Cooking

Troop 681
2015

Cooking MB Requirements

- **Basics of Cooking**
  - **Req 1 Safety**
  - **Req 2 Nutrition**
  - **Req 3 Meal Planning**
  - **Req 4 Cooking Techniques**

Cooking MB Requirements

- **Meal Preparations**
  - **Req 5 – Home/Family**
  - **Req 6 – Camping**
  - **Req 7 – Hiking/Backpacking**
- **Career Opportunities**
  - **Req 8 – Research & Discuss**

Basics of Cooking

- Safety
- Food Nutrition
- Meal Planning
- Cooking Techniques

Safety

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.

Cooking Safely

- **UTENSILS** Pots/Pans/Knives
- **HEAT** Stove/Oven/Fire/Grill
- **FOOD** Meats/Produce/Dairy

Utensil Safety

- Different size and types of knives (sharp/safe)
- Pots for cooking, boiling, simmering etc.
- Measuring devices for recipes to follow.
- Pans for frying, boiling, sautéing etc.
- Strainers to drain fluids from foods
- Spatula's, Whisks, Spoons/Forks/knives
- Bowls for preparation & mixing.
- HINT: For safety, use the right tool for the job! Do not try to open a can with a knife, USE A CAN OPENER!

Utensil Safety

How to prevent cuts

- **Always use sharp knives. A sharp knife requires less pressure in cutting than a dull knife does, and your hand is less likely to slip.**
- **Cut correctly. Don’t hold something in your hand when cutting it. Use a large cutting board. Curl your fingers under when holding food and cut away from you. Keep your fingers away from the blade.**
- **Keep your eyes on your cutting. It’s easy to get distracted when preparing meals.**

Utensil Safety

How to prevent cuts

- **Do not EVER leave a knife in the dish pan or sink**
- **Be careful when washing**
- **Use a cutting board that wont slip**
- **Use well cared for and sharp knife**
- **Stay focused**
- **Do not use knives for anything other than cutting on a cutting board**

Utensil Safety

- Clean As You Go
- Keep cooking areas clean at all times.
- Clean and wipe services as you go.
- Clean utensils after using for another course, not to spread possible bacteria or germs.
- Make certain bowls are cleaned before needing them for another part of the meal.
- Clean pots, soak in water so food does not dry onto surfaces and becomes harder to clean.

Utensil Safety

Utensil Safety

Dishwashing Station – WHY?

1. **As Hot as you can stand it Water Wash**
2. **Hot Water Rinse**
3. **Cold Water Sanitize/Rinse**

Utensil Safety

Heat Sources

Heat Sources

Heat can be required when preparing foods to eat. Some basic guidelines to follow:

–Always cook under adult supervision.

–Dress appropriately when cooking, try not to wear real loose clothing, open sweater, open jacket. You do not want anything to be able to dangle into fire/stove etc. Also possibly getting pulled in by a power kitchen tool or catching a pot on the stove.

–Keep stove/oven area clean. Do not keep towels or oven mitts or pot holder close to heat source.

Heat Sources

Heat Sources

Camp Fires

–Understand all safety rules from Boy Scout handbook

–Secure necessary permits if needed.

–Clear all flammable vegetation 5” from fire.

–Attend to fire at all times.

–Keep fire fighting tools handy -- water and/or shovel.

–Leave fire only when it is out/cold.

–Leave No Trace

Heat Sources

Preventing Burn Injuries

- **Take time to prepare meals without rushing.**
- **Always use pot holders that are in good repair and DRY!**
- **Keep pot handles turned toward the back of the stove.**
- **Cook on rear burners when ever possible, but avoid reaching over an open flame or hot burner.**
- **Use caution when moving heavy pots of liquids from the stove.**

Heat Sources

Preventing Burn Injuries

- **Keep all heated liquid and food out of children's reach, and keep young children out of cooking area during cooking time.**
- **Do not leave hot foods unattended on a table with a table cloth around children.**
- **Ensure camp stoves are working properly.**
- **Ensure all safety fire standards are adhered to by all cooking around an open fire.**
- **Ensure pots/pans are stabilized in open fire area not to fall and burn anyone.**

Food Safety

Food borne Illness – Food Poisoning

- **Pathogens are everywhere**
- **Not handling food properly allows then them to multiply enough to make us SICK.**
- **Most common cause is cross contamination caused by not WASHING YOUR HANDS**
- **Wash Hands with HOT water and soap then dry with a CLEAN towel**
- **Set up proper dish washing station, hot wash, rinse and dry with clean towel or air dry.**

Food Safety

- Meats & Dairy Items must be kept cold before use.
- Meat removed from wrapper must be kept separate.
- Meat should be cooked before it is no longer cool.
- Any cooked foods need to be properly stored & refrigerated to eliminate risks of growing bacteria.

