

YOUR GAME PLAN *for* FOOD SAFETY

Teacher's Activity and
Experiment Guide

A Fight BAC![®] Food Safety
Education Program For
4th, 5th and 6th Grade
Classrooms

Program Includes:

- Video
- Posters
- Experiments
- Activities
- Home Survey
- Take-home BAC-Catchers



Brought to you by
The Partnership for Food Safety Education

Welcome to
YOUR GAME PLAN
for
FOOD SAFETY

Foodborne Illness Is Serious!

More and more, foodborne illness is in the news. According to The Centers for Disease Control and Prevention, foodborne illnesses in the United States affect millions of people and cause thousands of deaths every year. An estimated 800,000 illnesses occur in children under the age of 10.

Teaching Food Safety Is Important . . .

The good news is that there are many things children and families can do to help ensure that their food is safe to eat — at home, at school and even when eating out. All they need is a basic awareness of proper food handling, cleanliness practices, and the importance of temperature in controlling/killing bacteria. And as a teacher, you play a big role in helping to “spread the word . . . not the germs!”

That’s where Your Game Plan for Food Safety fits in. As part of *The Partnership for Food Safety Education’s* nationwide Fight BAC!® Campaign, this program is specially designed for use in fourth, fifth and sixth grade classrooms just like yours.

. . . and It’s Easy!

Your Game Plan for Food Safety helps you teach food safety in a way that is both easy for you and exciting for your students. Using the inquiry approach to learning, the program inspires children to discover the science behind food safety as they experiment . . . investigate . . . and explore.

Let’s Get Started!

USING THE
PROGRAM COMPONENTS



BAC-CATCHER

Capture the imaginations of your students with this new look at an age-old favorite! Students will love sharing their food safety knowledge with friends and family.

Outcome:

Students use the color BAC-Catcher as reinforcement of in-class activities and food safety messages. A black-and-white reproducible master is also included on page 19 for students to use as a template for developing their own versions.

Getting Started:

- Distribute one color BAC-catcher to each child. Challenge them to use it to intrigue and educate their friends and family. Remind them that it’s up to them to “spread the word . . . not the germs!”
- As a followup activity, photocopy the black-and-white version and challenge students to write their own questions and answers about food safety. This is an excellent assessment exercise to use as a checkpoint for their growing food safety knowledge.



POSTER

There’s an important new program in town — and with this colorful poster, students will know it! Two copies are provided in the kit — one for the classroom and a second for another key location, like the cafeteria, or school bulletin board. It’s sure to get them asking questions.

Outcomes:

- Side 1 announces the arrival of this program and lists the four Action Messages students will be learning about.
- Side 2 provides a more in-depth display of the four Action Messages.

Getting Started:

- Post Side 1 in a visible spot — the main hallway, the cafeteria — to get kids talking about Fighting BAC!
- The poster also serves as a great movie poster announcing special showings of the video.
- Once students are involved in the program, reverse the poster to serve as a reinforcement of the four Action Messages.

COMPONENT



FBI (FOODBORNE ILLNESS) CASE

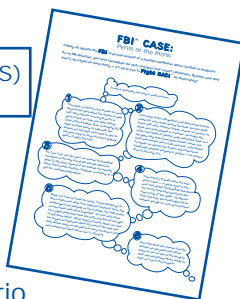
Get your students on the FBI team with this inquiry-based investigation!

Outcome:

Students apply their food safety knowledge to a "real life" picnic scenario.

Getting Started:

- Photocopy the reproducible master on pages 15-16 (front and back) and distribute one to each student.
- This activity makes an excellent assessment exercise, allowing students to process what they've learned as they investigate the "crime scene" of a potential foodborne illness. They become part of the FBI Team!
- Try letting groups of students develop and perform mini-skits of the incident. Encourage them to incorporate dialogue and invent their own props.



COMPONENT



ACTIVITIES

Try letting your students choose from among these engaging followup activities. They'll test their own knowledge of food safety and have fun at the same time. There's something for everyone, whatever their learning styles!

Outcome:

Pages 21 through 23 include self-contained activities covering a wide variety of food safety learnings. Activities are provided in three categories from which you and your students may choose:

- **Across the Curriculum:** integrated within your classroom
- **Around Your School:** reaching out to other classrooms and grades
- **Around Your Community:** spreading the message outside the school

Getting Started:

- Use the various mini-activities as integrated followup to the learnings of the program.
- Encourage teams of students to choose and conduct the activities they wish to undertake.
- Let the children know that they are now food safety investigators in the classroom . . . at home . . . in the school . . . and in the community!

COMPONENT



HOME FOOD SAFETY SURVEY

Now the real investigation begins! Deputize your students as "Food Safety Investigators" and send them home with this family-based activity.

Outcome:

This activity is a great "before" and "after" exercise. Students take their "surveys" home to complete with the family. Completed surveys are returned to class and tallied in a variety of ways.

Getting Started:

- Photocopy the reproducible master on pages 17-18 (front and back) and distribute one to each student. Give a due date that allows several days for families to complete their investigation.
- Challenge students to include up to three other family members (in addition to themselves) to survey their food safety behaviors. Encourage them to compare outcomes together at home.
- Distribute one copy as you begin teaching the program, and another at the end.
- Have students develop charts, graphs or other visuals to compare and contrast home food survey "before" and "after" results.



TEACHER WEB PAGE

You're invited to Fight BAC!® On-line! This informative web page, located at the main www.fightbac.org web site, is designed especially for teachers. You are invited to email your own experiences with the program for possible inclusion in future postings.

The Fight BAC!® Teacher Web Page provides printable program materials and will be updated to include additional ideas and experiments, teacher tips and other comments, and information for educators who are using the program. It is a special page attached to the general www.fightbac.org web site.

Bookmark it!

www.fightbac.org

COMPONENT



VIDEO

Running time: 19:45

The video serves as the program "kick-off" to introduce food safety to your students in an intriguing, engaging way. Students will follow the trail of two school newspaper reporters who have been investigating a mysterious outbreak of . . . foodborne illness!

THE CASE OF THE UNINVITED GUESTS

Try showing the video all the way through the first time. Then, go back and work through each segment, using the scenes and learnings of the video to foster in-class discussion. Idea-starters, called "Class Actions," are included with each segment.

1

Investigation Begins

- "Stop the Presses!" exclaims Tyler, one of the star reporters for the Washburn Word School Newspaper.
- It seems that after a recent party for the girls' and boys' basketball teams, several party guests became ill — including some key team players and the coach. And the championship finals were just days away!
- As the video opens, Tyler and Brittany return to the newspaper office and begin to tell Andy, the student art director, and Ms. Morgan, the advisor, what they've discovered about the mysterious illness.



What have students seen in the news about foodborne illness? Have them conduct on-line research to find out about foodborne illness in the news.

2

The Illness . . . uncovered

- The reporters tell about the "symptoms" that struck: stomach cramps, vomiting and (yuck!) diarrhea. Luckily, the partygoers were only sick for a couple of days — but it could have been worse.
- Brittany and Tyler point out that foodborne illness comes from bad bacteria in food. It all started with an end-of-season party two basketball-playing twins, Kira and Kyle, decide to host at their home using money earned at a team "car wash" . . .
- In a flashback, we see the kids grocery shopping and making some mistakes in unloading the groceries: like allowing cross-contamination from meat and poultry in the refrigerator, and forgetting to refrigerate some items.
- Tyler and Brittany discuss the ways food is kept safe before purchase, and the importance of consumers doing their part after purchase.



Have students investigate the types of precautions used to keep foods safe before consumers buy them.

3

Exploring the First "Mistakes"

- As Andy expresses confusion about "cross-contamination," the reporters explain it in greater detail. They also discuss lack of refrigeration of perishable foods.
- Brittany and Tyler emphasize that throughout the investigation they discovered many things that could have contributed to possible foodborne illness — but it's hard to say exactly which behavior caused the problem!



Discuss the various mistakes made by the kids up to this point. Have students brainstorm the ways cross-contamination could happen.

