



Cooking Club Lesson Plan

Food Safety

Grades 6-12

I. Lesson Objectives:

- A. Students will recognize the basic food safety principles.
- B. Students will explain proper food and knife safety techniques.
- C. Students will prepare and taste-test a simple and healthy recipe.

II. Behavior Outcomes:

- A. Practice Food Safety

III. Pennsylvania Educational Standards:

- A. 11.3 Food Science and Nutrition
- B. 1.6 Speaking and Listening
- C. 10.1 Concepts of Health
- D. 10.2 Healthful Living
- E. 10.4 Physical Activity

IV. Materials

- A. Handouts- *Learning Zone Express "Food Safety" tear-away sheet (for 6-8 and 9-12)*, copies of recipe
- B. Additional Activities- *"Cook It Safely Puzzle" (for 6-8 and 9-12) and/or "Food: Keep or Toss?" (for 9-12; optional 6-8) worksheet*
- C. Any other necessary materials- Fight BAC® poster or other appropriate visual aide
- D. Reinforcement that conveys the appropriate nutrition message
- E. Hand wipes, gloves, hairnets/head coverings, aprons, tablecloth
- F. Food and cooking supplies needed for recipe
- G. Paper products needed for preparing and serving recipe (i.e. plates, bowls, forks, spoons, serving utensils, etc.)
- H. Ten Tips Sheet: *"Be Food Safe"*

V. Procedure: *Text in italics are instructions for the presenter, non-italicized text is the suggested script.*

A. Introductory

- 1. Lesson Introduction
 - a. *Introduce yourself and the nutrition education program/organization presenting the lesson.*
 - b. *Briefly introduce the lesson topic and recipe that will be prepared.*

B. Developmental

1. Discussion of lesson topic
 - a. *Ask students to explain some of the ways they or someone they know has defrosted food.*
 - b. Discuss some of the improper and proper ways to defrost food.
 - i. Refrigerator: This is the preferred way to defrost food. Be sure to place frozen food on a plate or dish and put on the bottom shelf. This will prevent cross-contamination by stopping any juices that are dripping from the defrosting item from getting on other items.
 - ii. Microwave: This is an acceptable way to defrost food; however, just be sure to use/cook the food right away for better quality.
 - iii. Counter/Sink: This is NOT a good way to defrost food. Defrosting food this way will most likely put food in the danger zone (40°F-140°F).
 - iv. Water: Use cold water to defrost. Cold water ensures that food will stay out of the danger zone and prevent bacteria from multiplying greatly. *Remind students that the cold water is warmer than the freezer so it will defrost the food.* Using warm/hot water will likely put food in the danger zone and is not an acceptable way to defrost food.
 - c. Review the Principles of Food Safety by using the Fight BAC® poster or other appropriate visual to aide discussion.
 - i. Clean: Thoroughly rinse foods such as vegetables and fruits to remove dirt, pesticides, and bacteria. Even if you plan to peel fruits and veggies, it's just as important to clean the outer surface. As you cut into the fruit or veggie, bacteria can spread from the outside to the inside. Thoroughly wash your hands for at least 20 seconds as well as cooking and preparation surfaces. Singing "Happy Birthday" twice is a great way to keep track of the time. Handwashing should be done before, during (e.g., when switching tasks), and after the cooking process.
 - (a) Use the example of the germs that are on their school bag or purse. Tell the students to think about all of the places they set their bags throughout the day and how these germs can cross-contaminate cooking surfaces, where they eat, or even the food that is being prepared and consumed.
 - (b) Explain to students that there is a difference between "clean" vs. "sanitized". *Surfaces, utensils, and food can all look clean, but there may be germs that the human eye cannot see. Sanitize means that something is free from dirt, infection, disease, etc.*
 - ii. Separate: Separate raw, cooked, and ready-to-eat foods while shopping, preparing and storing foods. Use one cutting board for fresh produce and a separate one for raw meat, poultry and seafood. *This will prevent bacteria on a cutting board that is used for raw meat, poultry, or seafood from contaminating a food that does not need to be cooked.*