Food Safety

- Keep cold foods cold.
- Keep hot foods hot.
- Make certain safety seals on food in jars, containers etc are intact.
- Freeze meat or poultry that will not be used within 2-3 days.
- Refrigerate any leftovers and discard if not eaten within three days or more.

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Food Safety

Prepared. For Life.™

Cooking/Prep First Aid

Cooking/Prep First Aid

Superficial (first degree) burn

Partial thickness (second degree) burn

Full thickness (third degree) burn

Cooking/Prep First Aid

How to treat cuts:

- As soon as you cut yourself, wash the wound immediately with soap and water in order to prevent infection.
- Apply a dry, clean dressing and hold pressure directly to the wound.
- If the bleeding is very bad you should go to the emergency room immediately.
- Cuts longer than 1 cm may need stitches; visit the doctor within the first 12 hours of cutting yourself.

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Cooking/Prep First Aid

Cooking/Prep First Aid

Burns and Scalds burns take place when contact is made with hot objects, chemicals, electrical sources, radiated heat, frozen surfaces, friction or radiation. Scalds are from boiling fluids or steam.

Cooking/Prep First Aid

Burns Treatment:

- **Step #1- Stop the burn; put the flames out. Burns continue to burn until they are cooled.**
- **Step #2- Cool the burn, large cool amounts of water. Never use ice, it causes body heat loss. Use cool compress, water soaked towel etc.**
- **Step #3- Cover the burn; Use dry sterile dressing or a clean cloth to help prevent infection. Cover lightly so air can get into wound; this will help in healing process. DO NOT BREAK BLISTERS!**

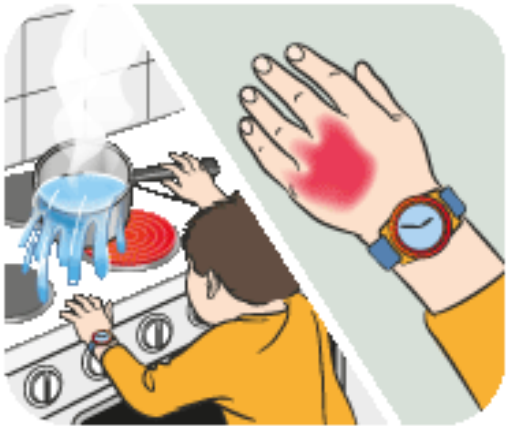
Cooking/Prep First Aid

Burns Treatment:

- **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.**

Cooking/Prep First Aid

First steps when a burn happens



A burn is an **injury to the skin from something hot** – a heater, oven, hot drink or boiling water in a kettle or saucepan. Scalds are the most common burn among children. They're caused by hot liquids.

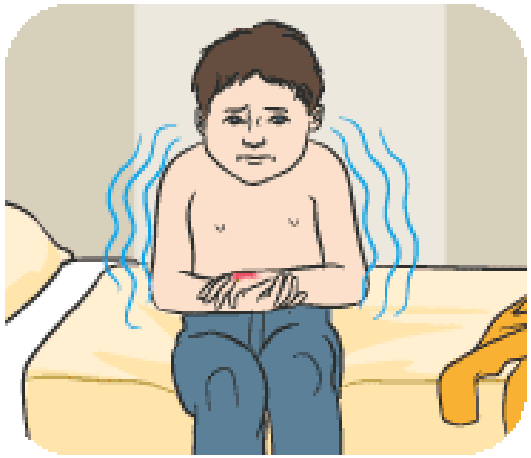
If your child gets a burn or scald, first make sure the area is safe and there is no risk of further injury to your child or yourself. Take your child to a safe place if possible.

If the burn or scald is over your child's clothing, remove the clothing immediately, if it isn't stuck to the burn. Remove watches or jewellery. Leave any blisters alone.

