

# The Lonely Germ Preventing Germs from Spreading Between Foods

## Target Audience:

Upper Elementary School Children  
Middle School/ Jr. High School Children  
High School Students  
Adults

## Topic Areas:

E Coli, Salmonella and Their Friends – Tell Me More!  
Keeping Germs Out of the Kitchen  
Cooking

## Objectives:

- Prevent cross contamination by keeping raw meats from touching other raw food items that won't be cooked before eating like raw chicken and lettuce.
- Wash fruits and vegetables before using
- Keep cold foods cold. in Refrigerator temperature should be at 40° F)
- Wash everything that touches food, with hot soapy water before it touches another food, especially when preparing meat like knives and cutting boards.
- Wash hands with hot, soapy water before and after handling food, especially meat. After going to the bathroom, changing diapers and handling pets.
- Store foods that are brought home properly to avoid cross-contamination

# **The Lonely Germ Preventing Germs from Spreading Between Foods**

## **Lesson Creators:**

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## **Purpose:**

The purpose of this lesson is to help participants prevent cross-contamination by safely bagging foods at the supermarket and storing foods in the kitchen. Also, participants will learn to use the right methods to clean foods before eating.

## **What the Nutrition Educator Needs to Know So That Participants' Questions Can Be Answered:**

Cross-contamination happens when germs are passed from one food to another. If you touch a piece of raw chicken and then eat an apple without washing your hands the germs from the chicken that are on your hands can be passed to the apple. You can get sick from the germs that are now on the apple. Germs are found in meats, fish, raw eggs, and poultry. If you are not careful the germs can spread to other raw foods like vegetables or fruits.

You can prevent cross-contamination by keeping your food safe. It is important to think about food safety when food is bought, handled, cooked, or eaten. Food safety is important at the grocery store, at home, on a picnic, and at a restaurant. These steps can help you "Fight Bac!" against germs and keep your kitchen safe.

- Place raw meat, poultry, and seafood away from other food as much as you can in the shopping cart.
- Store raw meat, poultry, and seafood on the bottom shelf of the refrigerator so the juices from them do not drip onto other foods.
- Store raw meat, poultry or seafood in sealed containers or bags so the juices do not drip onto other foods.

- Use one cutting board for raw foods like meat, poultry and seafood that are going to be cooked. Use another for foods that are not going to be cooked like raw fruits and vegetables and bread.
- Always wash your cutting boards, knives and other cooking tools with hot soapy water after they have touched raw meat, poultry and seafood.
- Never put cooked food on a plate that had raw meat, poultry, or seafood on it.  
2,3

### **Keeping it Clean:**

Preventing cross-contamination begins washing your hands before, during, and after touching food. This will help keep germs out of your food Keep sores or cuts covered while cooking and tie back your hair so it does not fall into food.<sup>4</sup>

To keep your food safe you also need to keep your kitchen clean. Clean cutting boards, kitchen tools, plates, platters, utensils and, pots and pans after each time you use them. The USDA Meat and Poultry Hotline (1-800-535-4555) recommends you use a smooth cutting board made of glass or plastic when cutting meat and poultry because they are easier to clean. Remember one board should be used for cutting raw meats, poultry, and seafood. and another board should be used for cutting foods like breads, fruits, and vegetables. Each time raw meat touches a tool, cutting board, or surface, some of the germs from the meat are left behind. All foods that later touch this surface can pick up those germs and may make you sick so be sure to clean them before using them again. Cutting boards will wear out over time. When cutting boards are worn out they get deep grooves from all of the use. Replace old cutting boards when they have deep grooves and are too hard to clean. Germs can get trapped in the grooves. It is a good idea to replace them when this happens.<sup>2</sup>

It is also a good idea to sanitize in addition to cleaning your cutting boards and kitchen tools after each use. To do this you can run them through a dishwasher or wash them and then sanitize them with a mix of bleach and water. See below for how to make a sanitizing mix.

A bleach sanitizing mix can be made from:

- To make a quart of solution use 1 teaspoon of bleach with 4 cups or 1 quart of water; or
- To make 2 cups of solution use ½ teaspoon of bleach + 2 cups water; or
- To make w cup of solution use ¼ teaspoon bleach + 1 cup water.<sup>1</sup>

This solution **can be used for 24 hours**. After that it will lose strength and then must be thrown out and mixed again.

