

CHEFS!

THEME 2: Keeping Food Safe



CHEFS!

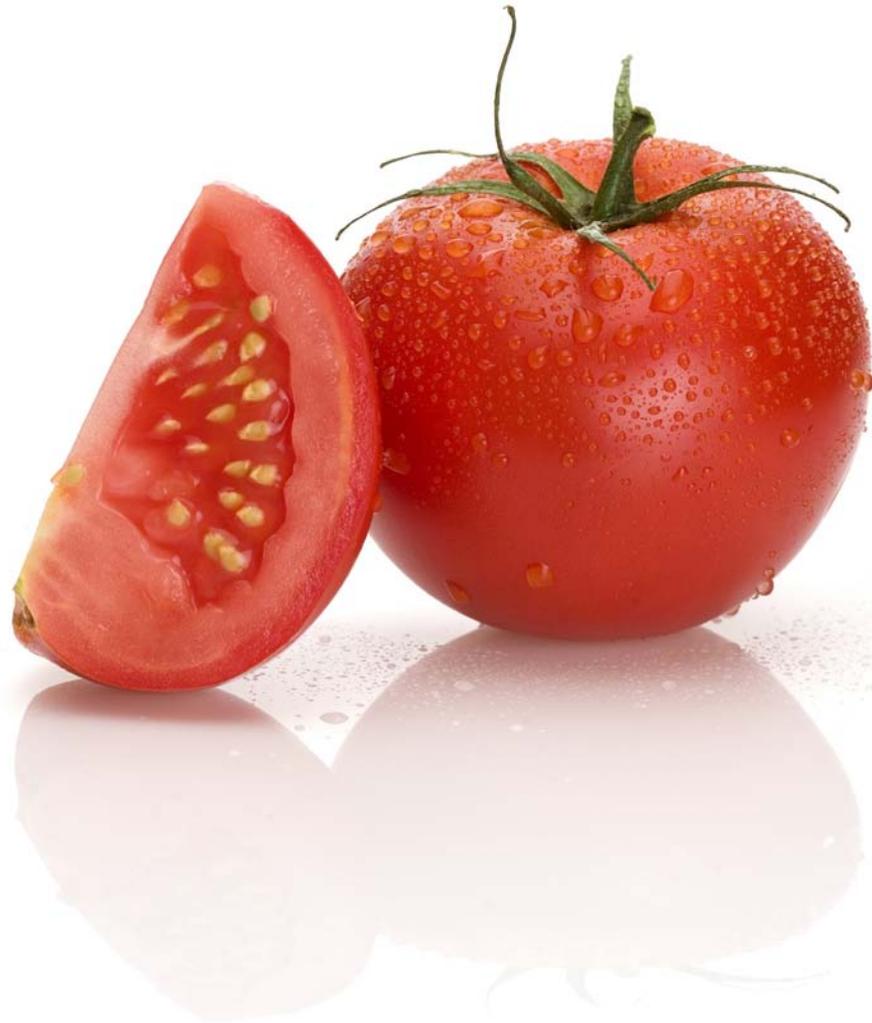
THEME 2: Keeping Food Safe

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Germs 101

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Kids Fight Bac



Session 1:

Germ 101 – Lesson Plan

Objectives:

- Chefs learn about bacteria, where they are found, and that they can cause illness.
- Chefs learn how to properly wash their hands to prevent the spread of bacteria.

| RESOURCES | DISCUSSIONS & ACTIVITIES | TIME (MINUTES) |
|------------------------|---|----------------|
| Food Safety and Germs | Start by asking the children to tell you what they know about germs and bacteria. Lead a discussion that focuses on introducing bacteria, where they are found and how they can be transferred. <i>essential</i> | 10 |
| Soapy Solutions | Soapy Solutions is an experiment that will engage the children in learning about hand washing techniques. <i>essential</i> | 10 |
| Germ 101 Matching Game | Review the concept that different bacteria can be found in different types of foods. You may provide the children with both pages of the Matching Game Resources, which they may read themselves, or you may use the information page as a teaching guide and provide the children with only the matching game. <i>optional</i> | 10 |
| Handwashing Videos | If accessible, introduce the importance of proper hand washing by showing one of these videos. <i>optional</i> Hand Hygiene Video: http://youtu.be/NFPpuMtkJHI or Wash Your Hands: http://youtu.be/yJEh2fpzfVE | 10 |

Try one of these Recipes (60 mins):

- Banana Muffins
- Italian Meatball Soup

TEACHING MOMENT:

Use your own experiences to illustrate concepts to children. They may remember the lesson better when they have a story to go with it.



KEEPING FOOD SAFE

GERMS 101



Session 1:

Germs 101 – Resource

Food Safety and Germs

Germ is another word for bacteria. Bacteria are tiny organisms that can sometimes make our bodies sick. They are so small that they can get into our food and bodies without being noticed.