Cooking/Prep First Aid

First aid treatment

Treat the burn under **running water** for 20 minutes. Do this straight away. This treatment is still useful up to three hours after the burn.



Cool the burn, not the child. If the burn is large, stop cooling it after 20 minutes. This is because **hypothermia** can happen quickly in children.

Cover the burn with a loose, light, non-sticky dressing such as plastic wrap or a clean, wet cloth. Raise burned limbs.

Cooking/Prep First Aid

When to get medical attention

Don't apply ice, iced water, lotions, moisturisers, oil, ointments, creams or powders to the burn. **Butter or flour can make the damage worse.**

Call an ambulance if the burn is to your child's face, airway, hands or genitals, or if the burn is larger than the size of your child's hand.

Go to a doctor or hospital if the burn is the size of a 20-cent piece or larger, or if it's deep, raw, angry or blistered. Also go if the pain persists or is severe, or you're not sure how bad the burn is.

Cooking/Prep First Aid

CONSCIOUS CHOKING

Cannot Cough, Speak, Cry or Breathe

After checking the scene for safety and the injured or ill person, have someone CALL 9-1-1 and get consent. For children and infants, get consent from the parent or guardian, if present.

1 GIVE 5 BACK BLOWS

- **Adult:**

- **Child:**

- **Infant:**

2 GIVE 5 ABDOMINAL THRUSTS

- **Adult:**

- **Child:**

- **Infant:** (chest thrusts for infant)

TIP: *For infants, support the head and neck securely. Keep the head lower than the chest.*

3 REPEAT STEPS 1 AND 2 UNTIL THE:

- Object is forced out.
- Person can cough forcefully or breathe.
- Person becomes unconscious.

WHAT TO DO NEXT

- IF PERSON BECOMES UNCONSCIOUS — Carefully lower the person to the ground and give CARE for unconscious choking, beginning with looking for an object.
- Make sure **9-1-1** has been called.

American Red Cross

Food Related Illnesses

- **Salmonella Enteritis-** bacteria linked to raw, uncooked eggs, poultry, unwashed raw vegetables and fruits.

- **Symptoms**- nausea, vomiting, fever, abdominal pain, diarrhea, dehydration, weakness and loss of appetite.

- **Prevention**- cook food through, wash all fruits and vegetables, wipe up raw meat juice from counter and sanitize, clean utensils etc.

Food Related Illnesses

- **Staphylococcal Enteritis-** bacteria multiplies in warm temperatures and thrives on protein.
- Most commonly caused by NOT WASHING YOUR HANDS!
- **Symptoms**- nausea, diarrhea, headache, fever, chills, weakness and dizziness.
- **Prevention**- wash hands and utensils before serving food, cook meat thoroughly, refrigerate leftovers promptly and in covered containers.

Food Related Illnesses

- **Escherichia Coli Enteritis (E. Coli) - bacteria that attacks the intestinal tract.**
  - It can be transmitted from one person to another.
  - It grows at temperatures of 44 degrees and above.
  - It can cause serious illness for elderly adults and young children.
- **Symptoms - nausea, vomiting, diarrhea, fever, and abdominal cramps.**
- **Prevention - foods need to be prepared in sanitary conditions, cook food through, and refrigerate foods below 44 degrees.**

Food Related Illnesses

- **Botulism- this is a deadly disease. Ingestion of bacteria.**
- **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, cool leftovers quickly, and reheat all refrigerated leftover foods.**

Food Related Illnesses

- Trichinosis- is caused by the parasite Trichinella Spiralis. Its larvae can remain alive in humans tissue for years. You get it from eating undercooked or raw meat 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.

Food Related Illnesses

- **Hepatitis-** Hepatitis A is one of five viruses that causes inflammation of the liver. The others are B, C, D and E.
- **Symptoms** - Hepatitis A is a mild illness characterized by sudden fever, nausea, abdominal discomfort, followed by days of Jaundice. Patients with Anorexia often may have hepatitis A.
- **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.

