



Session 1: Maniacs Have Snack Attacks

Content Learning Objectives:

- Learn what bacteria are and how they can make you sick.
- Discover how to prevent foodborne illness by using safe food handling practices.
- Prepare three nutritious snacks using food safety techniques learned.
- Reinforce the importance of healthy eating and physical activity through various fun activities, interactive games and taste testing opportunities.

Key Components:

- Every year, millions of people may experience one or more episodes of foodborne illness, without ever knowing that it was food that caused the problem. Generally, foodborne sickness can be prevented if safe food handling practices are followed.
- What are bacteria?
 - Bacteria are living organisms that can cause disease and make you sick.
 - Bacteria are too small to be seen without using a microscope. You cannot see, smell, or taste bacteria that are in food.
 - What do bacteria look like? Display pictures of bacteria such as salmonella, E.coli, staphylococcus, and/or listeria, magnified under a microscope to show what bacteria look like. Explain that in order to look at bacteria you need special equipment that magnifies it so that they can be seen by our eyes. Briefly discuss the different types of bacteria displayed and how they can make you sick.
 - Bacteria need food, moisture, temperature, and time to grow. In the right conditions, bacteria can multiply approximately every 20 minutes.
 - Jelly bean jar display (see experiential learning section)
 - Agar plate activity: Using agar plates, have youth inoculate the plates with bacteria with dirty fingers, a door knob, cough or sneeze, hair, dirty dishrag or sponge, countertop, spoon someone used to taste. Explain that next week they will be able to see how the bacteria, when given food, water, and the right temperature, will multiply and grow.
- Good food safety and sanitation practices can keep bacteria from multiplying.
 - **Wash hands often and correctly**
 - Why should hands be washed? Answer: proper hand washing helps reduce the chance of transferring bacteria to the food you are making.

- Ask youth when hands should be washed? Answer: after using the restroom, when touching hair or face, touching unclean equipment and countertops, after sneezing or coughing, after handling raw meat, fish, or poultry, before or after preparing or eating food, after touching pets.
 - Demonstrate the 20-second handwashing rule then have youth practice using the black light activity.
 - **Keep hot foods hot and cold foods cold**
 - Bacteria need the right 40°-140° F temperature to grow. This temperature where bacteria grow best is called the “Danger Zone” (A free USDA visual of the Danger Zone can be found at <http://www.fsis.usda.gov/OA/pubs/cfg/Color/jpg/07-dangerzone.jpg>). Keeping food hot or cold does not allow bacteria to grow. What are ways to keep food hot or cold?
 - The longer that food sits out in the danger zone the more time bacteria have to grow. Never leave food out for more than *two hours*.
 - Ask youth how they will know if food is hot or cold enough? Show them a bi-stem thermometer. Explain how a thermometer is the only way to know for sure if a food is not in the danger zone. Which food items being used today need to be kept hot or cold? Which foods are safe to store at room temperatures?
Cold: cream cheese, pizza sauce once opened; pepperoni slices, spray butter, mozzarella cheese
Hot: pizza poppers once they are cooked
Room temperature: peanut butter, bread, cinnamon, sugar, marshmallows, apples, crackers, pizza sauce unopened
 - **Keep counters clean and cooking equipment clean**
 - Areas where food is prepared should be kept clean. Remind children that some things like backpacks, pets, and smelly shoes do not need to be on countertops.
 - Use plenty of hot sudsy water when you wash dishes, pots, and pans.
 - Use clean towels and sponges.
 - Countertops and sinks need to be kept clean and sanitized.
 - Using a spray bottle container, chlorine bleach and water have youth help prepare a sanitizing solution. Explain how a solution of 1-tablespoon bleach to 1 quart of water (not hot) can be used to sanitize or “kill” bacteria.
- Play “Bacteria Attack” (Directions listed in experiential learning activities section)
- Prepare recipes
- Evaluate session using “Where Should You Store These Foods” worksheet

Experiential Learning Activities:

- Activity: Observing Bacteria
 - *Agar Plates:* Purchase 6 commercially prepared agar plates. Using cotton swabs, have youth inoculate the plates: dirty fingers, a door knob, cough or sneeze, hair, dirty dishrag or sponge, countertop, spoon someone used to taste. To discourage children from opening, place plates in sealable plastic bag. Agar plates need to set for approximately 48 hours in a warm dark place to allow bacteria to grow. Agar plate source: www.sciencekit.com Item #6564600 Medium Prepared Bacteriological, nutrient agar 6 plates Phone: 1-800-828-7777. \$14.57 including shipping.
 - *Bacteria pictures:* Discuss pictures of specific bacteria such as E-coli, salmonella, and staphylococcus. What do they look like? Can we see them on food, hands, and countertops? (no) How might they make us sick? (by toxins made by bacteria or the bacteria themselves growing) What are ways bacteria can be killed? (correct cooking temperatures, sanitizing)
- Activity: Jellybeans-Place jellybeans in a clear container to show how bacteria double approximately every 20 minutes in the right conditions. Place in each jar the following number of jellybeans: 10, 20, 40, 80, 160, 320, 640. Have children guess how many jellybeans are in the last jar.
- Activity: Handwashing
 - Apply a drop of glow germ lotion to each youth's hands and have them rub it all over. Let them look at their hands under the black light. Ask them to wash their hands with soap and water for 20 seconds. Look at their hands again under the black light to see how well they have removed the "germs" from their hands.
- Activity: Prepare sanitizing solution in a spray bottle using chlorine bleach and water. Use cleaning solution to sanitize tabletops prior to food preparation.
- Activity: Safe Food Storage: Before preparing recipes display ingredients and have youth discuss which food needs to be kept cold, hot or is safe at room temperature.
- Physical Activity: Bacteria Attack
 - *Equipment needed:* none
 - *Explain to participants:* Today we learned about bacteria. One of the important things about bacteria is that it can grow and multiply very quickly. Does anyone remember how fast bacteria can multiply (in the right conditions, every 20 minutes)? Now we are going to play a game called Bacteria Attack.
 - *How to play:* One person is deemed "bacteria". The bacteria chase all the other players until someone is tagged. Once tagged, that player becomes a bacteria and joins hands with "bacteria". They run together and chase the rest of the players. The person that they catch links hands with the chain. Once four people are caught, they can either stay together or split into two

groups. As more people are caught, they can stay together or split apart in even numbers at will. Play until all are caught.

- Sanitize food preparation area, properly wash hands, and prepare recipes
 - Cinnamon Snails
 - Pizza Bites
 - Maniac Smiles

Handouts:

- “Munchin’ Maniacs Snack Attack” Recipes
- “Where Should You Store These Foods” evaluation worksheet

Lesson Materials:

- Bacteria display pictures
- Jelly bean jars
- Black light and Glo Germ lotion
- Danger Zone chart (A free visual from USDA can be found at: <http://www.fsis.usda.gov/OA/pubs/cfg/Color/jpg/07-dangerzone.jpg>)
- Spray bottle, chlorine bleach, water and teaspoon
- Bi-stem thermometer
- Recipe ingredients and equipment
- Agar plates

MUNCHIN' MANIACS

Maniacs Have Snack Attacks Recipes

CINNAMON SWIRLS

Makes: 6 cinnamon swirls

Ingredients:

2 slices soft-texture whole wheat bread
 2 tablespoons soft-style light cream cheese
 4 teaspoons sugar
 ½ teaspoon ground cinnamon
 Spray butter

Directions:

Trim the crusts from the bread slices. Spread 1 tablespoon of softened cream cheese on each bread slice. Roll up bread slices with cream cheese on the inside. Cut each roll into three equal sized pieces. In small bowl mix together sugar and cinnamon. Spray each snail with butter then roll into the sugar-cinnamon mixture. Do not dip roll ends. On an ungreased baking pan, place rolls seam side down. Bake in a 350° oven about 10 minutes or until light brown. Serve immediately or refrigerate for 1-2 days.