Bacteria can cause all kinds of illnesses. Sometimes food can become contaminated with bacteria due to poor handling and storage. These bacteria in food can cause food poisoning.

The bacteria don't actually put poison in your food. But when the bacteria multiply, they can get to the point where there are too many of them for your body to fight. If you eat contaminated food and get sick, that's called food poisoning.

Quick Germ Facts:

- Harmful germs can be transferred from food to people, from people to food, or from one food to another.
- These germs can grow quickly at room temperature and are usually invisible. So, food may look okay but still not be safe to eat.
- One little germ can multiply quickly & grow into over 250 in 2 hours and over 8 million in just a day!

Bacteria are all around us, so mild cases of food poisoning can happen quite often. But serious cases of food poisoning can be very dangerous, especially for small children and older people.

Generally foods from animals, and unwashed vegetables and fruit all contain germs that can cause food poisoning. The most common sources are meats, poultry (chicken & turkey), eggs, milk & shellfish (lobster, mussels, etc.).

You will learn more about how to keep food safe, but one of the best ways to prevent food contamination and food poisoning is by washing your hands. Proper hand washing before and after handling food is one easy way to help ensure that your food is safe.

Session 1:

Germs 101 – Resource

Soapy Solutions Activity

Source: Adapted from [canfightbac.org](http://www.canfightbac.org)

http://www.canfightbac.org/en/_pdf/BAC_1-44.pdf

Objective: This activity shows chefs the most effective way to remove germs and bacteria from their hands. Chefs also get to see how germs can hide in unwashed surfaces.

Note: If you have enough available space, allow the whole group to participate in this activity.

Materials/Resources:

- Cooking oil
- Cinnamon or sparkles
- Teaspoon and tablespoon
- Access to sink to wash hands
- Hand soap
- Paper towel

Instructions:

1. Have volunteers rub 1 tbsp of oil all over their hands.
2. Sprinkle each chef's hands with 1 tsp cinnamon or sparkles, then have them rub it all around their hands. Explain that the cinnamon and sparkles simulate germs and bacteria.
3. Have some volunteers wash their hands with cold water and no soap. Observe & discuss the effectiveness of this method with the group.
4. Have other volunteers wash with warm water and no soap. Observe and discuss the effectiveness of this method.
5. Have the final group of volunteers wash with warm, soapy water. Observe and discuss the effectiveness of this method and have chefs make conclusions.

Ask: What method removed the most germs? And the least?

Why does warm water help? *Soap responds better to warm water than cold water, in that it produces more suds. Why does soap help?* *Soap suds release the active ingredients in the soap onto the skin surface. The soap lather is able to lift and trap germs, dirt, and dirty oils from your skin, so they can be washed away. Why does rubbing your hands together help?* *By creating friction between your hands, you help the soap lather, lift, and trap the dirt. Also, it helps you distribute the lather to the many different areas of your hands.*

Explain proper hand washing technique includes rubbing nails into palms, washing thumbs and wrists.

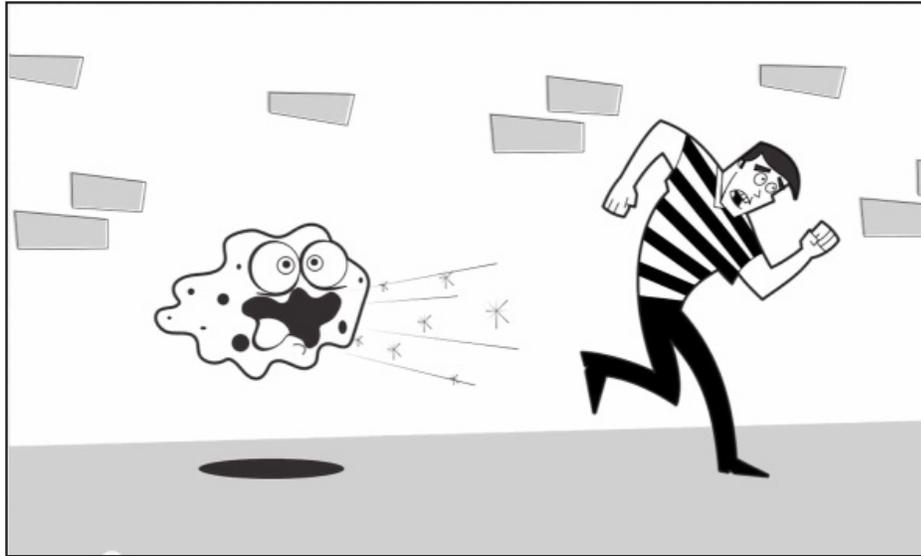




Session 1:

Germs 101 – Resource

Handwashing Videos



Hand Hygiene Video:

<http://youtu.be/NFPpuMtkJHI>

Wash Your Hands:

<http://youtu.be/yJEh2fPzfVE>

Session 1:

Germs 101 – Resource

Germs 101 Matching Game

Activity: Discussion with class followed by the Germs 101 Matching Game.