Food Related Illnesses

- Listeria monocytogenes is the bacterium that causes the infection listeriosis. It is one of the most virulent food-borne pathogens, with 20 to 30 percent of clinical infections resulting in death.
- Symptoms- fever, muscle aches, and sometimes nausea or diarrhea. If infection spreads to the nervous system, symptoms such as headache, stiff neck, confusion
- Prevention- Wash hands, knives, countertops, and cutting boards after handling and preparing uncooked foods.
- Rinse raw produce thoroughly under running tap water before eating.
- Keep uncooked meats, poultry, and seafood separate from vegetables, fruits, cooked foods, and ready-to-eat foods.
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Food Related Illnesses

- Cryptosporidium - this parasite can be spread in several different ways, water (drinking water and recreational water) is the most common method of transmission
- Symptoms- watery diarrhea, stomach cramps or pain, dehydration, nausea, vomiting, fever
- Prevention- Do not drink untreated water from lakes, rivers, springs, ponds, streams, or shallow wells. Do not swallow water while swimming in swimming pools, hot tubs, interactive fountains, lakes, rivers, springs, ponds, streams or the ocean. Wash hands with soap and water for at least 20 seconds, rubbing hands together vigorously and scrubbing all surfaces.

Food Related Illnesses

- Norovirus - is a very contagious virus. You can get norovirus from an infected person, contaminated food or water, or by touching contaminated surfaces.
- 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.
- Prevention- Hand washing with soap and water is an effective method for reducing the transmission, especially after using the toilet and always before eating, preparing, or handling food.

Food Related Illnesses

Food Allergies & Diseases

Food Allergy is an abnormal response to food that is triggered by a specific reaction in the immune system and expressed by certain, often characteristic, symptoms.

Food Allergies & Diseases

Food Intolerance is far more prevalent, occurs in a variety of diseases, and is triggered by several different mechanisms that are distinct from the immunological reaction responsible for food allergy.

Food Allergies & Diseases

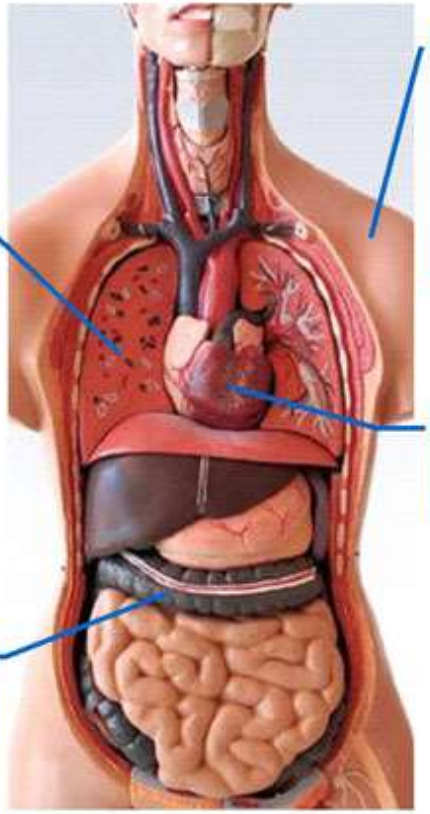
Food Allergies & Diseases

A food allergy can initially be experienced as an itching in the mouth and difficulty swallowing and breathing. Then, during digestion of the food in the stomach and intestines, symptoms such as nausea, vomiting, diarrhea, and abdominal pain can start.

When they reach the skin, allergens can induce hives or eczema, and when they reach the airways, they can cause asthma.

Food Allergies & Diseases

Food Allergy: Symptoms



Skin / mucous membrane symptoms:
- urticaria
- angio-oedema
- rhinitis
- conjunctivitis

Respiratory symptoms:
- asthma
- hoarseness

Cardiovascular symptoms:
- anaphylactic shock

Gastrointestinal symptoms:
- abdominal pain
- vomiting
- diarrhea

Food Allergies & Diseases

Food intolerances can be classified according to their mechanism.

Intolerance can result from the absence of specific chemicals or enzymes needed to digest a food substance, as in hereditary fructose or lactose intolerance.

Food Allergies & Diseases

Foodborne illness (also foodborne disease and colloquially referred to as food poisoning) is any illness resulting from the consumption of contaminated food, pathogenic bacteria, viruses, or parasites that contaminate food, as well as chemical or natural toxins such as poisonous mushrooms.

Symptoms vary depending on the cause. The incubation period ranges from hours to days, depending on the cause and on how much was consumed.

Food Nutrition

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.

Food Nutrition

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.