- iii. Cook: Cook foods to a safe internal temperature to kill microorganisms. You can't tell when a food is safely cooked just by looking at it. Use a food thermometer to make sure. Tell the students that they would place the thermometer in the thickest part of the meat. The thickest section of meat will take longer to cook than the thinnest sections. *Reference the LZE tear away sheet or other appropriate handout to review proper cooking temperatures for food.*
 - iv. Chill: Refrigerate perishable foods promptly and defrost foods properly, never on the counter. Refrigerate perishable foods so total time at room temperature is less than 2 hours. Perishable foods include: meat, poultry, fish, eggs, tofu, dairy products, cooked pasta and rice, cooked dishes, cooked vegetables, and peeled/cut fruits and vegetables.
2. Discussion of Key Concepts
- a. Discuss sanitation practices. It is important to wear gloves, hairnets, and aprons. It is also important to wash your hands before grabbing gloves, as well as before and after handling food, cooking utensils, or cooking surfaces.
3. Discussion of Knife Safety
- a. Knife use: *Tell students to use the 'claw' method as much as possible. Show them an example by curling your fingers like you're holding a ball.* Hide fingernails and show knuckles. This prevents finger tips from getting in the way. Always watch your food while you're cutting it so that it doesn't slip.
 - b. Knife Height: Height should never be higher than 6 inches off the board. Cutting should always take place on a flat clean surface.
 - c. Knife Travel: Best not to travel with knife. Put the knife flat on the cutting board. Don't carry food or a cutting board at the same time as the knife. If you must travel with the knife, it should point downward and the blade should face behind you.
 - d. Passing: Don't pass from one person to another. Set the knife down on the board so that the other person can pick it up.
 - e. Knife Cleaning: Do not put knives in a soapy sink with other dishes. Set them aside and put them in a separate bin or sink. This is to prevent potential injuries and to keep knives from getting misplaced. While cooking, clean knife from the top of the knife down to the point. Never clean from the underside (sharp) of knife as you will likely cut yourself.
 - f. Cutting Boards: Use these when cutting food instead of countertops or other surfaces. Other surfaces may dull the blade and make it harder to handle the food and knife. Cutting boards should be thoroughly cleaned and sanitized after each use. Wash cutting boards with hot soapy water after each use; then rinse with clean water and air or pat dry with clean paper towels. Do not use the same cutting board for multiple foods such as meats and produce. This could cause cross-contamination.

4. Cooking Activity
 - a. *Distribute copies of recipe to students. Suggested recipes are provided but may be altered as needed. When selecting a recipe, choose recipes that have ingredients from at least three food groups and can be prepared within the allotted time.*
 - b. *Review the ingredients and instructions for preparing the recipe.*
 - c. Explain to students the six parts of the recipe.
 - i. *Serving Size-Measured amount of each portion.*
 - ii. *Yield- How many servings the recipe makes.*
 - iii. *Time- How long it takes to prepare and cook the recipe.*
 - iv. *Ingredients- Shows all of the food needed and the amounts.*
 - v. *Instructions- Lists step by step directions; read all directions before you begin to prepare the recipe. Mention to the students that the instructions don't list the amount to be measured and that they need to reference the ingredients list.*
 - vi. *Nutrition Facts- Tells the amount of nutrients in one serving of the recipe.*
 - d. *Remind students of food safety guidelines and proper cooking equipment use.*
 - e. *Involve students in food preparation and cooking. Choose volunteers and assign each student a task or have groups of students take turns assisting.*
 - f. *Discuss the following points while cooking:*
 - i. *Have students identify in which food group each ingredient belongs.*
 - ii. *Grades 9-12: Discuss the nutrients that are found in the ingredients.*
 - g. *Provide each student with a sample sized portion of the recipe to taste.*
5. Additional activities: *may be used with students who are not participating in cooking or as a follow-up activity*
 - a. *"Cook It Safely Puzzle" (for 6-8 and 9-12) and/or "Food: Keep or Toss?" (for 9-12; optional 6-8) worksheet*

C. Conclusion

1. Review take-away messages from lesson.
 - a. *Ask students to list the basic food safety principles.*
 - b. *Ask students to explain ways to properly handle food and knives during cooking.*
 - c. *Ask students to list the different food groups included in the recipe.*
2. Distribute the reinforcement, read the message and/or explain the reason why they are receiving the reinforcement.
3. Distribute Ten Tips Fact Sheet (or other appropriate fact sheet) and encourage students to share it with their families.
4. Thank the students for their participation and answer any question they may have.



This material was funded by USDA's Supplemental Nutrition Assistance Program (SNAP) through the PA Department of Human Services (DHS). This institution is an equal opportunity provider.

FRESH SALSA

Serving Size: 1/2 cup

Yield: 4 servings

Ingredients:

- 2 chopped tomatoes
- 1/2 chopped onion
- 1 chopped green pepper
- 3 finely chopped jalapeno chilies, seeded if desired
- 1/4 cup chopped cilantro
- 1/4 teaspoon salt
- 1 juiced lime

Instructions:

In a medium bowl, mix all ingredients.
Serve or store salsa in refrigerator for up to three days
in a covered plastic or glass container.