Objective: To introduce the topic of bacteria and where it can be found in our food.

Materials/Resources:

- Copies of Germs 101 Matching Game for each child
- Pencils/markers

Germs are very tiny. So tiny, in fact, that we need microscopes to see them. There are a lot of different types of germs, while some are good for our body (the bacteria in yogurt help us digest our food), but others can cause all kinds of illness. Bacteria are found all around us but, if our food is not handled with clean hands, it can contaminate our food.

Some of the most common bacteria are **Salmonella**, **Listeria**, **Campylobacter**, and **E. coli**. All of these germs can make you very sick with fever, chills, headaches, diarrhea and vomiting. You may have heard about these bacteria in the news, or maybe your parents have mentioned the names when they have been preparing food in the kitchen. You will soon learn how to keep yourself safe from these germs, but for now, let's learn about them.

Salmonella is found in raw or undercooked meat and poultry (chicken and turkey), eggs, and unpasteurized milk. It can also come from raw vegetables and fruit that have not been washed. You will see that many of the bacteria we are talking about can be found in unpasteurized milk. Before it comes to us in the store, pasteurized milk has been exposed to a very high temperature for a very short period of time in order to kill the bacteria that we don't want in our food. This makes it safer to drink.

Listeria is a bacteria that can be found hanging out in foods like hot dogs and deli sandwich meats, and all raw or undercooked meat. It can also come from soft cheeses like brie and camembert, that are made with unpasteurized milk. There are other foods that you probably don't eat very often which might be home to Listeria: meat pâtés and spreads, smoked seafood, and blue cheese.

Campylobacter camps out in raw eggs (don't eat cookie dough), unpasteurized milk and cheeses, raw or undercooked meat, raw vegetables, shellfish, and untreated water.

E. coli can be found in a lot of different foods that you might not expect, like unwashed spinach, or apple cider that hasn't been pasteurized. This is because it comes from the guts of animals which leave their feces (poop) on the ground. The germs from this feces can then get into the water supply that is used for watering vegetables at farms, or apples can drop from the tree to ground that is contaminated with the feces. E. coli makes itself at home in raw or undercooked beef, unpasteurized apple juice and cider, raw vegetables, and unpasteurized milk and cheese.



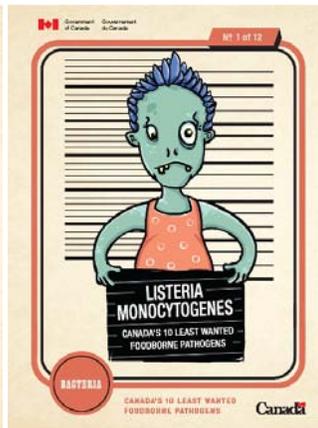
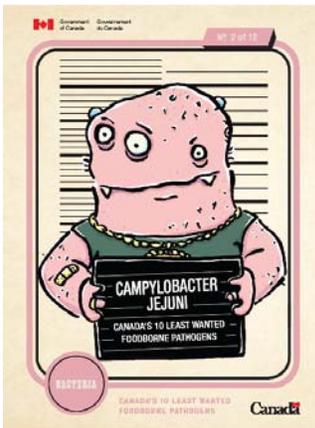


Session 1:

Germ 101 – Resource

Germ 101 Matching Game

Match the bacteria to where it can be found: there may be more than one match



Session 1:

Germ 101 – Recipe

Banana Muffins

Skill level: Moderate

Serves: 12

INGREDIENTS:

4 very ripe bananas

½ cup white sugar

⅓ cup margarine, melted

1 egg 🍎

¾ cup whole wheat flour 🍎

¾ cup all purpose flour

¼ cup wheat germ 🍎

Prep time: 10 minutes

Cook time: 20 minutes

2 tbsp flax meal

1 tsp baking soda

1 tsp baking powder

½ tsp cinnamon

¼ tsp nutmeg

½ cup walnuts, chopped (optional)

INSTRUCTIONS:

Preheat oven to 375°F

1. Mash bananas in a large bowl with an electric mixer or potato masher.
2. Beat in sugar, then stir in melted margarine.
3. Beat in egg.
4. In a medium bowl, combine flours, wheat germ, baking powder, baking soda, nutmeg and cinnamon.
5. Add the dry ingredients to the wet and very gently fold the ingredients together with a rubber spatula. Add in chopped nuts (optional). Do not over-mix muffins or they will be tough.
6. Spoon batter into 12 paper lined muffins cups and bake about 20 min or until the muffin tops are firm to the touch.
7. Cool pan for 5 minutes and then remove muffins to cooling rack.

Note: You can peel and freeze over-ripe bananas in small zippered bags.