To sanitize your cutting board pour the bleach mix on and let it sit for a few minutes.

Rinse it with clean water and either air dry or pat it dry with clean paper towels.<sup>3</sup> You may want to wear gloves when using bleach so your hands do not get dry and smell from chlorine,

Below are some other hints to follow to keep germs from spreading in your kitchen.

- Do not put cooked meat on an unwashed plate or platter that has held raw meat. Wash fruits and vegetables with cold water before eating them. When you cut or peel fruit it can become contaminated with bacteria if it is not washed first.<sup>5</sup>
- Wash lids of canned sodas, soups, and vegetables before opening them.
- Clean the blade of the can opener after each use.
- Take apart and clean food processors and grinders after food has touched them.

### **Raw Eggs**

Raw eggs have a 1 in 10,000 chance of having some bad bacteria (Salmonella). The more eggs you pool together, the more risk that you will have bad bacteria in the eggs you are going to eat. We tell people it is best not to eat raw eggs. Egg products, such as liquid or frozen egg substitute you buy in the store are pasteurized, so it's safe to use them in recipes that do not need to be cooked. However you should only use raw eggs in a recipe that will be cooked. It is really important not to use raw eggs if you are serving pregnant women, babies, young children, older adults, and people with weakened immune systems.<sup>1</sup>

### **References:**

1. Eggs and Egg Products. *Food Safety.gov* Retrieved May 10, 2012, from <http://www.foodsafety.gov/keep/types/eggs/>
2. (2010, May 11). Safe Food Handling. Refrigeration and Food Safety. *USDA Food Safety and Inspection Services*. Retrieved May 23, 2012 from, [http://www.fsis.usda.gov/Factsheets/Refrigeration\\_&\\_Food\\_Safety/index.asp](http://www.fsis.usda.gov/Factsheets/Refrigeration_&_Food_Safety/index.asp)
3. (2010, December 15). Be Smart. Keep Foods Apart. Don't Cross Contaminate. *USDA Food Safety and Inspection Services*. Retrieved May 22, 2010 , from [http://www.fsis.usda.gov/fact\\_sheets/be\\_smart\\_keep\\_foods\\_apart/index.asp](http://www.fsis.usda.gov/fact_sheets/be_smart_keep_foods_apart/index.asp)
4. (2011, March 22) Consumer information from the USDA: Cleanliness Helps Prevent Foodborne Illness. *Food Safety Inspection Service (FSIS)*. *USDA*. Retrieved May 4, 2012, from, [http://www.fsis.usda.gov/Fact\\_Sheets/Cleanliness\\_Helps\\_Prevent\\_Foodborne\\_Illness/index.asp](http://www.fsis.usda.gov/Fact_Sheets/Cleanliness_Helps_Prevent_Foodborne_Illness/index.asp)  
[http://www.fsis.usda.gov/fact\\_sheets/Refrigeration\\_&\\_Food\\_Safety/index.asp](http://www.fsis.usda.gov/fact_sheets/Refrigeration_&_Food_Safety/index.asp)

5. Raw Produce: Selecting and Serving it Safely. *US Food and Drug Administration "Food Facts."* Retrieved June 27, 2013 from <http://www.fda.gov/food/resourcesforyou/consumers/ucm114299.htm>

**For Additional Reading:**

1. Check Your Steps. *Food Safety.gov*. Retrieved May 22, 2012, from <http://www.foodsafety.gov/keep/basics/index.html>
2. (2012, February 21). Nibbles for Health: The ABC's of Hand Washing. *Nutrition Newsletters for Parents of Young Children, USDA, Food and Nutrition Service*. Retrieved May 22, 2012, from <http://www.fns.usda.gov/tn/Resources/nibbles.html>

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## Main Themes:

Nutrition & Diet

Cooking & Food Storage

Shopping

Budgeting

Safety & Sanitation

## Materials Needed:

Food models (a variety of meats, fruits, and vegetables)

White plastic bags or paper bags if they are handy (6-15 depending on group size)

Sample shopping lists with 8-10 food items each. You could use the ones at the end of the lesson or make your own according to the food models you have.

Poster board (three pieces, folded in half to stand on their own) One piece of poster board should read “REFRIGERATOR 40°F”, one piece of poster board should read “FREEZER BELOW 32°F”, and the final piece of poster should read “PANTRY OR CUPBOARD.”

