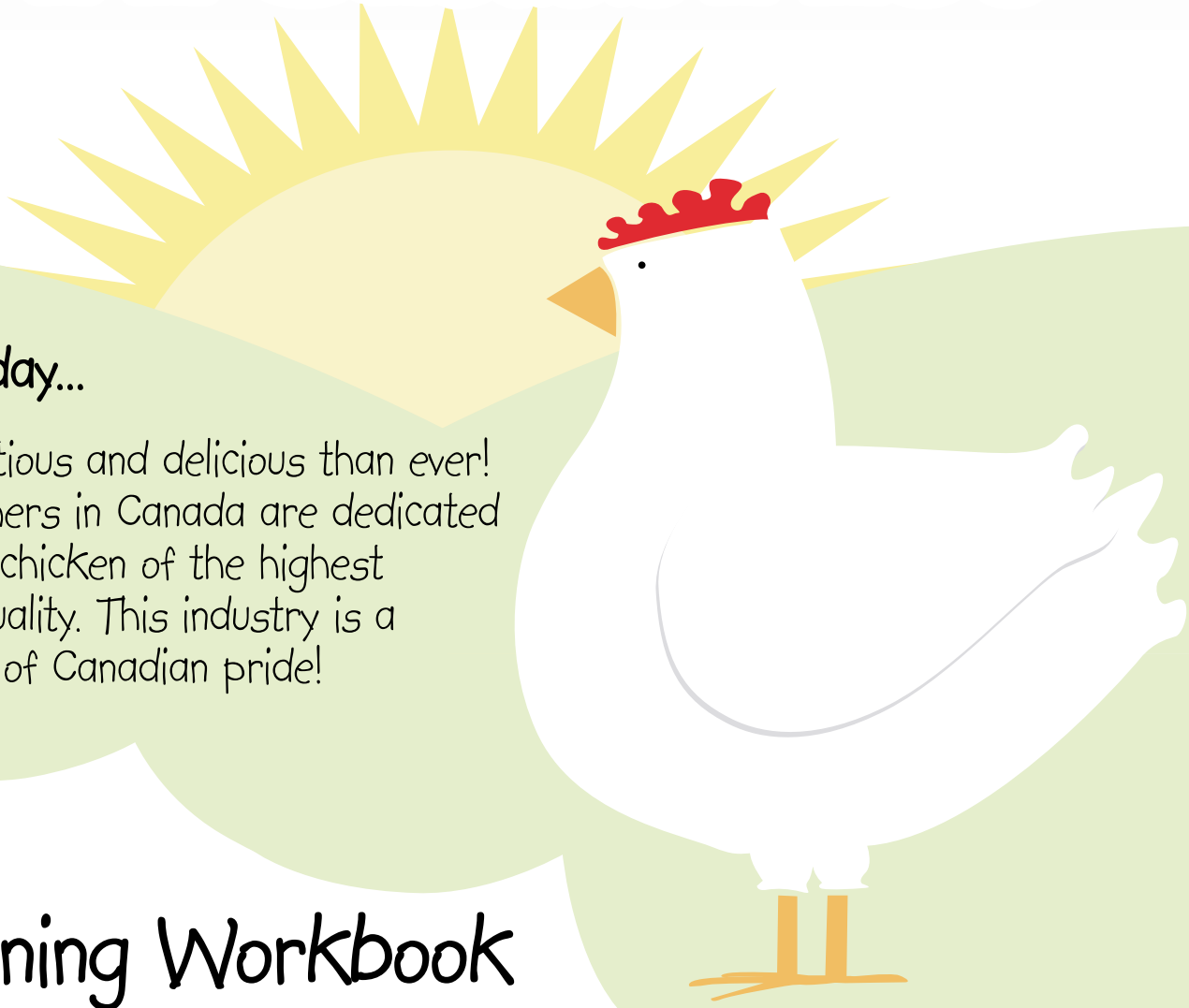
Chicken Farmers of Canada
Les Producteurs de poulet du Canada

CHICKEN: A Class Act



Chicken today...

is more nutritious and delicious than ever! Chicken farmers in Canada are dedicated to producing chicken of the highest safety and quality. This industry is a great source of Canadian pride!