4

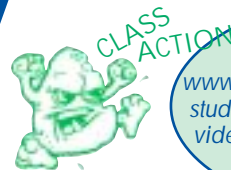
Consulting the Experts

- Tyler and Brittany conducted key interviews with experts right in their own school — the school nurse and the food service director.
- Ms. Yung, the school nurse, discussed how bacteria are transmitted when unwashed hands handle food. She reminded the reporters that not all bacteria are bad.



Have students research different types of bacteria. Assign a "good bacteria" team and a "bad bacteria" team. Encourage a pair of "reporters" to interview the school nurse.

- Ms. Gomez, the food service director, revealed the importance of safe handling during food preparation, especially handwashing, refrigeration, and clean counters. She highlighted the four key actions: Clean, Separate, Chill and Cook.
- Ms. Gomez also sent the reporters to the Fight BAC!® web site for more information.



Have students research food safety at the www.fightbac.org website. Make sure students notice the Wall Poster in the video featuring the four key actions: Clean, Separate, Chill and Cook.



5

Reenacting the Party

- The reporters are ready to recap the party, which included up to 10 mistakes — and 10 possibilities for the “culprit” that caused the outbreak of foodborne illness.
- The food safety mistakes are seen:

CLEAN

- Failure to wash hands before handling food.
- A basketball rolls to the feet of one of the kids — who picks it up, throws it back, and goes right on handling food.
- Cheese is sliced on an unwashed countertop.
- Some fruit still in store-packaging (unwashed) is taken from the refrigerator and eaten without being washed.

SEPARATE

- Juices from meat could spill onto fruits in refrigerator storage.
- Cross-contamination of vegetables and raw meat on same cutting board without washing thoroughly between uses.
- Using a kitchen towel to mop up meat juices, and then using the same towel to dry off a platter.
- Same plate used for raw and cooked poultry.

CHILL

- Serving the buffalo wings that had been left unrefrigerated on top of the refrigerator for several hours.

COOK

- Hamburger and poultry not cooked to safe temperatures.

- Brittany and Tyler reveal that each of the “mistakes” happened in one of the four key action categories.
- The reporters reiterate that any one — or any combination — of the mistakes could have caused partygoers to become ill.

CLASS ACTION

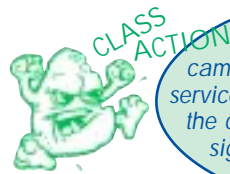
Have “recorders” note the food safety mistakes as they occur; afterward, have teams classify each mistake into the related action category: clean, chill, separate or cook. Then, challenge them to brainstorm what the kids in the video should have done in each case. (See Recap section below.) Hint: Remind students to listen for the “dramatic sound effects” that help highlight the food safety mistakes.

6

Wrapping up the Article

- Brittany and Tyler point out that one of the tricky things about foodborne illness is that it can happen differently to different people, plus it can vary depending on the type of bacteria.
- Sometimes it happens quickly; sometimes it can take a couple of days. That’s why people often don’t realize that foodborne illness is the source of their symptoms.

- Luckily, in the case of Washburn School, no one became too ill — and all of the stricken basketball-team members recovered in time to clinch the championship games!
- The editorial group decides that a school-wide program on Food Safety Awareness is needed — and they’ll get the school nurse and food service director to help!



Challenge students to plan a food safety awareness campaign at school. Use the nurse and food service director as resources. Set up a corner of the computer lab with a special Fight BAC!® sign, encouraging Internet surfers to visit the Fight BAC!® web site.

7

Video Trailer: The “Recap”

- As reinforcement of the lessons, the video includes a “behind the scenes recap” section at the end, with cast members showing the food safety mistakes that happened before and during the party, and discussing the “should haves.”

The “recap” messages are:

CLEAN

- Always wash hands thoroughly before handling food — especially after using the bathroom or touching other things!
- Clean counters and other surfaces before preparing food.
- Always rinse fruits and vegetables before preparing and eating them.

SEPARATE

- Store meat, poultry and fish on a separate dish in the refrigerator. Don’t let the juices drip on other foods!
- Be sure to wash cutting boards with hot soapy water if you used them to cut meats, poultry or fish, before cutting vegetables or fruits.
- Never use a “contaminated” towel without laundering it first. Better yet, use paper towels, so the bacteria go into the garbage!
- Use a clean platter for cooked meat and poultry. Don’t put them back on the platter with the raw juices!

CHILL

- Food should be refrigerated immediately upon returning from the store. (Leftovers should be, too.) Food should not be left unrefrigerated for more than two hours. If for any reason the period exceeds two hours, it’s safer to get rid of the food. “When in doubt . . . throw it out!”

COOK

- Use a food thermometer to check meats’ temperature. (For proper use, check thermometer package directions.)



EXPERIMENTS

Turn your classroom into a “food safety science lab!” The interactive experiments on the following pages were teacher-developed and kid-tested in classrooms just like yours.

Overview:

In each of the hands-on experiments, students learn by:

- Sharing results of experimentation.
- Evaluating implications of their observations.
- Drawing conclusions about food safety.

Time Needed:

The experiments are designed to be flexible. Depending on your available class time, you may choose to do some or all of the experiments . . . in part or in full . . . with full class participation or as teacher demonstrations. It's up to you!

Each of the experiments can generally be performed within one class period. However, Experiment 2, “There’s More Than Meets the Eye,” takes a full week to see final visual results.

TIPS & TECHNIQUES

Work in Teams

Have student groups choose and perform different experiments. Groups then share their results with the rest of the class.

Skill-Building:

Writing a Lab Report

Have students apply the scientific process to their experiences by writing formal lab reports:

- Problem
- Hypotheses
- Materials
- Procedure
- Observation
- Conclusion
- Questions for further investigation

Keep Students on Track

As you know, kids *love* talking about bacteria and germs! Remember to keep the discussion focused on bacteria *as it relates to food safety*.

FOOD NOTES:

- Several experiments use food products for demonstration purposes. Remind students that these “materials” are not to be eaten.
- Remind students to compost leftover food whenever possible.

CLEAN

Soapy Solutions

Outcome:

The oil on hands simulates the natural oils in your skin to which bacteria might cling. The soap and the rubbing action are needed to remove the oils and the bacteria that the cinnamon simulates. Warm water makes it more comfortable to wash for a longer period of time. Washing with soap — and the act of rubbing briskly for 20 seconds — will remove bacteria most effectively.

Integrated Learning:

Science learning:

- Hypothesize — predict.
- Use observation techniques.

Social Studies:

- Research the origin of soap.

Technology:

- Search at the Fight BAC!™ web site for the different types of bacteria.
- Use the internet to research the availability of soap and clean water in a global society.

There’s More Than Meets The Eye

Outcome:

After one week, the apple in the “Hands Unwashed” jar should show signs of microorganism growing. The microorganism grew because it was transferred to the apple by dirty hands. The apple in the “Hands Washed” jar should appear relatively free of visible microorganism growth.

Integrated Learning:

Science learning:

- Predict.
- Investigate proper conditions for bacterial growth.
- Watch microorganism growth.
- Observe and record.

Mathematics:

- Measurement of different variables.
- Use fractions when cutting apples: $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$.
- Graphing data collected over time.
- Measurement of time and temperature.

Language arts:

- Reading to research microorganism growth.

Technology:

- Use word processing and/or computer graphing to develop a lab report.

Optional Followup:

- Adapt this experiment using six additional jars — two jars at each of these temperatures: 40°F/4°C . . . 70°F/21°C . . . 90°F/32°C.

Science note: This experiment shows *microorganism growth* such as spoilage bacteria, fungus or mold. It is likely that what is growing on the apple is not *pathogenic bacteria*.

SEPARATE

Safely Separate

Outcomes:

This experiment simulates how easy it can be to cross-contaminate food when storing and preparing it. Sponges and paint are used to show how bacteria can spread from raw meat, fish or poultry to cooked foods or vegetables. Remind students that bacteria on a cutting board can spread to other foods, too — like a bagel.