Source:

SNAP-Ed Connection

<http://recipefinder.nal.usda.gov>

Nutrition Facts	
Serving Size 1/2 cup prepared salsa, 1/4 of recipe (126g)	
Servings Per Container	
Amount Per Serving	
Calories 30	Calories from Fat 0
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 150mg	6%
Total Carbohydrate 6g	2%
Dietary Fiber 2g	8%
Sugars 3g	
Protein 1g	
Vitamin A 20%	• Vitamin C 35%
Calcium 2%	• 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 2,000 2,500
Total Fat	Less Than 65g 80g
Saturated Fat	Less Than 20g 25g
Cholesterol	Less Than 300mg 300 mg
Sodium	Less Than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Calories per gram:	
Fat 9 • Carbohydrate 4 • Protein 4	



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Mango Salsa

Yield: 12 servings

Serving size: ½ cup

Preparation time: 30 minutes

Total time: 30 minutes

Ingredients:

2 mangos

1 red bell pepper

1 small red onion

1 avocado

½ cup fresh cilantro

1 15 ounce can black beans, 50% less salt

1 lime

Whole grain tortilla chips

Instructions:

1. Peel and dice mangos; dice red pepper and onion. Carefully cut avocado in half around the pit and separate halves. Scoop out avocado from the skin and dice. Chop cilantro. Place all in a large bowl.
2. Open can of black beans and drain and rinse beans. Add beans to bowl.
3. Slice lime in half and squeeze juice over mixture in bowl then stir to combine all ingredients.
4. Spoon salsa onto plates and serve with whole grain tortilla chips.

Nutrition Facts	
Serving Size 1/12 of recipe 106g (105 g)	
Servings per container 12	
Amount Per Serving	
Calories 88	Calories from Fat 22
% Daily Value*	
Total Fat 3g	4%
Saturated Fat 0g	2%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 119mg	5%
Total Carbohydrate 14g	5%
Dietary Fiber 4g	15%
Sugars 6g	
Protein 3g	
Vitamin A 12%	Vitamin C 42%
Calcium 2%	Iron 5%
*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
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Fiber	25g 30g
Calories per gram: Fat 9 • Carbohydrate 4 • Protein 4	
©www.NutritionData.com	



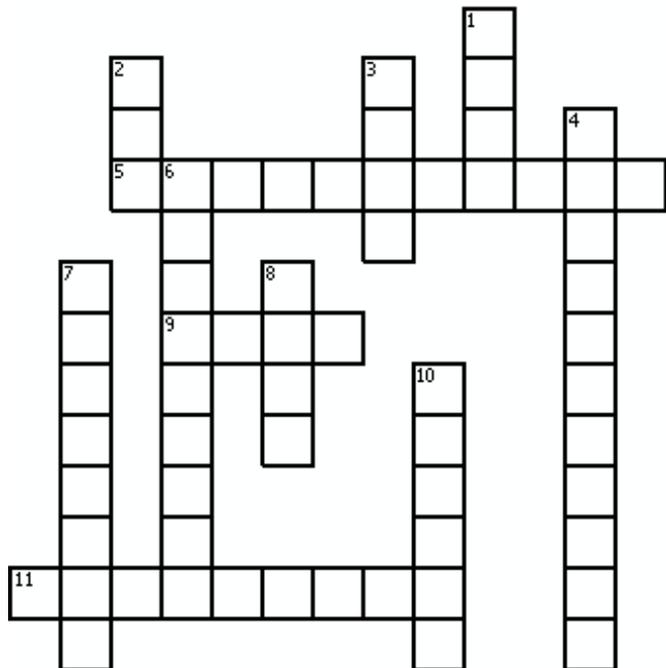
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Cook It Safely Puzzle

- Keep food safe from bacteria.
- You can't see, smell, or taste bacteria, but they can be on and in your food and make you sick.
- Cooking your food destroys the bacteria.
- Bacteria grow rapidly in the "Danger Zone," the temperatures between 40 °F and 140 °F.
- Take your food's temperature by using a food thermometer.
- Make sure your thermometer is clean. Wash it after every time you take a temperature.
- A hamburger's temperature should be 160 °F.
- Make sure your leftovers are safe. Reheat them to 165 °F.
- Be sure sauces, soups, and gravies come to a boil.
- Let food sit for a few minutes after cooking in a microwave.
- For food safety, keep hot foods hot.

DOWN

1. Keep food _ _ _ _ from bacteria.
2. Keep hot foods _ _ _ .
3. _ _ _ _ your food to destroy bacteria.
4. Use a food thermometer to take your food's _ _ _ _ _ _ _ _ _ _ .
6. Cook a _ _ _ _ _ _ _ _ _ to 160 °F.
7. You can't see, smell, or taste them.
8. Not cooking food thoroughly can make you _ _ _ _ _ .
10. The temperatures between 40 °F and 140 °F are in the _ _ _ _ _ _ _ zone.