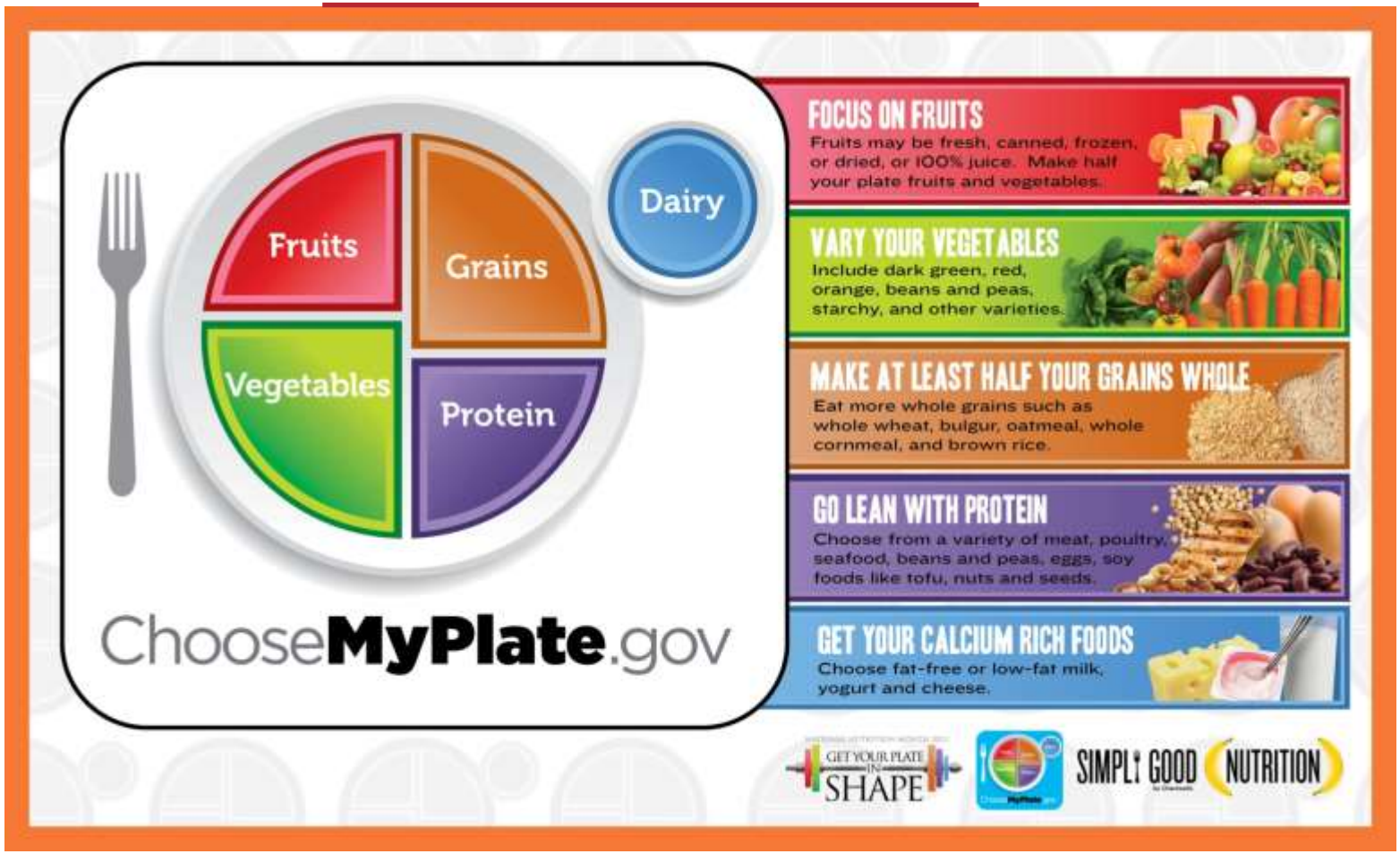
- Choose low-fat or lean meats and poultry.
- Bake it, broil it or grill it.
- Vary your choices with more fish, beans, peas, nuts, and seeds.