- Cooked meat, fish or poultry should never be placed back on the same (unwashed) plate that was used for the raw meat, fish or poultry.
- Every cutting board must be thoroughly washed between uses, in a dishwasher or with hot water* and soap. This is especially important when the same cutting board has been used for raw meat, fish or poultry and is going to be used for vegetables that will be eaten raw.

*Hot water should be used with caution.

Integrated Learning:

Science learning:

- Use observation techniques.
- Use data collected to predict correct future actions.

Mathematics:

- Problem solving.

Language arts:

- Write expository essay stressing reasons it is important to separate food:

Paragraph 1 — write focus statement

Paragraph 2 — reason 1 with supporting details

Paragraph 3 — reason 2 with supporting details

Paragraph 4 — reason 3 with supporting details

Paragraph 5 — conclusion

Technology:

- Use web site to research types of bacteria.

COOK

Proper Patties

Outcome:

For hamburger to be safe to eat, it must be cooked to an internal temperature of 160°F/71°C. This is the only way to make sure that all harmful bacteria that might be present have been killed. The color of the meat is *not* a reliable indicator that the meat has reached a temperature high enough to destroy harmful bacteria such as *E-coli O157:H7*. *If a thermometer is not available, do not eat ground beef that is still pink inside.*

- Digital food thermometers and dial food thermometers have different usage instructions. Be sure to check the label!
- Don't confuse instant-read food thermometers with dial roasting thermometers. The dial kind is used in the oven; it stays in the meat or poultry the whole time it's cooking. The instant-read is used after the meat is taken out of the oven or off the heat. Again — check the label!

Integrated Learning:

Science learning:

- Observe, record, create data.

Mathematics:

- Measure using time and different variables like 1/4" from edge, center, 160°F/71°C.
- Graph data collected over time.

Language arts:

- Conduct oral and written share of experiments and results.

Technology:

- Learn to use a food thermometer properly and research the different types of food thermometers.

Social Studies:

- Research what foodborne illness you might get if the hamburger or chicken are not cooked to proper temperatures and find an example in news stories of people contracting this illness from eating undercooked hamburger or chicken.

Optional Followup:

- Research what bacteria cells look like.

Be a Good Egg!

Outcome:

Scientists estimate that 1 in 20,000 eggs may contain harmful bacteria. The bacteria will be killed with thorough cooking. Eggs should be cooked until the yolks and whites are firm. Don't use recipes in which eggs remain raw or only partially cooked.

Integrated Learnings:

Science learning:

- Observe, predict, hypothesize.

Mathematics:

- Develop system to chart data collected.
- Measure time and temperature and make comparisons.

Language arts:

- Participate in oral and written share of experiment results.

Technology:

- Research safe food-cooking temperatures for eggs, meat, poultry and fish.

CHILL

Cooling Counts!

Outcome:

The temperature of the water in the shallow container will cool more quickly than in the tall (large or deep) container. This simulates how important it is to store leftovers in shallow containers in the refrigerator for quickest cooling.

If food is left in the danger zone (temperatures between 40°F/4°C and 140°F/60°C), bacteria multiply more quickly.

Integrated Learnings:

Science learning:

- Use scientific method: predict, hypothesize, observe, conclude.
- Evaluate learning to determine which containers are best for leftovers.
- Measure temperature over time.
- Use data collected to predict best leftover storage system.

Mathematics:

- Measure different temperatures.
- Graph collected data.

Language arts:

- Write the scientific reason why water cooled faster in different shaped containers. Include discussion of surface area in conclusion statement.

Social Studies:

- Investigate methods of storage in countries that use different types of technology (e.g., drying meat, irradiation).

Optional Followup

- Design fictional storage containers for different types of leftovers.

Yeast Balloon Blow-up

Outcome:

The yeast microorganism is used because it has growth properties that are similar to bacteria.

The yeast solution placed in the cold water bath simulates what happens to bacteria when it is chilled. It will not grow.

The yeast solution in the warm water bath simulates what happens to bacteria when left out, particularly in a warm place. This yeast will thrive within the danger zone (see thermometer on page 13) and will grow. As the yeast grows it bubbles, creates gas and causes the balloon to inflate. Bacteria also thrive on sugar so the sugar solution makes the growth more rapid. Take advantage of this opportunity to talk about "good bacteria" with your students.

Integrated Learnings:

Science learning:

- Observe bacteria growth.
- Evaluate why it's so important to avoid bacterial growth in food.

Mathematics:

- Compare degrees in Fahrenheit and Celsius.
- Measure liquid in milliliters, temperature in Fahrenheit and Celsius.

Language arts:

- Participate in oral and written share of observations and conclusions.

SOAPY SOLUTIONS

Materials Needed:

- Cooking oil
- Cinnamon
- Access to sink to wash hands
- Measuring spoons (teaspoon and tablespoon)

ALL WASHED UP!

QUESTION

What is the most effective way to remove bacteria from your hands?

MY HYPOTHESIS:

GETTING READY

Ask three classmates to volunteer for the experiment.

PROCEDURE

For the student volunteers:

1. Rub 1 tablespoon of cooking oil all over your hands until completely coated. Sprinkle 1 teaspoon of cinnamon on hands and rub it around until it's evenly distributed. The cinnamon will be like bacteria. It's all over!
2. Wash hands as follows, **rubbing them briskly for 20 seconds**:
 - Student #1: wash hands with **cold water** and **no soap**
 - Student #2: wash hands with **warm water** and **no soap**
 - Student #3: wash hands with **warm water** and **soap**

For the rest of the class:

1. Observe the three handwashing methods.
2. Record the results.

TIP

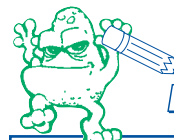


Check to make sure there is handwashing soap at every sink in your home and at school.

MY OBSERVATIONS

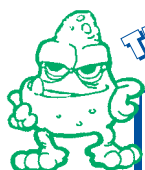


- The method of handwashing that removed the most "bacteria" was:
- The method that removed the least "bacteria" was:
- Illustrate how the hands of Students 1, 2 and 3 looked after washing.



MY CONCLUSIONS

- I can remove bacteria from my hands by:
- If I used only cold water and no soap to wash, this is what might happen:
- Why does the . . .
 - **Warm water help?**
 - **Soap?**
 - **Rubbing?**



TELL YOUR FAMILY . . .

Encourage all family members to wash hands with soap and warm water for 20 seconds.

There's More Than Meets the Eye

ALL WASHED UP!

QUESTION

Is it important to wash your hands before handling, preparing, or serving food — even if they look clean?

MY HYPOTHESIS:

Materials Needed:

- Two small Delicious apples, washed in advance (but not by the person cutting the apples)
- Potato peeler
- Small, clean knife
- Cutting board
- Two sterilized jars (see “tip” at left) with screw-top lids
- Masking tape or gummed labels
- Felt-tip markers

GETTING READY

Label the jars:

- Jar 1 — Washed Hands
- Jar 2 — Unwashed Hands

Choose a class volunteer to perform the experiment. Make sure his/her hands haven't been washed in several hours!

PROCEDURE

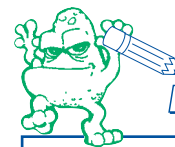
1. Without washing hands, peel one apple and cut it in half on the cutting board.
- For the Class Volunteer:**
2. Place one half of the apple in the jar labeled “Unwashed Hands.” Screw the lid on tightly, compost the remaining apple.
 3. Wash your hands thoroughly with soap and warm water for 20 seconds. Now wash the potato peeler, knife and cutting board with soap and warm water.
 4. Peel the second apple and cut it in half.
 5. Place one half of the apple in the jar labeled “Washed Hands.” Screw the lid on tightly and compost the remaining apple.
 6. Place jars in a warm place.
- For the Class:**
7. Observe the jars once daily for a week and record your observations.



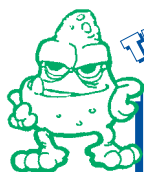
To sterilize: Wipe clean with rubbing alcohol or wash in the dishwasher.



- **Describe:** Do the apples look the same? If not, describe how they are different.
- **Illustrate:** Draw pictures of both apples to show how they look after two days and at the end of the week.
- **Chart:** Create a chart or graph to record your data.



