERVIEW

- Classroom
 - Knowledge of food safety, nutrition, meal planning, preparation, and careers in culinary arts industry
- Meal Planning, Prep, and Cooking
 - 9 meals, all but 3 prepared outdoors
 - 1 desert which can be done indoors or outdoors
- Outings
 - Local market



REQUIREMENT 1

Safety

- 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) Discuss with your counselor food allergies, food intolerance, and food-related illnesses and diseases. Explain why someone who handles or prepares food needs to be aware of these concerns.
- e) Discuss with your counselor why reading food labels is important. Explain how to identify common allergens such as peanuts, tree nuts, milk, eggs, wheat, soy, and shellfish.



REQUIREMENT 2

Nutrition

- 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: Fruits, Vegetables, Grains, Proteins, and 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.
- e) 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.



REQUIREMENT 3

Cooking basics

Do the following:

- a) Discuss EACH of the following cooking methods. For each one, describe the equipment needed, how temperature control is maintained, and name at least one food that can be cooked using that method: baking, boiling, broiling, pan frying, simmering, steaming, microwaving, grilling, foil cooking, and use of a Dutch oven.
- b) Discuss the benefits of using a camp stove on an outing vs. a charcoal or wood fire.
- c) Describe for your counselor how to manage your time when preparing a meal so components for each course are ready to serve at the correct time.



REQUIREMENT 4

- Plan, shop and prepare for yourself and at least one other adult (Need not be consecutive) at home or other location
 - Must use at least 5 of the 7 cooking methods
 - 1 Breakfast
 - 1 Lunch
 - 1 Dinner
 - 1 Dessert



REQUIREMENT 5

- Plan, shop and prepare for your Patrol or group while outdoors
 - On approved stove or campfire
 - 2 Meals
 - Using Dutch oven, foil pack or kabobs
 - 1 Meal



REQUIREMENT 6

- Plan, shop and prepare for your Patrol or group while on a Trail hike or backpacking
 - That don't have to be cooked (but can be)
 - 2 meals
 - Cooked on fire or approved trail stove
 - 1 meal



REQUIREMENT 7

Food Related Careers

- 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.