EQUIPMENT/TOOLS NEEDED:

- Dry measuring cups and spoons
- Liquid measuring cup
- 2 mixing bowls
- Muffin pan and paper liners
- Electric mixer or potato masher
- Rubber spatula
- Large spoon
- Cooling rack



KEEPING FOOD SAFE

RECIPES



Session 1:

Germ 101 – Recipe

Italian Meatball Soup

Skill level: Moderate

Prep time: 15 minutes

Serves: 6

Cook time: 30–35 minutes

INGREDIENTS:

- | | |
|--|---|
| ½ lb extra lean ground beef (or use ground turkey) 🍅 | 7 cups low sodium chicken stock |
| 1 egg lightly beaten 🍅 | ¾ cup uncooked orzo (rice shaped pasta) |
| 2 tbsp dried bread crumbs 🍅 | ½ cup carrots, finely chopped 🍅 |
| 1 tbsp parmesan cheese | ½ cup turnip, finely chopped or 2 x carrots 🍅 |
| ¼ tsp salt | ½ cup celery, finely chopped |
| ½ tsp dried basil 🍅 | 2 tbsp fresh parsley, chopped 🍅 |
| ½ tsp onion powder and garlic powder | |

INSTRUCTIONS:

1. Pour the stock into a large pot and bring to a boil. Add the carrots, turnip and celery, bring soup back to a boil. Cover the pot and reduce heat to simmer.
2. Combine the ground meat, egg, bread crumbs, cheese, basil, garlic and onion powder in a large mixing bowl. Mix well with your hands and shape into ½ inch balls. *Note: Wear plastic gloves, if you like.*
3. Use tongs to add meatballs to soup. Add pasta and return to boil again. Reduce heat and simmer for about 10–15 minutes or until the pasta is cooked. Add parsley at the last minute and serve.

EQUIPMENT/TOOLS NEEDED:

- Large pot with lid
- Mixing bowl
- Dry measuring cups and measuring spoons
- Cutting board and non-slip mat
- Plastic gloves
- Grate
- Vegetable peeler
- Tongs
- Plate for meatballs



Session 2

Kids Fight Bac – Lesson Plan

Objectives:

- Chefs learn the four pillars of food safety: clean, separate, cook, chill.
- Chefs teach other the key messages of food safety through performance.

| RESOURCES | DISCUSSIONS & ACTIVITIES | TIME (MINUTES) |
|--|---|----------------|
| Clean Fact Sheet Separate Fact Sheet Cook Fact Sheet Chill Fact Sheet | <p>Review the fact sheets before the session begins in order to prepare a brief lesson which will introduce the children to the 4 pillars of food safety: clean, separate, cook, and chill. Briefly discuss each of the pillars and highlight the reasons for each step with regards to preventing the spread of bacteria. <i>essential</i></p> <ul style="list-style-type: none"> • Clean Fact Sheet: http://www.canfightbac.org/cpcfse/en/_pdf/clean.pdf • Seperate Fact Sheet http://www.canfightbac.org/cpcfse/en/_pdf/separate.pdf • Cook Fact Sheet http://www.canfightbac.org/cpcfse/en/_pdf/cook.pdf • Chill Fact Sheet http://www.canfightbac.org/cpcfse/en/_pdf/chill.pdf | 15–20 |
| Acting Out! | The chefs have an opportunity to demonstrate their understanding of food safety principles through performance. <i>essential</i> | 40 |
| Kitchen Thermometer | Leave samples of foods in several areas of differing temperature around the kitchen (eg. refrigerator, warm oven, window ledge). Ask the children to measure and record the temperatures and determine if the food is safe to eat. <i>optional</i> | 10 |

Try one of these Recipes (30 mins):

- Fried Rice
- Cinnamon Sweet Potato Chips

Note: If you choose to make a Recipe which requires baking time, save time by arranging the session to allow for the drama team performances during the bake time. You may also wish to perform some of the preparation duties before the session begins.

TEACHING MOMENT:

Remember to ask the children questions throughout the lesson which will draw on their current knowledge of bacteria.



Session 2

Kids Fight Bac – Resources

Acting Out

Objective: Chefs work together to demonstrate the pillars of food safety.

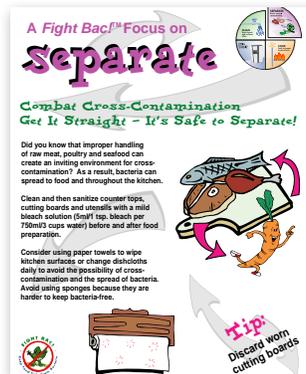
Materials/Resources:

- Fight Bac Fact Sheets
- Props

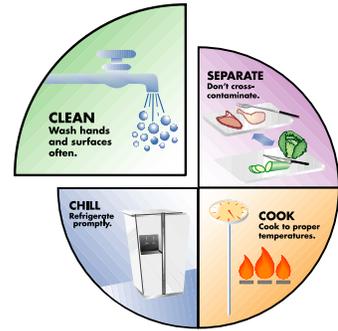
Instructions:

Group the children into 4 drama teams and assign a pillar (clean, separate, cook, or chill) to each team. Provide each team with their corresponding fact sheet for their own review. From this fact sheet, ask each team to determine what they think are the most important facts. They will then work together to create a 2–5 minute skit. Make the teams aware of the prop resources that are available to them (eg. sink, oven, craft supplies, cutting boards, etc.).