- This is what happened to each apple:
- I think the apples looked different because:
- This is what I learned about the food that I touch and eat:



TELL YOUR FAMILY . . .

Make “Wash your Hands” reminders to hang near the kitchen sink or on the refrigerator at home to make sure that your family members are “All Washed Up” before they handle food.

SAFELY SEPARATE

Materials Needed:

- 2 clean sponges, cut in the shape of chicken legs
- Red or other brightly-colored poster paint
- Paint brush
- Cutting board
- Cucumber
- Clean, light-colored plate
- Serrated knife



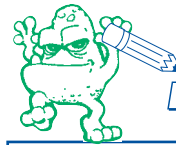
QUESTION

Is there a potential danger in using the same equipment to prepare raw meat and other foods?

MY HYPOTHESIS:

PROCEDURE

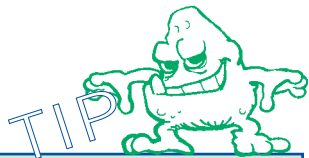
1. Dampen both sponges. Set one sponge aside to represent the “cooked chicken.”
2. Paint both sides of the other sponge to represent raw chicken. Pretend that the paint is the juice of the chicken that may have been contaminated with Salmonella!
3. Place the painted sponge on the cutting board and use a knife to cut the sponge in half. Move the painted sponge onto the plate, and don’t wash the cutting board.
4. Next, cut a slice of raw cucumber on the same cutting board you used in Procedure #3.
5. Now, place the clean sponge (“cooked chicken”) that was cooked well-done on the plate with the “raw chicken” sponge.



MY CONCLUSIONS

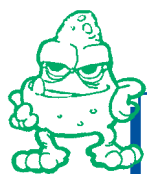
- After #3, this is where I observed the paint (representing Salmonella) on —
 - the cutting board:
 - the knife:
 - my hands:
 - the plate:
- After #4, this is what happened to the cucumber slices:
- After #5, this is what happened to the “cooked chicken” sponge:
- Chart the path of “Salmonella” paint between each item.

- This is how I can get rid of the paint “bacteria” on —
 - the cutting board:
 - the knife:
 - my hands:
 - the plate:
- If I touch something else without washing my hands — or use the knife again — this is what can happen:
- To kill the bacteria on the chicken, it is important to:
- If someone ate the raw cucumber, this is what could happen:
- This is what can happen when cooked chicken is placed on the same plate as raw chicken:



Plastic (“non-porous”) cutting boards are easiest to clean.

TELL YOUR FAMILY . . .



Remind your family members to wash all cutting boards and utensils between uses in the dishwasher or with hot water and soap.
Be sure to always rinse vegetables and fruit in cold water before eating or preparing them!

HOT STUFF

E X P E R I M E N T

PROPER PATTIES

Materials Needed:

- ¼ lb. of fresh, lean hamburger meat
- Food thermometer
- Access to toaster oven with a broiler and broiler tray (or an electric fry pan)
- Pot holder

QUESTION

How can you tell when a hamburger patty is cooked to a safe temperature?

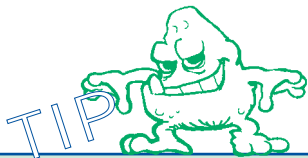
MY HYPOTHESIS:

PROCEDURE

1. Form a round, thick (1") hamburger patty. Measure and record the temperature of the patty ¼" from the edge. (See chart below.)
2. Now, take the meat's temperature in the very center of the patty. Then wash the thermometer thoroughly.
3. Place the patty on the toaster oven broiling tray.
4. Place the tray in the toaster oven and turn the dial to broil.
5. When the burger looks cooked on one side, have your teacher turn over to brown the other side. Remove it from the toaster oven.
6. Now take the patty's temperature ¼" from the outside edge, and again in the center of the patty. This must be done quickly so the patty doesn't lose its heat! Record your temperature reading on the chart below.
7. If the temperature reading is less than 160°F/71°C, place the patty back in the oven and then take the meat's temperature every two to three minutes until the temperature is 160°F/71°C in the center.
8. Cut open the patty and observe the inside.

Hamburger Temperature Results

	Raw	Test 1 When outside looks cooked	Test 2 Time:	Test 3 Time:	Test 4 Time:	Done/ Safe to Eat Time:
¼" from edge						160°F/71°C
Center						160°F/71°C
Difference						0



Thermometer Tips:

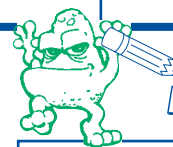
- Make sure the thermometer goes straight into the meat and does not come out the other side to touch the pan!
- Thermometers should be washed with soap and hot water each time you take the temperature of the meat.

DID YOU KNOW?

When a piece of meat is "ground up" to make hamburger, the bacteria that was on the surface of the meat can end up on the inside of the burger! That's why it's so important to cook the whole burger to a safe temperature of 160°F/71°C!

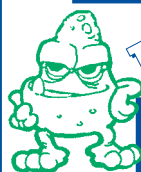


- When I measured the meat temperature ¼" from the edge and in the center the first time, the outside of the patty looked:
- When the thermometer read 160°F/71°C in the center,
 - The outside of the patty looked:
 - The inside of the patty looked:



MY CONCLUSIONS

- The best way to tell if the hamburger is done and safe to eat is to:
- It's important to wash the thermometer after each use because:
- When meat is cooked to 160°F/71°C:
- If hamburger is not cooked to 160°F/71°C, this is what could happen:
- What do you think? Does the color of meat tell you whether it is cooked enough to be safe to eat?



TELL YOUR FAMILY . . .

Check to see if your family has a food thermometer and uses it! Let them know what you learned about making meat safe to eat! Wash your hands after handling raw meat or poultry!

BE A GOOD EGG

Materials Needed:

- Three large raw eggs
- Electric "hot pot" with access to outlet or pan (with lid) with access to heat source
- Slotted spoon
- 1 small, clear cup or jar
- 3 small paper plates
- Knife
- Permanent marker
- White sheets of paper for each student
- Pencils; yellow, orange and red crayons or markers
- Access to cold water



QUESTION

How do you know when a hard-cooked egg is safely cooked?

MY HYPOTHESIS:

GETTING READY

Choose three classmates to be "egg peelers."

Label the eggs and paper plates with permanent marker:

- #1: cooked 2 minutes
- #2: cooked 8 minutes
- #3: cooked 15 minutes

PROCEDURES

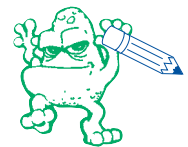
1. Carefully place the three eggs in cold water in electric "hot pot" or pan. Heat until boiling; remove from heat and cover with lid.
2. Remove Egg #1 with the slotted spoon after 2 minutes, and cool under cold water.
3. Remove Egg #2 6 minutes later and cool under cold water.
4. Let Egg #3 stay in the hot water for 7 minutes more (total time: 15 minutes). Then cool under cold water.
5. Have each "egg peeler" peel one of the three cooked eggs, cut the egg in half, and put it on its labeled paper plate.
6. Observe and record the differences between the three eggs! (Use chart below.)

Record your observations: What do you see?

Part of egg	#1: Cooked 2 minutes	#2: Cooked 8 minutes	#3: Cooked 15 minutes
Yolk			
White			

DID YOU KNOW?

A raw egg spins more slowly than a cooked egg! The liquid inside the raw egg slows it down!



Illustrate: Draw a picture of each egg using pencil and yellow or orange marker or crayon to show the whites and the yolk. How are the yolks and whites different in the three eggs?

Describe and Categorize:

- List as many words as you can think of to describe the whites and yolks of each egg.
- Circle the ones that indicate that an egg is safe to eat and put a red X through the ones that indicate it is not.

MY CONCLUSIONS

- This is what happens when you cook an egg longer:
- You can tell that an egg is cooked sufficiently by:
- What Do You Think? Is it okay to eat raw eggs if they are mixed in raw cookie dough?

TELL YOUR FAMILY . . .



Bring home your picture of the three eggs and post it on your refrigerator. Remind your family to cook eggs until the yolks and whites are firm. Don't use recipes in which eggs remain raw or only partially cooked.