A Learning Workbook

Produced for use in your classroom, Grades 2 to 5

Common Curriculum Areas: Language, Mathematics, Science

To learn more about the chicken industry, simply call (613) 241-2800, or log onto the Chicken Farmers of Canada web site:

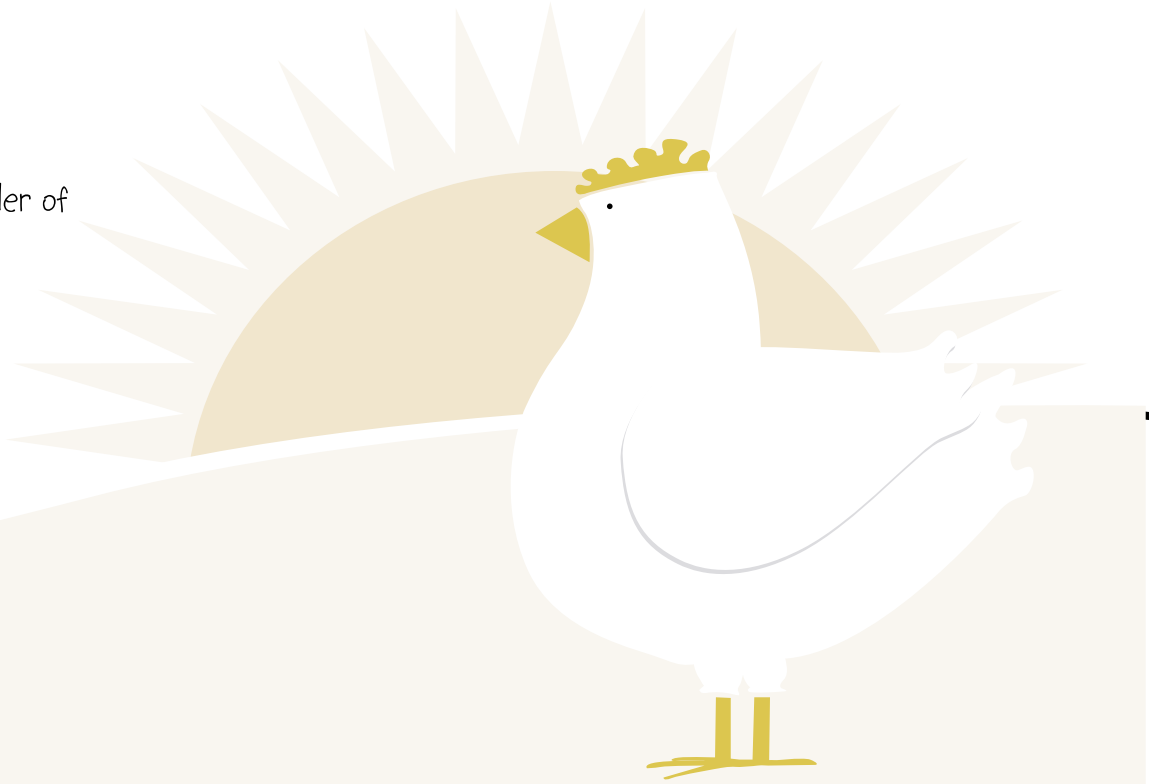
www.chicken.ca

Chicken: A Class Act

A Learning Workbook for use in classrooms - Grades 2 to 5

This CFC educational resource, Chicken: A Class Act consists of:
- A video
- A learning workbook
- A poster

Researched and written by:
Ellen Williams and Kate Miller of Ladders to Learning Inc.