Note: if you have volunteers or assistants, they may help the teams organize their ideas and keep on track.



A Fight BAC!™ Focus on clean



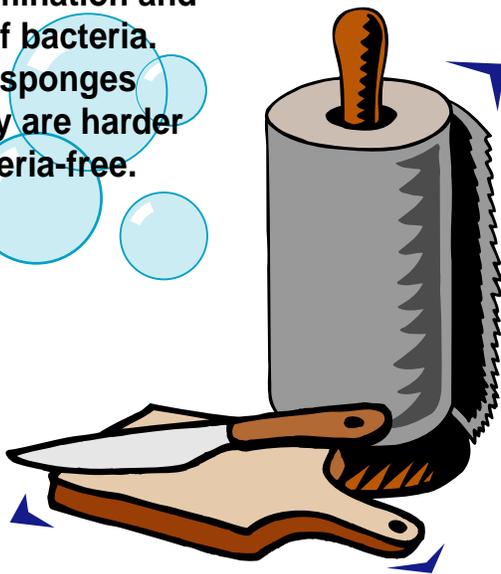
KEEPING FOOD SAFE

KIDS FIGHT BAC

Always wash your hands for at least 20 seconds before handling food and after handling meat, poultry, eggs and seafood and after changing diapers, touching pets and using the washroom.

Clean and then sanitize counter tops, cutting boards and utensils with a mild bleach solution (5ml/1 tsp. bleach per 750ml/3 cups water) before and after food preparation.

Discard worn cutting boards. Consider using paper towels to wipe kitchen surfaces or change dishcloths daily to avoid the possibility of cross-contamination and the spread of bacteria. Avoid using sponges because they are harder to keep bacteria-free.



Tip:
Using a disinfectant cleaner or a mixture of bleach and water on surfaces can provide some added protection against bacteria.



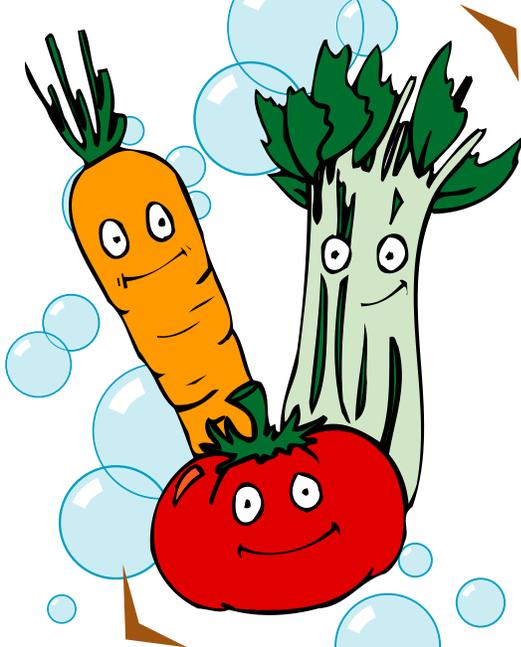
Scrub-a-dub:

Thoroughly wash fresh produce under running water to remove dirt and residue.

Scrub fruits and vegetables that have firm surfaces such as oranges, melons, potatoes and carrots.

Fight BAC!:

Cut away any damaged or bruised areas on produce. Bacteria can thrive in these places.



Tip:

When cooking, don't forget to wash and sanitize your food thermometer after each use -- even between testing different foods.
Wash out lunch boxes or bags every night.



BAC! Attack:

How long should you wash your hands in warm, soapy water to send bacteria down the drain?

- a. 5 seconds
- b. 10 seconds
- c. 15 seconds
- d. 20 seconds

Answer: d. 20 seconds

Remember you can't see, smell or taste bacteria, so keep it

CLEAN!