Serving: 1 swirl

Nutrition Analysis per serving: Calories 65 kcal, Protein 2 g, Fat 1.6 g, Carbohydrates 11 g, Fiber 1 g, Calcium 14 mg, Sodium 78 mg

MUNCHIN' MANIACS

Maniacs Have Snack Attacks

Cinnamon Swirls

Shopping List-10 Participants

Yield: 60 swirls

Ingredients	Purchase	Individual
Whole wheat bread	20 slices	2 slices
Light cream cheese, soft tub	(20 Tbsp.) 1½ 8 oz. tubs	2 tablespoons
Sugar	1 cup	8 teaspoons (shared)
Cinnamon	10 teaspoons	1 teaspoon (shared)
Spray Butter	2 bottles	

- Each youth will make 6 swirls from 2 slices of bread.
- Cinnamon sugar can be shared between 2-5 youth

Equipment: (Work Group: 1 participant)

10 large paper plates	2-5 sets measuring spoons (1/2 tsp, 1 tsp, 1 Tbsp.)
10 plastic knives	*aluminum trays or cookie sheets
2-5 small bowls	*oven or toaster oven
paper towels	*hot pads

*If electricity is not available, swirls do not need to be baked.

PIZZA BITES

Makes: 3 pizza bites

Ingredients:

- 3 (2" square) shredded wheat crackers
- 3 teaspoons pizza sauce
- 3 slices pepperoni
- 3 teaspoons shredded low fat mozzarella or cheddar cheese

Directions:

Heat the oven to 400°F. Place shredded wheat crackers on an oven tray. On each cracker spread 1-teaspoon pizza sauce, a pepperoni slice and 1 teaspoon of shredded cheese. Place the pizza bites in the oven 2-3 minutes or until cheese is melted. Serve immediately.

Serving: 1 pizza bite

Nutrition Analysis per serving: Calories 57 kcal, Protein 2 g, Fat 2.5 g, Carbohydrates 3.6 g, Fiber 0.5 g, Calcium 18 mg, Sodium 179 mg

MUNCHIN' MANIACS
Maniacs Have Snack Attacks
Pizza Bites
Shopping List-10 Participants
Yield: 30 pizza bites

Ingredients	Purchase	Individual
2" square shredded wheat crackers	30 crackers (1 box)	3 crackers
Pizza sauce	1 jar or can	3 teaspoons
Shredded mozzarella cheese	2 cups	3 teaspoons
Pepperoni slices	30 slices	3 slices

- Each youth will make 3 pizza bites

Equipment: (Work Group: 1 participant)

- 10 large paper plates
- paper towels
- 5 1-teaspoon measuring spoons
- *hot pads (instructor)
- *oven or toaster oven
- *aluminum pie pans or cookie sheets

* If electricity is not available, pizza bites can be prepared without baking.

MANIAC SMILES

Makes: 4 maniac smiles

Ingredients:

1 red small apple, cored and sliced
2 teaspoons smooth peanut butter
12 tiny marshmallows

Directions:

Wash apple. Using apple corer or knife, cut apple into eight pieces. On one side of each apple slice, spread ¼ teaspoon peanut butter. On four of the apple slices, place three small marshmallows on top of the peanut butter. Top with another apple slice, peanut butter side down. Squeeze gently. Serve immediately.

Serving: 1 smile

Nutrition Analysis per serving: Calories 39 kcal, Protein 0.7 g, Fat 1.3 g, Carbohydrates 7 g, Fiber 1.5 g, Calcium 0 mg, Sodium 13.5 mg

MUNCHIN' MANIACS

Maniacs Have Snack Attacks

Maniac Smiles

Shopping List-10 Participants

Yield: 30 apple smiles

Ingredients	Purchase	Individual
Small red delicious apple	10	1 apple
Smooth peanut butter	1 jar	2 teaspoons
Tiny marshmallows	1 bag	12 marshmallows

- Each youth will make 4 apple smiles from one apple

Equipment: (Work Group: 1 participant)

10 plastic knives
2 apple corers
10 plastic spoons
10 small paper plates
paper towels



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