COOLING COUNTS

Materials Needed:

- Hot water
 - Measuring cup
 - Shallow container (1 cup/500 ml minimum)
 - Tall container
 - Food thermometer
 - Wire or string
- } made from the same material, like plastic or glass

CHILL OUT

QUESTION

Does the shape of a container affect the rate at which cooling takes place?

MY HYPOTHESIS:

PROCEDURE

1. Pour 1 cup hot water into each container.
2. Check the temperature of the water in each container at 5-minute intervals, and record the times and temperatures. (See tip at left.)



- This is what I observed about the water cooling in each container:
 - Shallow:
 - Tall:
- Chart the results for temperatures at 5-minute intervals.

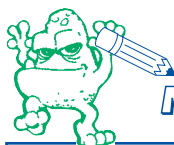
TIP



For tall containers, you may need to use wire or string to lower the thermometer into the water.

DID YOU KNOW?

Bacteria grow quickest in the “danger zone” — temperatures between 40°F/4°C and 140°F/60°C.

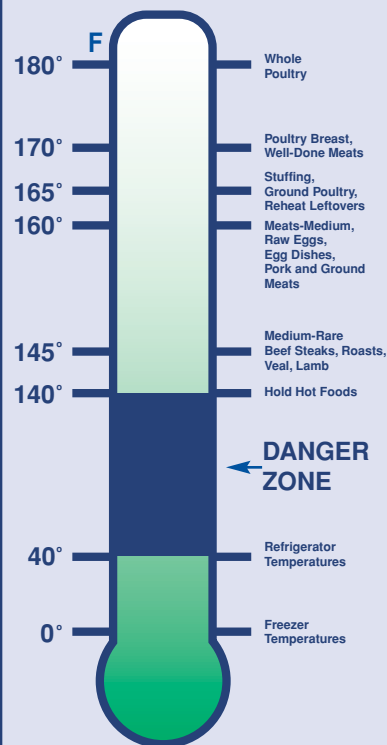


MY CONCLUSIONS

- It took the taller container longer to cool because:
- It is important for leftover food to be cooled down quickly when stored in the refrigerator because:
- If the water were clam chowder and it took a long time to cool down, this is what could happen:

RECOMMENDED Safe Cooking Temperatures

These temperatures are recommended for consumer cooking. They are not intended for processing, institutional, or foodservice preparation.



For answers to your Food Safety Questions Call:

1-800-535-4555
USDA's Meat and Poultry Hotline



TELL YOUR FAMILY . . .

Check to see how leftovers are stored in your home. Encourage family members to use shallow containers.

YEAST BALLOON BLOW-UP

Materials Needed:

- 2 balloons
- 3 500 ml beakers
- 2 250 ml flasks or small clear glass or plastic bottles with small openings
- Food thermometer to measure the temperature of the water
- Room-temperature water (about 70°F/21°C)
- 1/4 cup of sugar
- 1 package of dry yeast
- Warm water (about 110°F/43°C to 120°F/49°C)
- Ice water (below 40°F/4°C)

CHILL OUT

QUESTION

Can chilling food help stop the growth of bacteria?

MY HYPOTHESIS:

GETTING READY

Fill the two balloons with air to stretch them; then deflate.

Label the beakers:

- 1 – “Mixing Beaker”
- 2 – “Warm Water Bath”
- 3 – “Ice Water Bath”

PROCEDURE

1. Fill the “Mixing Beaker” with 500 milliliters of room-temperature water. (Room temperature is about 70°F/21°C; use your thermometer to measure the temperature of the water.)
2. Dissolve the sugar in the room-temperature water. Add yeast to the sugar/water solution and stir gently to dissolve.
3. Pour half the solution into each flask. Carefully stretch the balloon openings to fit over the openings of the flasks and place one flask in each of the other two beakers.
4. Put warm water (about 110°F/43°C to 120°F/49°C) into the “Warm Water Bath”- labeled beaker — just enough to cover the yeast mixture in the flask.
5. Put ice water (below 40°F/4°C) into the “Ice Water Bath” beaker. Again — just enough to cover the yeast mixture in the flask.
6. Observe and record what happens after 5 minutes. After 30 minutes. After 1 hour.

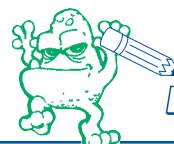
DID YOU KNOW?

- Yeast is a good microorganism — but it shows us how bacteria can multiply!
- The vocabulary word “perishable” describes foods on which bacteria could grow if not stored properly — like dairy products or vegetables. What other foods can you think of that are “perishable?”



• My observations at each interval were:

- 5 minutes:
- 30 minutes:
- 1 hour:
- This is what happened to the yeast in the warm water bath:
- This is what happened to the yeast in the ice water bath:



MY CONCLUSIONS

- If the yeast in the warm water bath were dangerous bacteria instead of harmless yeast microorganism, what could you say the warm environment does?
- If the yeast in the ice water bath were dangerous bacteria instead of good yeast, what could you say the cold environment does?
- What would happen if you put a sample of the yeast/sugar solution in the refrigerator?
- How do yeast and bacteria act the same?
- What effect did the cold temperature of the ice water have on the yeast?

TELL YOUR FAMILY . . .



Always store “perishable” foods in the refrigerator to prevent bacteria growth.

FBI* CASE:

Perils at the Picnic

Calling all agents! The FBI Team has learned of a possible foodborne illness incident in progress!

As an FBI detective, you must investigate the facts and give your expert conclusions. Because now that you're an expert on food safety — it's up to you to Fight BAC![®] for food safety!

*FBI = foodborne illness

It was a Saturday morning in early summer . . .

1

Tom gets a call from his friends to meet them in the park down the street to play ball. They tell him to bring food for a picnic lunch, so they can stay all day. (One of his buddies, Nick, is bringing his older brother along to help with the barbecue.) The boys can't wait to get to the park early so they can start playing before it gets too hot!

2

Tom looks in the refrigerator and finds some potato salad his mom made during the week. He also finds some cold cuts, leftover turkey, cheese, a tomato, an apple and some grapes in a drawer. He wraps the meat and cheese in plastic wrap and packs them in a big paper bag with some paper plates, bread, the fruit and tomato and a knife and fork. Just before he leaves, he checks the freezer and finds three hamburger patties wrapped in plastic — he throws them in the bag, too.

3

As Tom runs out the door, he tosses his baseball and glove in the bag and grabs his bat. When he gets to the park, several of his friends are already there. Nick's older brother, Stephen, is setting up a grill for cooking hamburgers.

4

Tom and his friends claim the last picnic table — a great spot in the sun! Tom grabs his baseball and glove out of the food bag and leaves the bag on top of the table. He figures that this way, the hamburger will be thawed enough to cook by lunchtime!

5

When it's time to break for lunch, Tom's friends go to find a bathroom while Tom unpacks the picnic food. The hamburgers are dripping on the outside, but still frozen on the inside and stuck together! So Tom sets them on a paper plate and uses the knife and fork he brought to pry them apart. When they're almost apart, he uses his fingers to separate them the rest of the way and then leaves them on the plate so they can thaw a bit more before he takes them over to the grill.

6

Tom then sets the cheese and the tomato on the plate and slices them to use on top of the burgers. That way everything will be ready to stick on top of the burgers!

7

When the other kids return, they brush off the surface of the picnic table with their hands and lay the bread out to make a couple of sandwiches from the cold cuts, cheese, and turkey. Nick's brother starts grilling the burgers.

8

Once the burgers have turned brown on the outside, Tom and his friends add cheese to the top of the burgers. Stephen says he wants to cook them a bit more, but the boys insist that they love to eat them rare.

9

Retrieving the fork Tom used to separate the frozen burgers, the boys serve themselves some potato salad. Using the knife, they cut up the apple which had been sitting on top of the picnic table and share it along with the grapes, which had also been sitting out on the top of the picnic table.

CRACKING THE CASE

What food safety mistakes did Tom make?

- At home? _____
- At the park before they played ball? _____
- While getting the food ready? _____
- While he and his friends were eating? _____

What questions do you have for Tom and his friends about what they did? _____

About the food they were eating? _____

Does it matter . . .