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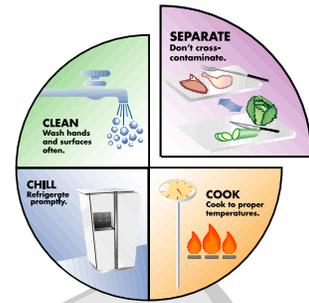


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A Fight Bac!™ Focus on

Separate

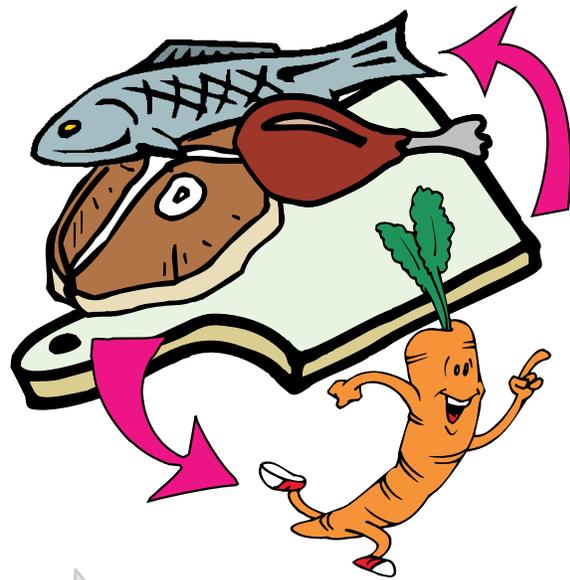


**Combat Cross-Contamination
Get It Straight - It's Safe to Separate!**

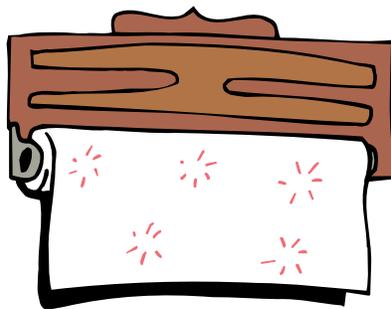
Did you know that improper handling of raw meat, poultry and seafood can create an inviting environment for cross-contamination? As a result, bacteria can spread to food and throughout the kitchen.

Clean and then sanitize counter tops, cutting boards and utensils with a mild bleach solution (5ml/1 tsp. bleach per 750ml/3 cups water) before and after food preparation.

Consider using paper towels to wipe kitchen surfaces or change dishcloths daily to avoid the possibility of cross-contamination and the spread of bacteria. Avoid using sponges because they are harder to keep bacteria-free.



Tip:
Discard worn cutting boards





Keep It Clean! Lather Up

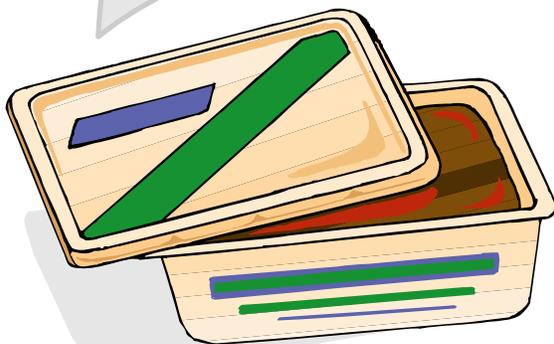
Always wash hands, cutting boards, dishes and utensils with hot, soapy water after they come in contact with raw meat, poultry and seafood. Sanitize them for the safest results.

Take Two

If possible, use one cutting board for fresh produce and use a separate one for raw meat, poultry and seafood.

Watch those juices! Safely Separate

Separate raw meat, poultry and seafood from other foods in your grocery shopping cart and in your refrigerator.



Seal It

To prevent juices from raw meat, poultry or seafood dripping onto other foods in the refrigerator, place these raw foods in sealed containers or plastic bags on the bottom shelves.

Clean Your Plate

Never place cooked food back on the same plate or cutting board that previously held raw food.

Marinating Mandate

Sauce that is used to marinate raw meat, poultry or seafood should not be used on cooked foods. Boil leftover marinade or prepare extra for basting cooked food. Wash and sanitize your brush or use separate brushes when marinating raw and cooked foods.

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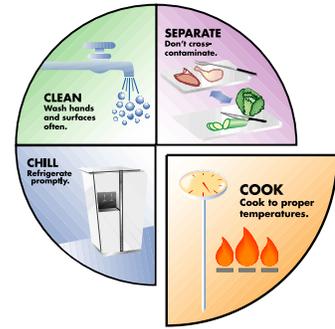
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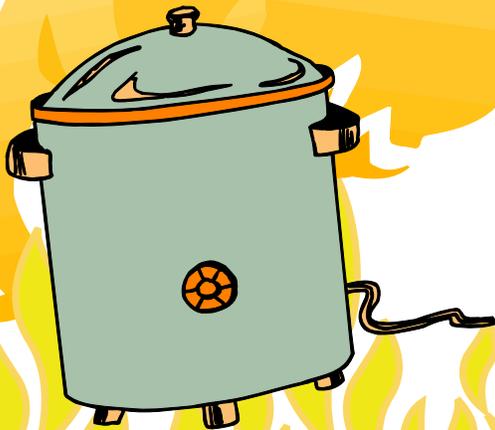
COOK



Cook to proper temperatures. Cooking times vary for meats, poultry and fish. Following cooking, keep foods out of the “danger zone” (4°C to 60°C or 40°F to 140°F) by preparing them quickly and serving them immediately.