Optional: blackboard/chalk or poster board/marker to list food safety rules

Optional: fresh fruits or vegetables, either ready-to-eat (washed with cold water), or for the participants to practice washing themselves.

## Time the Activity is Expected to Take:

Activity 1: 25 minutes

Activity 2: 25 minutes

Activity 3: 10 minutes

Next Week’s Goals: 5 minutes

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## Lesson Plan:

### Activity 1: “Bag IT!” (25 minutes)

The purpose of this activity is to show safe ways of bagging foods at the store. It is best if you can do this lesson at a real food store, but if you can't travel, you can create a sample store in your class.

1. Break the class into groups of 3-4 people, or as many groups as you have brought food models for. Explain to the class that some foods like meat may have lots of germs. They should be kept away from foods like fruits, vegetables, and milk. This includes keeping these foods away from each other while food shopping.
2. Hand out to each group one sample shopping list with 8-10 items on it. You can make these lists before the class and use them each time you teach this lesson. Remember that you need to have enough food models available for all of the foods covered on your lists and that each list should have a mixture of foods from the meat group, dairy group, fruit group, and vegetable group.
3. Provide 3 plastic bags for each group. Give each group 5 minutes to talk about how they should safely bag foods to avoid spreading germs. Then, allow them 5 minutes to ‘buy’ the items on the list and put them in the proper bags
4. Have a person from each group explain why they bagged their food the way they did. As the teacher, you should direct class discussion so all the groups learn to bag food safely. After each group explains their bagging, ask the participants:
  - Do you usually bag your food like this?
  - When would or do you not bag this way? Some reasons the class could say are:
    - that they have no time,
    - they cannot bag their own food when at the grocery store,
    - or they do not want to waste paper or plastic.
  - Are there any other safety tips not listed that you practice at home to keep your food safe when handling, preparing, and shopping for food?
  - What are some ways that would help you remember to use some of the tips discussed?

## **Activity 2: “Store IT!” (25 minutes)**

1. Keep the class in the same groups. Show the labeled and folded poster boards in a place where all the groups can see them. Explain to the class that they have now brought the food home from the store, and must put them away in the correct places.
2. Have the class begin putting the food away in the places they see fit. While they are doing so, walk around the room and see how each group puts their food away.

Ask each group to explain to the class how they put their food away. After each group goes, ask the rest of the class if they would make any changes to keep their food safe. After all the groups explain their methods, sum up the activity by telling them the following rules:

- Refrigerated items must go in the refrigerator, frozen items in the freezer, and items that do not need to be refrigerated in the cupboard or pantry.
  - Meats should be stored away from fruits and vegetables in the refrigerator.
  - Meats should be put away last. If you put meats away before other items, you must wash your hands so you do not contaminate any of the other food items.
  - Meats must be placed or put into containers so that the juices do not drip on or touch other foods.
3. Briefly discuss with the class why it is important to store foods according to the rules just said. Begin by asking:
    - At home, do you usually put groceries away as you did here?
    - What do you do differently?
    - Will the rules change your choices as to where things go?
    - What other rules do you follow when you put foods away?
  4. Ask the participants what goals they will set for shopping and storing food the next time after doing the exercise.

## **Activity 3: “Eat IT!” (10 minutes)**

The moment of truth has arrived. The best thing about safe food bagging and storage methods is that you get to eat a safe food item in the end. The purpose of this activity is to show safe ways to wash fruits and vegetables. If are able, you can bring some fruits and vegetables to the class for all to enjoy. Bring in washed or unwashed fruits and/or vegetables, but be sure to mention to the class what you have brought in. Lead a class discussion about safe ways to wash fruits and vegetables before eating.