Food Nutrition

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

Food Nutrition



https://www.supertracker.usda.gov/myplan.aspx

Food Nutrition

FATS/OILS

- **Both the type and amount of fat you consume are important. High fat consumption makes it more likely you will gain weight because fats contain nine calories per gram compared to the four calories per gram found in carbohydrate and protein.**

- **Two types of fat, saturated fat and trans fats, are bad for you, increasing your risk for high cholesterol, heart disease and type 2 diabetes.**

- **While most types of oils consist mainly of healthier unsaturated fats, tropical oils like coconut oil and palm oil are relatively high in saturated fat.**

Food Nutrition

SUGAR

- **Diets high in added sugars may increase your risk for cavities, obesity and chronic diseases, according to the World Health Organization.**

- **Sugary foods often displace healthier foods in the diet, limiting the consumption of essential nutrients.**

- **Read labels to figure out which processed foods contain added sugars; even foods that don't taste sweet often contain some added sugar, including condiments and breads. 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.**

Food Nutrition

•Here are general tips for healthy eating:

•MEASURE your food. Calories can sneak up on you in portions that are larger than you think!

•ADD some protein to each meal. It is filling and keeps the hunger away for longer.

•PREPARE healthy snacks in advance. Keep them in baggies, ready to grab and calorie proportioned.

•COUNT your calories. Figure out how many calories you need per day (to either gain, maintain, or lose weight) and use that as a guide. There's a simple calorie calculator here. If you can cut out 3500 calories/week (through increasing exercise and eating less) you can lose about 1 lb per week. Tracking what you eat (at least for a month) will teach you what to eat and how much of it is the right amount.

https://www.supertracker.usda.gov/myplan.aspx


BASSO

Meal Planning

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.

Calorie

The **small calorie** or **gram calorie** (symbol: cal) is the approximate amount of energy needed to raise the temperature of one gram of water by one degree Celsius.
The **large calorie**, **kilogram calorie**, **dietary calorie**, **nutritionist's calorie** or **food calorie** (symbol: Cal, equiv: kcal) is the amount of energy needed to raise the temperature of one kilogram of water by one degree Celsius. The large calorie is thus equal to 1000 small calories or one kilocalorie

fat

wide group of compounds that are generally soluble in organic solvents and generally insoluble in water. Chemically, fats are triglycerides: triesters of glycerol and any of several fatty acids. 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, in reality, fat is a subset of lipid.[1]

saturated fat

A fat's constituent fatty acids may also differ in the C/H ratio. When all three fatty acids have the formula $C_nH_{(2n+1)}CO_2H$, the resulting fat is called "saturated". Values of n usually range from 13 to 17. Each carbon atom in the chain is saturated with hydrogen, meaning they are bonded to as many hydrogens as possible. Unsaturated fats are derived from fatty acids with the formula $C_nH_{(2n-1)}CO_2H$. These fatty acids contain double bonds within carbon chain. This results in an "unsaturated" fatty acid.

trans fat

Most *trans*-isomer fats (commonly called trans fats) are commercially produced; trans fatty acids are rare in nature. The *cis*-isomer introduces a kink into the molecule that prevents the fats from stacking efficiently as in the case of fats with saturated chains

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.

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.

carbohydrate

Carbohydrates, or *saccharides,* 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. There are two types of carbohydrates, **simple**, or *monosaccharides* and **complex**, or *polysaccharides*.

dietary fiber

Dietary fiber is defined as the parts of plants that cannot be digested in our bodies. They pass through the small intestine and are partially fermented in the large intestine. There are two types of dietary fiber, soluble and insoluble. Consuming more of both forms of fiber has been linked to greater longevity, through a reduction in cardiovascular disease, respiratory diseases (like pneumonia and chronic obstructive pulmonary disease, or COPD), and infectious diseases (like tuberculosis).

sugar

Sugar is the generalized name for a class of chemically-related sweet-flavored substances, most of which are used as food. They are carbohydrates, composed of carbon, hydrogen and oxygen. There are various types of sugar derived from different sources. Simple sugars are called monosaccharides and include glucose (also known as dextrose), fructose and galactose. The table or granulated sugar most customarily used as food is sucrose, a disaccharide (in the body, sucrose hydrolyses into fructose and glucose). Other disaccharides include maltose and lactose.

protein

large biological molecules, or macromolecules, consisting of one or more chains of amino acid residues. Proteins perform a vast array of functions within living organisms, including catalyzing metabolic reactions, replicating DNA, responding to stimuli, and transporting molecules from one location to another. Proteins differ from one another primarily in their sequence of amino acids, which is dictated by the nucleotide sequence of their genes, and which usually results in folding of the protein into a specific three-dimensional structure that determines its activity.