**Keep it
hot, hot, hot!**

When serving hot food buffet-style, keep it hot (at 60°C or 140°F) with chafing dishes, crock pots and warming trays.



Hot Tip:
When eating out,
return any
undercooked food for
additional cooking.





Cook it Right:

Foods are properly cooked when they are heated for a period of time at a high enough temperature to kill harmful bacteria that can cause foodborne illness.

Keep all soups, chili and hot dips piping hot before serving. If you're travelling to a party or to work, keep hot foods hot in an insulated thermal container.

Sizzling Cooking Tips:

When cooking in a microwave oven, make sure the food is cooked thoroughly. For best results, cover food, stir and rotate for even cooking and follow suggested standing times.

Use a clean thermometer which measures the internal temperature of cooked foods, to make sure meat, poultry, egg dishes, casseroles and other foods are cooked all the way through. Insert the thermometer in different spots to ensure even cooking. Wash your food thermometer with hot soapy water before using it again. Sanitize it for the safest results.



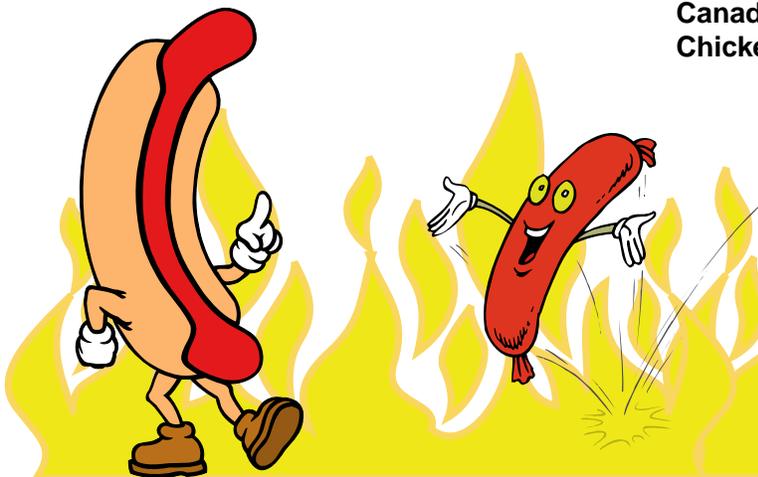
Cook to Safe Temperatures:

Contact Your Local Health Authority for safe internal temperatures or visit:

Beef Information Centre at www.beefinfo.org

Canada Pork at www.canpork.ca

Chicken Farmers of Canada at www.chicken.ca



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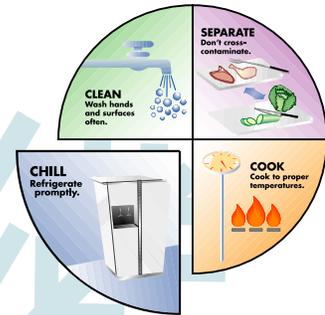
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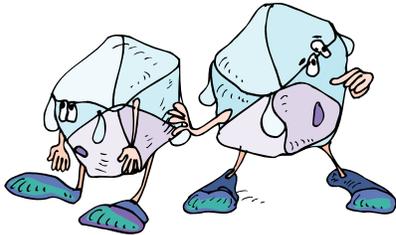
A Fight Bac!™ Focus on

chill



KEEPING FOOD SAFE

KIDS FIGHT BAC



1. The Big Chill

Refrigerate or freeze perishables, prepared foods and leftovers within two hours or less. Marinate foods in the refrigerator.

2. The Thaw Law

Never defrost food at room temperature. Thaw food in the refrigerator, in cold water, or in the microwave if you will be cooking it immediately.

3. Divide and Conquer

Separate large amounts of leftovers into small, shallow containers for quicker cooling in the refrigerator.

4. Avoid the Pack Attack

Don't overstuff the refrigerator. Cold air needs to circulate above and beneath food to keep it safe.



Cool Tip:
Cold foods should be kept at 4°C (40°F)





Serve and Preserve:

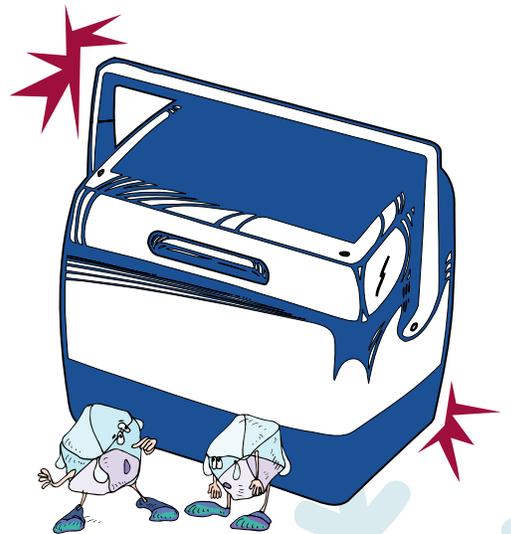
When serving cold food at a buffet, picnic or barbeque, keep these cool tips in mind:

- Cold foods should be kept at 4°C (40°F) or colder.
- Keep all perishable foods chilled right up until serving time.
- Place containers of cold food on ice for serving to make sure they stay cold.
- Refrigerate custards, cream pies and cakes with whipped cream or cream cheese frostings. Don't serve them if refrigeration is not possible.