1. By a show of hands, ask the class how many of them think washing fruits and vegetables before eating is important. Count the number who raised their hands.
2. Now, ask the group to raise their hands if they always wash their fruits and vegetables before eating them. Count this number as well.
3. Explain to the group that you would now like them to think about the path fruits and vegetables take before they get to your table. Ask the group to name some places, people, or things that come into contact with fruits and vegetables before they eat them. If the group needs help, offer these ideas:
  - In the field, farmers, chemicals, bugs, wild animals, dirt, and farm machines touch fruits and vegetables.
  - After crops are picked, fruits and vegetables must be taken to local farm stands, super markets, farmer's markets, or industries. This means more handling by workers that transport fruits and vegetables.
  - Once fruits and vegetables have found their way to markets and farm stands, they are ready for sale. Before you buy them, many hands touch them: the grocery store staff, the cashier, and many choosy shoppers and their children.
  - Once you choose the fruits and vegetables that you will be buying, they are placed in your cart with other items, such as foods like raw meats and eggs.
  - Finally, you bring the fruits and vegetables home and unpack them. If you unpack other items first, you might spread germs that are on meats, to the fruits and vegetables.
4. Record on the blackboard or poster board the ideas that the class has on the path that fruits and vegetables take before they get to your table. Once you have the answers listed, ask the class if they will wash their fruits and vegetables the next time they eat them.
5. Tell the class that when they cut up their fruits and vegetables, they should make sure they either use a different cutting board than they use to cut meat, or that they clean it well and sanitize it before cutting the produce. They can put glass, plastic, and solid wood cutting boards in the dishwasher. They can use a mixture of chlorine bleach (1 teaspoon) and water (1 quart) to sanitize. This will kill any germs still living after washing with soap and water.
6. Tell the class that if the outside of the vegetables are not cleaned well before they cut or peel them, germs can get inside.
7. If you are able to by the end of class, have the class enjoy the sweet taste, of safely washed and prepared fruits and vegetables. Either you or the class can safely wash and prepare them. Let the class know that fruits and vegetables with tough skins like apples, pears, cucumbers and carrots can be washed with a mild soap and

water. The soap releases dirt and germs on the surface. Rinse the fruits and vegetables well to remove all the soap and germs. If there is extra time, you can retrace the path of the food that they are eating. Picking, packing, shipping, storage, etc. is all part of a day in the life of a fresh fruit or vegetable.

8. If there are any extra fruits and vegetables, allow the class to take some home for their family, friends, or for themselves. Encourage the group to use the same food washing and handling techniques at home that they learned today in class.

### **Next Week's Goals: (5 minutes)**

1. Ask the participants to name one thing that they learned in today's class that they will use. Make sure that each learning objective is mentioned, and if not, be sure to talk about the objective again. . Ask them to choose a related goal to work on during the week. Let them know that they will be sharing their personal experiences during the next class.
2. Invite comments, suggestions, or questions.
3. Thank the participants for coming and tell them what the next class will be about

### **For the Teacher: "What makes this lesson behaviorally focused?"**

- Activity 1: #2-#3 invites them to come up with ways to bag their groceries to reduce cross contamination between different foods. They practice the behaviors that they discussed among the group to bag groceries in order to prevent cross contamination.
- Activity 1: #4 Participants teach themselves and others, different ways to bag groceries in their explanations of how their group bagged the foods. They are asked to talk about real problems in the supermarket checkout line, and come up with possible ways to fix that problem and that they would be willing to try in the future.
- Activity 2: #1 looks at storing behaviors and allows participants to practice and discuss how they store food in their homes. In Activity2: #2 the participants talk about their group decisions of where to put their groceries in the kitchen, and the class discusses choices they plan to use at home.
- In Activity 3, #3, participants think about the "path" a particular fruit or vegetable takes from farm to plate. Participants identify their current habits in this area and after thinking about it, they tell whether or not they plan to change their habits

- All of the activities in this lesson allow the participants to set goals and take the food safety hints learned in class home to their own kitchens.
- In Next Week's Goals, the participants are invited to name one thing that they learned during the class that they will use. Through this activity and by reviewing the objectives again, the participants are reminded of the many topics discussed during the lesson. They will choose the habits that they will want to work on during the coming week.



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# Shopping List #1

Corn  
Banana  
Chicken legs  
Pasta  
Hamburger  
Watermelon  
Cottage cheese  
Oatmeal  
Pizza w/ meatballs  
Grilled chicken breast

10/4/12



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## Shopping List #2

Pork Chop  
Green beans  
Cheese  
Muffin  
Grapes  
Carrots  
Chicken Breast  
Pancakes  
Baked Beans  
Mashed potatoes

10/4/12



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# Shopping List #3

Cooked Spinach  
Apple  
French-fries  
Cereal  
Cauliflower  
Oatmeal  
Sliced Turkey breast  
T- bone steak  
Cheese

10/4/12



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