- How long Tom and his friends played ball? _____
- That Tom didn't go to the bathroom with his friends? _____
- That they chose a table in the sun? _____
- That the hamburger was juicy on the outside when they finished playing ball? _____

Explain why: _____

What might happen to Tom and his friends? _____

ATTENTION
 Food Safety Inspectors!
 Use this survey to check out
 your food safety practices at home.

BE A BAC BUSTER!
HOME FOOD SAFETY SURVEY

Date Started: _____



DID YOU . . .

1. Wash hands with warm water and soap for 20 seconds before preparing food?
2. Wash hands with warm water and soap for 20 seconds before eating?
3. Clean countertops before preparing food?
4. Rinse fruits and vegetables with cold running water before preparing them?
5. Rinse fruits and vegetables with cold running water before eating them?



Family Handwashing Scoreboard:

Date: _____ Name: _____ When washed: _____

Answer questions 1-15:
 Y = Yes N = No
 Add the initials of family members in each column head.

	A ME	B	C	D
1.				
2.				
3.				
4.				
5.				
TOTAL	Y N	Y N	Y N	Y N



DID YOU . . .

6. Clean the cutting boards used for raw meat, fish and poultry before using for any other foods?
7. Keep raw meat, fish and poultry wrapped properly in the refrigerator so juices do not drip on other foods?
8. Put cooked meat, fish or poultry on a different platter than the one with the raw juices?



Cutting Board Critique

Number of cutting boards:

Type (plastic, wood, etc.): _____

	A ME	B	C	D
6.				
7.				
8.				
TOTAL	Y N	Y N	Y N	Y N



COOK

DID YOU . . .

9. Rotate food in the microwave to avoid "cold spots?"



10. Bring sauces, soups and gravy to a boil when reheating?



11. Make sure eggs were cooked properly?



12. Eat cookie dough or cake batter that was made with raw eggs?

A B C D
ME _____

9.				
10.				
11.				
12.				
TOTAL	Y N	Y N	Y N	Y N



Safe Temperature Summary

Kind of Meat: _____ Date Cooked: _____ Food thermometer temp: _____

Kind of Poultry: _____ Date Cooked: _____ Food thermometer temp: _____

Kind of Fish: _____ Date Cooked: _____ Food thermometer temp: _____

CHILL

DID YOU . . .

13. Use a cold pack for packed lunches or picnic foods?



14. Refrigerate leftovers right away?

15. Defrost foods in:
 — the refrigerator
 or
 — cold water
 or
 — the microwave?

A B C D
ME _____

13.				
14.				
15.				
TOTAL	Y N	Y N	Y N	Y N



FRIDGE EXAM

The refrigerator is set at _____ degrees.

Food storage containers found:

___ tall containers

___ shallow containers



Date Completed: _____

Student signature: _____

Parent/Guardian signature: _____

BAC-Catcher Game

Write your own food safety Questions and Answers in the Q & A triangles – two for each Action.

- Clean
- Separate
- Cook
- Chill

Have Fun Fighting BAC!

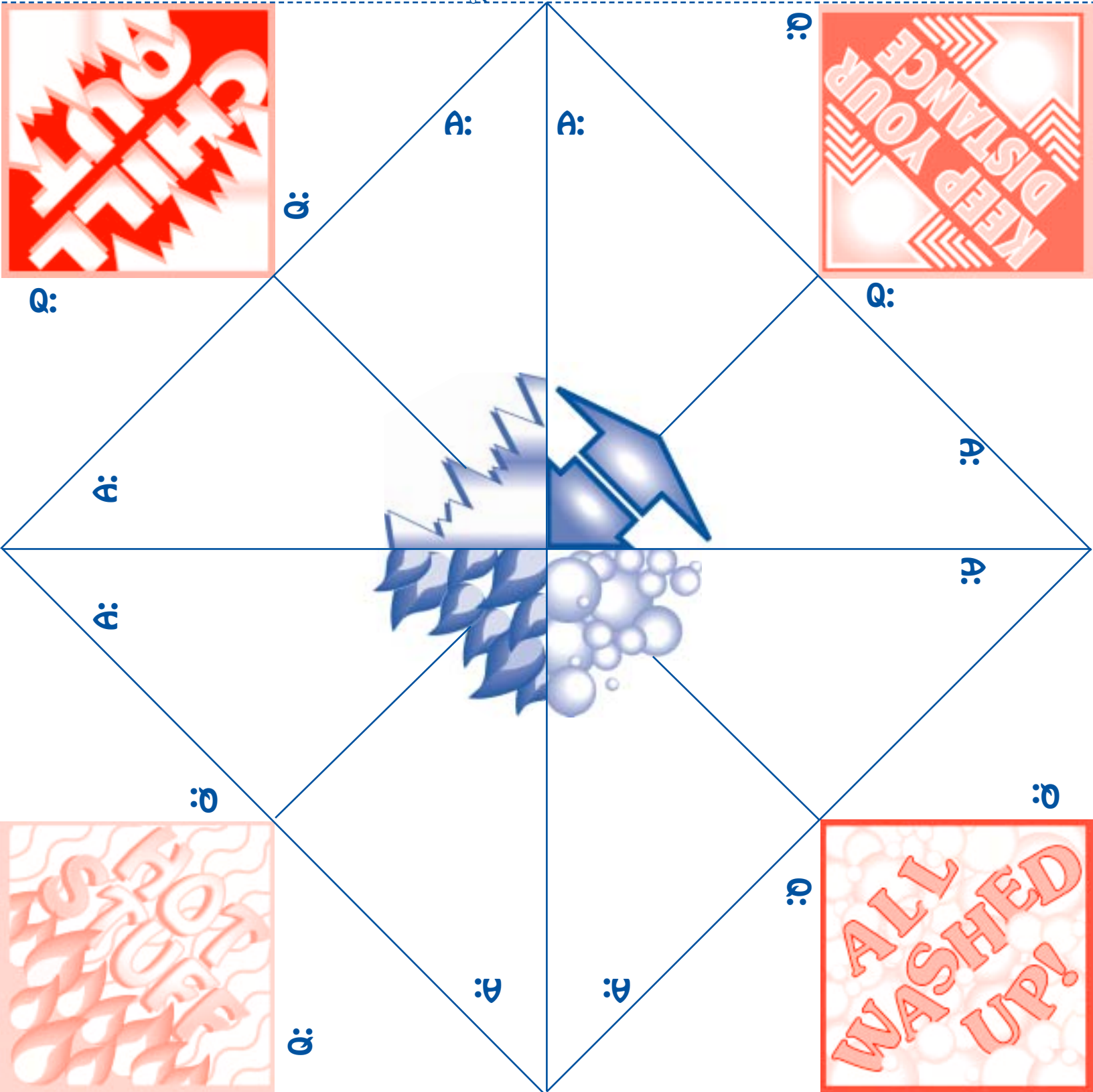
Folding Instructions

1. Cut along the dotted lines.
2. Place the BAC-Catcher facedown. Fold two corners together to form a triangle. Crease and unfold. Now fold the other two corners together; crease and unfold.
3. Fold each corner to the center point.
4. Turn the folded paper over and fold each corner into the center.
5. Fold the square in half. Unfold it and fold it in half the other way.
6. Using both hands, place your thumbs and index fingers under the flaps.

How to play

- This game is for two players. Ask the other player to pick one of the printed squares — for example, "Hot Stuff."
- Open and close the BAC-Catcher in an alternating direction for each letter of the phrase H O T S T U F F (eight times).
- Ask the question closest to the phrase chosen and let the other player answer. Lift the flap to find the answer.
- Now give the BAC-Catcher to the other player. It's your turn to answer.
- Alternate asking and answering until all the questions are answered . . . everyone wins by learning about FOOD SAFETY.

Compliments of The Partnership for Food Safety Education. Visit our web site: www.fightbac.org



Four Simple Steps to Food Safety



Right now, there may be an invisible enemy ready to strike. He's called BAC (bacteria) and he can make you and those you care about sick. In fact, even though you can't see BAC — or smell him, or feel him — he and millions more like him may have already invaded the food you eat.