A calorie is a unit that measures the amount of energy that food provides to the body. The body turns food into fuel after it's been eaten, burning it to produce energy. Calories in food come from carbohydrates, proteins and fats. Carbohydrates contain 4 calories per gram, the same as proteins. Fats contain 9 calories per gram. Although calories from carbohydrates are all the same, their nutritional values aren't.

How to Calculate Calories From Carbohydrate Grams

Instructions

1 Find the nutritional index on the food packaging. The index lists the number of carbohydrate grams per serving. For fresh foods or for foods without packaging, use an online tool to help find the serving size and nutritional index.

2 Multiply the number of servings eaten by the number of carbohydrate grams per serving to get the total number of carbohydrate grams consumed.

3 Multiply the total number of carbohydrate grams eaten by 4 to get the carbohydrate calorie intake.

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.

Learning to Read Food Labels

Serving Size: A serving size is usually less than most people eat. If you eat 2 servings, make sure you double the calories and all of the daily values. When comparing foods, make sure, the serving sizes are the same.

Fat: This lists the total amount of fat in one serving. Try to limit the amount of saturated fat and trans fat you eat.

Cholesterol: Try to eat less than 300 mg each day.

Sodium: Try to eat less than 2400 mg of sodium (salt) each day.

Carbohydrates: These help give you energy. They are found in bread, pasta, potatoes, fruits and vegetables. Good sources of fiber include fruits, vegetables, whole grains, and beans. Try to eat 20 to 35 g of fiber per day.

Protein: Protein helps build muscle. It is found in meat, nuts, eggs, fish, and dry beans. Try to eat lean cuts of meat.

Chicken Noodle Soup

Nutrition Facts

Serving Size 1/2 cup (120 ml) condensed soup
Servings Per Container about 2.5

Amount Per Serving

Calories 60	Calories from Fat 15	
		% Daily Value*
Total Fat 1.5g		**2%**
Saturated Fat 0.5g		**3%**
Trans Fat 0g		
Cholesterol 15mg		
Sodium 890mg		**37%**
Total Carbohydrate 8g		**3%**
Dietary Fiber 1g		**4%**
Sugars 1g		
Protein 3g		

Vitamin A	4%	**Calcium**	0%
Vitamin C	0%	**Iron**	2%

*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	2000	2500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400m	2400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Calories: A calorie is a measure of energy use. Also listed is the number of calories from fat. The general rule is that no more than 30% of your calories should come from fat.

% Daily Value: This shows how much of the recommended amounts of these nutrients are in one serving (based on a 2,000 calorie diet). These percentages make it easy to compare one brand with another. Just make sure the serving size is the same. The goal is to eat no more than 100% of each nutrient each day.

Vitamins & Minerals: This shows you how much of the recommended amount of certain vitamins and minerals are in the food. Your goal is to reach 100% for each vitamin and mineral every day.

Recommended Amounts: Here you can see the recommended daily amount for each nutrient for 2 calorie levels: a 2,000 calorie and a 2,500 calorie daily diet. Your recommended daily calories may be higher or lower depending on your age, gender, and how active you are. However, notice that the recommended amount of sodium and cholesterol are the same no matter how many calories you eat a day.

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.

Reading Food Labels


YOU MEAN NO ONE THOUGHT TO PACK A MICROWAVE?

Cooking Techniques

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.

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, since regulations require propane canisters to be thick, heavy steel.

Flavor: "When you're cooking over a charcoal fire, the natural woodsmoke 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.

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.

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.

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

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 foodhandling 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.

Restaurant Manager

Food critic

Caterer

Chef

Nutritionist

Culinary Instructor

What's Next?

Blue Cards

Counselors

Brian Brennan
Melissa Bell
Bob Kingman

Workbook

Requirements/meal selection signoff

Meals

Will require coordination on camping/hiking/backpacking
Meals selected for requirements 5,6,7 MUST be approved by a counselor prior to cooking the meal.
If a counselor is not present for the meal, TAKE PICTURES!
Don't forget to get reviews/feedback on each meal