Special thanks to:
Kari Tiffin of Bright By Design
for design and graphics

Published by
Chicken Farmers of Canada
Ottawa, 2003

ISBN 0-9732294-0-3

Cette publication est aussi disponible en français sous le titre:
Le poulet : une classe supérieure

Chicken Farmers of Canada
Les Producteurs de poulet du Canada

For more information, please contact:
Chicken Farmers of Canada
350 Sparks Street - Suite 1007
Ottawa, Ontario, Canada K1R 7S8

tel: (613) 241-2800
fax: (613) 241-5999
Email: cfc@chicken.ca
Website: www.chicken.ca

Activity #1

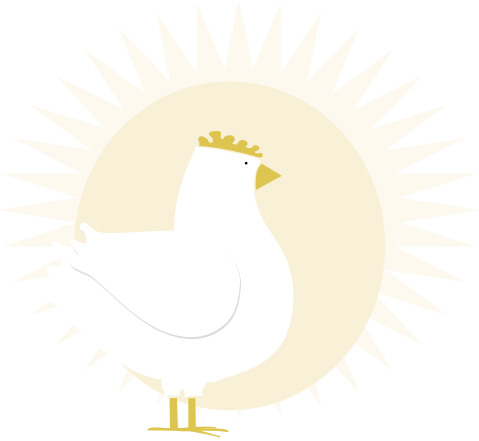
Amazing Ad

Activity Focus Students will design a full page colour advertisement for the magazine "Canadian Chicken". The advertisement will feature a favourite chicken product available from the supermarket.

KEY 2+3 L

Materials Needed:

CFC Video
CFC Poster
Used Magazines (ie. Canadian Living)



Chicken Farmers of Canada
Les Producteurs de poulet du Canada

ADAPTATION 4+5 L

Multi-Media

Students present their ad in a variety of media...slideshow, cartoon, radio spot, info-mercial or as a black and white newspaper advertisement.

Teaching/Learning Strategies:

Students watch video

Brainstorm with class and list favourite chicken products on chart paper

With class create a web of phrases and words to describe food products
(Examples: Scrumptious, mouth watering, low fat, ready to serve, oven to table)

Each student chooses a product to feature and writes copy (text) for the ad

Students illustrate the ad with drawings, cartoons or cut-out pictures of product, consumers etc.

Display the ads as a billboard

Or - put the posters together as a classroom book

Activity #3

CLUCK CLUCK'S MENU!

Activity Focus Students will choose 2 dishes from CLUCK CLUCK'S RESTAURANT menu. The class then collects and tallies their menu choices. After data is collected students will organize findings and record in bar graph format. Students will interpret their graphs to identify the most popular chicken menu choice at CLUCK CLUCK'S.

KEY 2+3 M

Materials Needed:

CFC Video

- Menu Template or teacher created menu
- Graph Grid

Chicken Farmers of Canada
Les Producteurs de poulet du Canada

ADAPTATION 4+5 M

Chicken Choices

Add money values to the choices on CLUCK CLUCK'S menu. Students choose their chicken dishes and total amount of class order. Suggestion: Ask students to design their own menu and place their orders, using the new menus.

Teaching/Learning Strategies:

Students watch video

List menu choices for class on chart paper

- Hand out menu templates to students

Students check 2 menu choices on their individual menu

Each student records their choices on the class chart using tally method

Total choices for each menu item on class chart, students record these totals on their own menu

- Students organize and record these totals on bar graph

Ask class to interpret their graphs by rating CLUCK CLUCK's menu choices from 1 to 6

= web support

Activity #6

BUILD A BARN!

Activity Focus Students will design a floor plan for a chicken barn. This barn must fulfill all the criteria necessary to provide a workable, well-maintained environment for chickens. Using the floor plan as a "blue print", students then construct a model of their design in a shoe box.

KEY 4+5 S

Materials Needed:

CFC Video, Suggested Resource Material
CFC Poster
Graph paper for plan
Shoe boxes
Material for constructing barns
(i.e. cardboard, balsa wood, straws)
"Winners Circle" certificate

Chicken Farmers of Canada
Les Producteurs de poulet du Canada

ADAPTATION 2+3 S

Chicken Barn

Discuss the importance of a workable, well-maintained environment for chickens. Refer to the "Barn Criteria" box (right). Students draw an ideal chicken barn, which includes all of the barn criteria.