Hit the Road:

When travelling with food, be aware that time, temperature and cold containers are key. Here are some tips to keep it cool:

- Keep frozen foods in the refrigerator or freezer until you are ready to go.
- Always use ice or cold packs and fill your cooler with food. A full cooler will maintain its cold temperatures longer than one that is partially filled.
- When travelling, keep the cooler in the air-conditioned passenger compartment of your car, rather than in a hot trunk.
- If you've asked for a 'doggie bag' to take home from a restaurant, the food contained in it should be refrigerated within two hours of serving.
- When running errands, do your grocery shopping last.



Fridge Quiz:

Put your knowledge of proper refrigeration to the test.

1. Should leftovers be placed directly in the refrigerator? Yes or No
2. Refrigeration prevents bacterial growth. True or False
3. At what temperature should refrigerated food be kept to slow down the growth of bacteria?

1. Yes, but divide large quantities of food into shallow containers (8cm/3 inches or less) and allow to cool slightly before placing in the refrigerator.
 2. False. Refrigeration slows, but does not prevent the growth of harmful bacteria.
 3. Set the temperature cold enough to maintain an internal food temperature of 4°C (40°F) or colder. This will help to discourage the growth of foodborne bacteria. Be sure your refrigerator is in good working order.

Answers:

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Session 2

Kids Fight Bac – Recipe

Fried Rice

Skill level: Moderate

Serves: 6

Prep time: 20 minutes

Cook time: 20 minutes

INGREDIENTS:

2 tbsp vegetable oil (divided)

½ cup finely chopped onion 🍎

2 eggs, beaten 🍎

1 tbsp water

1 cup celery, finely chopped

1 cup broccoli stems and florets, diced

½ cup carrots, shredded 🍎

1 cup mushrooms, thinly sliced

½ cup green or red pepper, diced 🍎

3 cups rice, cooked and cooled (brown or white)

½ tsp garlic powder

½ tsp ground ginger

3 tbsp reduced sodium soy sauce

INSTRUCTIONS:

1. Heat 1 tbsp oil in large skillet over medium heat, add onion and sauté until onion is clear and softened.
2. Beat eggs with water using a fork or a whisk and pour over onion, let the eggs set for one minute then cook as per scrambled eggs. Remove from pan and set aside.
3. Add remaining 1 tbsp oil to heated pan. Add mushrooms, peppers, celery, broccoli and carrots. Stir fry over medium high heat about 5–8 minutes or until mushrooms and broccoli is softened a little.
4. Add rice to pan and stir mixture well. Add garlic, ginger and soy sauce and mix well.
5. Add cooked egg and onion and stir mixture until heated through.

EQUIPMENT/TOOLS NEEDED:

- Large non stick skillet
- Vegetable peeler
- Dry measuring cups and measuring spoons
- Cutting board and non slip mat
- Chef's knife
- Paring knife
- Whisk or fork
- Heat resistant rubber spatula or wooden spoon
- Mixing bowls



KEEPING FOOD SAFE

RECIPES



Session 2

Kids Fight Bac – Recipe

Cinnamon Sweet Potato Chips

Skill level: Moderate

Prep time: 15 minutes

Serves: 4

Cook time: 20 minutes

INGREDIENTS:

2 sweet potatoes, peeled and thinly sliced

2 tsp brown sugar

1 ½ tbsp vegetable oil (divided)

½ tsp ground cinnamon

½ tsp salt

Note: For a locally-produced option, try substituting 2 parsnips for every one sweet potato

INSTRUCTIONS:

Preheat oven to 400° F.

1. Grease two baking sheets with a thin layer (½ tbsp) of oil.
2. Arrange sweet potato slices in a single layer onto baking sheets. It is important that the slices be very thin.
3. Stir together 1 tbsp oil, salt, brown sugar, and cinnamon in a small bowl, then brush onto sweet potato slices.
4. Bake in preheated oven until edges curl upwards, about 20–25 minutes.
5. Allow time for cooling.

EQUIPMENT/TOOLS NEEDED:

- Paring knife
- Chef's knife
- Cutting board
- Non-slip mat
- Baking sheets
- Pastry brush
- Small mixing bowl
- Measuring spoons