But you have the power to Fight BAC! [®] and to keep your food safe from harmful bacteria. It's as easy as following these four simple steps:

CLEAN

Wash hands and surfaces often



Bacteria can spread throughout the kitchen and get onto cutting boards, utensils, sponges and countertops. Here's how to Fight BAC![™]:

- Wash hands, utensils and surfaces in hot soapy water before and after food preparation and especially after preparing meat, poultry, eggs or seafood to protect adequately against bacteria. Using a disinfectant cleaner or a mixture of bleach and water on surfaces can provide some added protection. Also, remember to wash your hands after using the bathroom, changing diapers or handling pets.
- Use plastic or other non-porous cutting boards. These boards should be run through the dishwasher – or washed in hot soapy water – after use.
- Consider using paper towels to clean up kitchen surfaces. If you use cloth towels, wash them often in the hot cycle of your washing machine.

SEPARATE

Don't cross-contaminate



“Cross-contamination” is the scientific term for how bacteria can be spread from one food product to another. This is especially true when handling raw meat, poultry and seafood, so keep these foods and their juices away from ready-to-eat foods. Here's how to Fight BAC![™]:

- Separate raw meat, poultry and seafood from other foods in your grocery shopping cart and in your refrigerator.
- If possible, use a different cutting board for raw meat products.
- Always wash hands, cutting boards, dishes and utensils with hot soapy water after they come in contact with raw meat, poultry and seafood.
- Never place any food on a plate which previously held raw meat, poultry or seafood.

COOK

Cook to proper temperatures



Food-safety experts agree that foods are properly cooked when they are heated for a long enough time and at a high enough temperature to kill the harmful bacteria that cause foodborne illness. The best way to Fight BAC![™] is to:

- Use a clean thermometer, which measures the internal temperature of cooked foods, to make sure meat, poultry, casseroles and other foods are cooked all the way through.
- Cook roasts and steaks to at least 145°F. Whole poultry should be cooked to 180°F for doneness.
- Cook ground beef, where bacteria can spread during processing, to at least 160°F. Information from the Centers for Disease Control and Prevention (CDC) link eating undercooked, pink ground beef with a higher risk of illness. If a thermometer is not available, do not eat ground beef that is still pink inside.
- Cook eggs until the yolks and whites are firm. Don't use recipes in which eggs remain raw or only partially cooked.
- Fish should be opaque and flake easily with a fork.
- When cooking in a microwave oven, make sure there are no cold spots in food where bacteria can survive. For best results, cover food, stir and rotate for even cooking. If there is no turntable, rotate the dish by hand once or twice during cooking.
- Bring sauces, soups and gravy to a boil when reheating. Heat other leftovers thoroughly to at least 165°F.

CHILL

Refrigerate promptly



Refrigerate foods quickly because cold temperatures keep harmful bacteria from growing and multiplying. So, set your refrigerator no higher than 40°F and the freezer unit at 0°F. Check these temperatures occasionally with an appliance thermometer. Then, Fight BAC![™] by following these steps:

- Refrigerate or freeze perishables, prepared foods and leftovers within two hours or sooner.
- Never defrost food at room temperature. Thaw food in the refrigerator, under cold running water or in the microwave. Marinate foods in the refrigerator.
- Divide large amounts of leftovers into small, shallow containers for quick cooling in the refrigerator.
- Don't pack the refrigerator. Cool air must circulate to keep food safe.



<p>Language Arts Art</p>	<p>BAC!'s Story — In His Own Words!</p> <ul style="list-style-type: none"> • Invite children to write a short adventure story from the point of view of the bacteria — featuring their efforts to stay alive and multiply! Encourage them to include several food safety mistakes that help bacteria multiply and several good food safety habits that keep bacteria from multiplying! • Have students illustrate their stories with their own portrait of BAC!
<p>Language Arts Music</p>	<p>Fight BAC![®] Rap</p> <ul style="list-style-type: none"> • Have children (as a group) compose a rap song or chant using the basic messages of food safety. Start by having students list all the vocabulary words they can think of for each key “Action,” along with words that rhyme. Remind them to create one verse for each key “Action.” • When the rap is done, have children perform it with percussion or rhythm instruments.
<p>Language Arts Science</p>	<p>Good Guys/Bad Guys</p> <ul style="list-style-type: none"> • Not all bacteria are bad! Have students research good bacteria and bring in three kinds of food — or pictures of food — that have good bacteria (like yogurt or cheddar cheese). • Ask children to research the purpose of good bacteria in food. Encourage them to use a variety of sources: Internet, library, the school nurse, etc.
<p>Language Arts Science Art</p>	<p>Bacteria — From the Artist's View!</p> <ul style="list-style-type: none"> • Under a microscope, bacteria can look like a colorful work of art! Have students find pictures of magnified bacteria cells in the encyclopedia or through other research. • Have students draw their own pictures of bacteria as if they were seeing them through a microscope, using colored pencils and other materials to give texture to the artwork. Remind them to label their pictures with the scientific name! (What does <i>Salmonella</i> really look like?) • Remind the students to check the www.fightbac.org web site to find other bacteria names.
<p>Math Science</p>	<p>Lunch Box Test Pilots!</p> <ul style="list-style-type: none"> • Pack two lunches in the morning with some cold food items (like pasta salad, a cheese sandwich or yogurt). Use a cold pack in one lunch bag. • Have students test each food's temperatures at 1-hour intervals to see if any of the foods are in the “danger zone.” (See thermometer illustration on page 13.) • Make a bar chart of the food's temperatures to show the difference between the two lunches, plotting out the temperatures taken at each interval. • Invite children to explain the significance of this information!
<p>Math</p>	<p>Multiplying Bacteria</p> <ul style="list-style-type: none"> • Have students imagine a fictional bacteria that will reproduce once every 30 minutes at room temperature (70°F/21°C), once every 10 hours when cooled in the refrigerator at 40°F/4°C, and once every 7 hours when heated in the oven at 120°F/49°C. • Now, challenge them to figure out and chart: How many bacteria would be present in each location after 1 hour . . . 2 hours . . . 6 hours . . . 1 day. • Through this exercise, what can they hypothesize about how temperature affects bacterial growth?
<p>Social Studies Creative Dramatics</p>	<p>Food Safety's Cast of Characters</p> <ul style="list-style-type: none"> • Many people are responsible for helping to keep food safe. Conduct research about the people involved from farm to table like farmers, grocers, cooks, government inspectors and others. • Role-play these characters in class using props students bring in or make.
<p>Social Studies</p>	<p>Food Safety Long Ago . . . and Far Away</p> <ul style="list-style-type: none"> • Ask your school librarian to help students research food safety practices from long ago — such as the use of drying and salting for a long sea-voyage . . . first use of thermometers in determining safe food temperatures . . . the invention of pasteurization . . . irradiation. • Encourage students to talk to parents and grandparents about how food was stored when they were growing up and contrast it with how food is stored today. • In current times, how might people in different parts of the world deal with food safety? Have students brainstorm how the availability of soap . . . water . . . and refrigeration would make a difference. What about places impacted by weather disasters like earthquakes or hurricanes? • What strategies could they come up with for these affected areas?





Food Safety Signs

- “Spread the word . . . not the germs!” Have students design food safety signs that cover basic food safety messages to post in key places around the school.
- Then they can decide the best places to post the signs — like “wash your hands” signs in the bathrooms and “use a cold pack!” signs in the cafeteria.
- For handwashing signs, show the proper steps — and try to laminate them for lasting use! Don’t forget the adult bathrooms — even teachers can use some tips and reminders.

Your Attention Please!

SEPTEMBER Is National Food Safety Month!

- Have your students write fun “copy” for loudspeaker announcements giving basic food safety messages.
- Try composing a “tip of the day” that can be announced every morning for a week. Announce it to be Fight BAC!® Week!
- Choose “student announcers” to get the word out!