ACROSS

5. Make sure you clean it after every time you use it.
9. Sauces and soups need to come to a _ _ _ _ to be safe.
11. After being cooked in a _ _ _ _ _ _ _ _ _ , allow food to sit for several minutes.

<http://www.foodsafety.gov/~fsg/f99cword.html>



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Answers to Crossword Puzzle

Down

1. Safe
2. Hot
3. Cook
4. Temperature
6. Hamburger
7. Bacteria
8. Sick
10. Danger

Across

5. Thermometer
9. Boil
11. Microwave



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Let's Play ... FOOD: Keep or Toss?



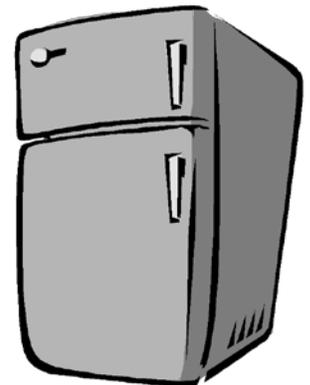
Alice Henneman, MS, RD, UNL Extension in Lancaster County
Joyce Jensen, REHS, CP-FS, Lincoln-Lancaster County Health Department

Should you “Keep” or “Toss” the following foods? Circle the correct answer.

1. Tacos left on the kitchen counter overnight? KEEP TOSS
2. Meat thawed all day on the kitchen counter? KEEP TOSS
3. Cut or peeled fruits and vegetables left at room temperature MORE than 2 hours? KEEP TOSS
4. Leftover pizza placed in the refrigerator within 2 hours after it was cooked? KEEP TOSS
5. Leftovers kept in the refrigerator for over a week? KEEP TOSS

ANSWERS:

1. **TOSS.** Even if you reheat tacos left out overnight, some bacteria can form a heat-resistant toxin that cooking won't destroy. **Refrigerate perishable foods within 2 hours!**
2. **TOSS.** As with the tacos, bacteria may have formed a heat-resistant toxin when the meat was left on the kitchen counter.
The best place to thaw frozen perishable foods — like frozen meat, poultry, seafood, vegetables, fruit and cooked pasta and rice — is in the refrigerator! Make sure your refrigerator is 40°F or lower.
Thaw packages of meat, poultry and seafood on a plate on the bottom shelf of the refrigerator. This prevents their juices from dripping on other foods.
When thawing perishable food in the microwave, cook it immediately after thawing. Some areas of the food may start to cook during microwave thawing and become warm. Any bacteria present would not have been destroyed and may reach optimal temperatures for growth.



Know how. Know now.



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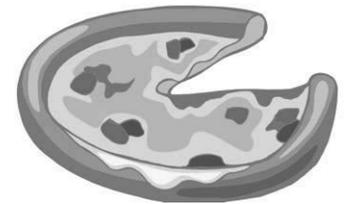
3. **TOSS.** When fruit is peeled or cut, bacteria on the outside can be transferred to the inside. Refrigerate cut/peeled fruits, veggies & other perishable foods within 2 hours! Just 1 bacteria in foods can grow to 2,097,152 bacteria in 7 hours!

Cleaning Fruits and Veggies

1. Remove and discard outer leaves.
2. Rinse under clean, running water just before preparing or eating.
Don't use soap or detergent as it can get into produce and make you sick. Rinse fruits with peels — even when the peel is removed — such as melons and citrus fruits!
3. Rub briskly — scrubbing with a clean brush or hands — to clean the surface.
4. Dry with a clean cloth or paper towel. Moisture left on fruits and vegetables helps bacteria grow. Dry them if you won't eat or cook them right away.
5. Cut away bruised and damaged areas.



4. **KEEP.** If perishable foods have been at room temperature less than 2 hours (1 hour in temperatures above 90°F), they should be safe. Refrigerate promptly; eat within 3 to 4 days.



5. **TOSS.** Even refrigerated leftovers may become unsafe within 3 to 4 days. You can't always see or smell or taste if a food is unsafe. You could get sick tasting a food!



Remember: When in doubt ... TOSS IT OUT!!!



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Resources:

Alabama Cooperative Extension System. The Food Spoilers: Bacteria and Viruses. <http://www.aces.edu/pubs/docs/H/HE-0654>. Accessed June 15, 2010.

USDA. Safe Food Handling -- How Temperatures Affect Food. http://www.fsis.usda.gov/factsheets/how_temperatures_affect_food/index.asp (Accessed June 15, 2010).

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U.S. Food and Drug Administration. Produce Safety – Safe Handling of Raw Produce and Fresh-Squeezed Fruit and Vegetable Juices. <http://www.fda.gov/Food/ResourcesForYou/Consumers/ucm114299> (Accessed June 15, 2010).

Source of images: Microsoft Image and Media Library

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Updated 6/2010 • This publication has been peer reviewed.