Fight BAC!™

Puppet Show or Play

- Using what they’ve learned about food safety through the classroom program and their own research, have students write a play or puppet show about food safety. Characters can be played by real students, or by puppets!
- To make puppets: Have students create BAC! figures using green construction paper. (Or check the www.fightbac.org web site to download and print out the BAC! character.)
- Mount the figures with velcro on old socks to make puppets. They can create other characters for the show if needed.
- Have students present their puppet show or play to a kindergarten or first grade class. (For other options, see the next activity.)

(Food) Safety in Numbers!

In an Assembly

- Join with other classes in your school that are participating in the Fight BAC!® Program, and create a food safety assembly! Perform the play or puppet show written by the class. You might even invite an outside speaker who is an expert on food safety to be part of the program. Include your rap song!

For the PTA

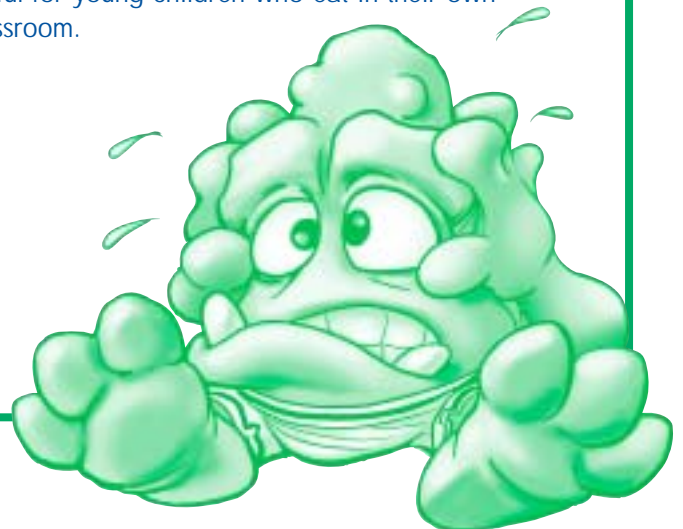
- Arrange for a group of students to speak at the next PTA meeting to share what they’ve learned about Food Safety, or perform their Fight BAC!® play. Have copies of the Action Chart (page 20) to hand out. (Note: see the Special Event inset box on page 23.)

“Food Safety Stuff” Bulletin Board

- Choose a bulletin board in a central spot for “Food Safety Stuff.” Divide it into four sections — one for each “Action.”
- Have students design how to best present food safety. Encourage them to include stories, poems, drawings, collages and magazine cut-outs to illustrate each message.

Food Safety Buddies

- Help your students become Fight BAC!® Buddies for a kindergarten or first grade class in your school. Topics can include handwashing and safe snacks or lunch.
- Brainstorm ideas ahead of time and plan and practice the lesson. This lunchtime lesson can be especially useful for young children who eat in their own classroom.





PSAs on the Air

- Talk with students about what a Public Service Announcement is and does. (Try recording a couple at home, or ask a local radio station or cable network for samples!)
- Now, challenge students to write their own PSAs about food safety.
- Vote on the best ones and see if you can get one aired on local TV or radio.

Food Safety Scouts

- Contact your local scout troops and see if your students can help them plan a food safety presentation.
- Encourage them to visit the younger Brownie and Cub Scout troops to talk about handwashing and food safety.

Food Safety Bookworms

- Anyone who cooks needs to know about food safety! Have students hold a school-wide contest to create a great food safety bookmark.
- Laminate copies of the winners and ask local bookstores if they will make them available to customers who buy cookbooks.

Helping the Elderly or Home-bound

- Have students prepare posters or little refrigerator magnets as food safety reminders for Meals on Wheels, Guardian Angels, Hot Meals for Seniors and other programs that reach out to those with special needs. The student can be a “Food Safety Guardian Angel” to be sure the client follows the food safety rules.

Where's the Beef? — A Supermarket Field Trip

- Arrange a class trip to a local supermarket. This is a great activity to do during Food Safety Month in September . . . in November, before the holidays (when lots of turkeys and roasts are cooked), or before picnic season starts on Memorial Day!
- Encourage the class to investigate meat, poultry and fish labels for cooking and safe temperature instructions.
- Have them see if food thermometers are sold and what types are available.
- As followup, have students create a PR campaign for the supermarket to publicize the importance of food safety. Have them consult the supermarket manager to see what would work best for the store. Suggest posters, in-bag flyers, or brochures.

Restaurant Safety

- Have students generate a list of local restaurants where they eat.
- Together compose a letter letting the restaurants know that your class is studying food safety and wants to learn more about how to keep food safe. Send them a copy of the Four Actions chart from the inside cover so they know what your students are learning.
- Invite a local restaurant manager to visit the class and talk more about the food safety rules that restaurants follow.
- Encourage the children to prepare questions in advance and then have them write up the group interview to be featured in the school newspaper.

Host a **Fight BAC!**® Special Event!

It's fun to hold a special event in the classroom . . . around the school . . . or out in the community. Encourage students to take their Food Safety Play or Puppet Show “on the road” to get the word out!

Assign groups of students to manage the different parts of the event:

- **Set up a time** on the school calendar (September is Food Safety Month).
- **Design** and distribute invitations.
- **Make posters** to publicize the event.
- Include an announcement in the **school newspaper**.
- Prepare **hand-out materials** to give to the audience.
- Invite the school nurse, food service director, or other expert to hold a **Q&A session**.
- Create **costumes**, puppets and other props.
- Include a **rap song** in the program.
- Post **bacteria artwork** and other food safety projects around the room for family viewing.
- Set up a VCR to **show the video**.
- If **Internet access** is available, access the www.fightbac.org web site for family browsing.
- **Serve refreshments** — being sure to use good food safety practices!
- Invite the local **community press** to be guests of honor!

Visit the **Fight BAC!**® web site:

www.fightbac.org

Learn more and develop new ways for your students to become Food Safety Ambassadors!

Teacher Advisory Board

Tracy Ajello

*Fifth Grade Teacher
Doolittle School, Cheshire, CT*

The 1994 winner of The Presidential Award for Excellence in Science Teaching, Tracy has taught at several elementary and middle school grade levels over the past 13 years. After two years as a curriculum specialist, she is excited to be teaching in a fifth grade classroom again.

Current Educational Project work includes:

- Member of National Science Teachers Association standing committee
- Manuscript review for National Science Teachers Association and National Council of Teachers of Mathematics
- Columnist for Council of Elementary Science International
- Beginning teacher assessor for State of Connecticut

John Doyle

*Science Teacher
The Allan Stevenson School, New York, NY*

A graduate of Glassboro College at Rowan University in New Jersey, John is an active member of NSTA and has taught science and drama at Allan Stevenson School, New York City, since 1992.

His Curriculum/Program Development credits include:

- Earth Friends, a K-6 nutrition/environment education program for Teachers College, Columbia University
- Recyclus, a national recycling education program for grades K-5
- Nutri-Man & Vita-Woman: Super Heroes for Health, for the New York State Department of Health Nutrition Program

Mary L. Yeates

*Family Science Teacher
Forest Oak Middle School, Gaithersburg, MD*

Mary received her BS from the University of Maryland and is certified in Family and Consumer Sciences and Health Education.

In addition to her role as Family and Consumer Science teacher at Forest Oak Middle School, Mary works as:

- Team Leader for Montgomery County Student Assistance Program through Safe and Drug Free Schools
- Coordinator of student service learning at Forest Oak
- Trained Girl Scout leader

Partnership for Food Safety Education

American Egg Board
American Meat Institute
Association of Food and Drug Officials
Carol Tucker Foreman
Consumer Federation of America
Food Distributors International
Food Marketing Institute
International Food Safety Council/National Restaurant Association
National Association of State Departments of Agriculture
National Cattlemens Beef Association
National Chicken Council
National Pork Producers Council
Produce Marketing Association
Public Voice for Food and Health Policy
The Soap and Detergent Association
U.S. Poultry and Egg Association

Federal Government Liaison

U.S. Department of Agriculture
U.S. Department of Education
U.S. Department of Health and Human Services
U.S. Environmental Protection Agency

International Affiliate

Canadian Partnership for Consumer Food Safety Education