Teaching/Learning Strategies:

Students watch video, note details of chicken barn design

Discuss environmental needs of chickens, list criteria for barn construction

Ask pairs of students to design a floor plan that fulfills all of the barn criteria

Discuss and decide on a workable scale for graph paper design

Students design and draw plan to scale

Using plan as "blue print", students construct their model barn

Present models at "Chicken Expo"

Architectural Awards for Most Practical Design, Most Creative Design

Present winners with "Winners Circle" certificates

Barn Criteria

- ventilation
- water sources
  - heating system
  - natural lighting
- food stations
- bedding/shavings

= web support

LANGUAGE TYING IN YOUR CURRICULUM - Student Assessment Checklist

= web support

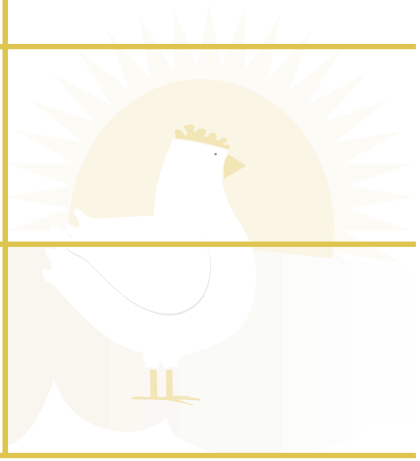
Main Curriculum Area	Specific Curriculum Area	Grade Level	General Outcomes (varies according to provincial curriculum)	Specific Outcomes (varies according to provincial curriculum)	Booklet Activity	Level Achieved	Comments
Language		**2+3**			Amazing Ad		
		**2+3**			Amazing Ad		
		**2+3**			Amazing Ad		
Adaptation		**4+5**			Multi-Media		
Language		**4+5**			Roving Reporter		
		**4+5**			Roving Reporter		
		**4+5**			Roving Reporter		
Adaptation		**2+3**			Mmmm Good!		

Student: _____ Date: _____

MATH TYING IN YOUR CURRICULUM - Student Assessment Checklist

= web support

Main Curriculum Area	Specific Curriculum Area	Grade Level	General Outcomes (varies according to provincial curriculum)	Specific Outcomes (varies according to provincial curriculum)	Booklet Activity	Level Achieved	Comments
Math		**2+3**			Cluck Cluck's Restaurant		
		2+3			Cluck Cluck's Restaurant		
Adaptation		**4+5**			Chicken Choices		
Math		**4+5**			So... You Want to be a Chicken Farmer		
		4+5			So... You Want to be a Chicken Farmer		
Adaptation		**2+3**			Chickens Need		



Student: _____ Date: _____

SCIENCE TYING IN YOUR CURRICULUM - Student Assessment Checklist

= web support

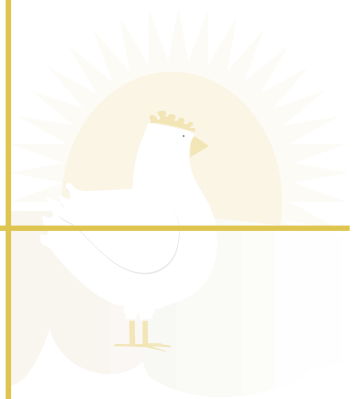
Main Curriculum Area	Specific Curriculum Area	Grade Level	General Outcomes (varies according to provincial curriculum)	Specific Outcomes (varies according to provincial curriculum)	Booklet Activity	Level Achieved	Comments
Science		**2+3**			Growth Journal		
Adaptation		**4+5**			Growth Cycles		
Science		**4+5**			Build a Barn		
Adaptation		**2+3**			Chicken Barn		

Student: _____ Date: _____

Observing the Groups

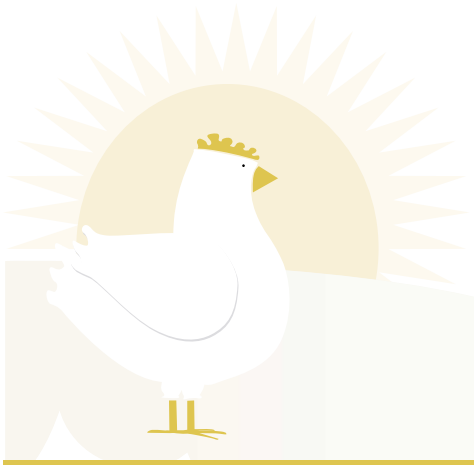
= web support

Group Number	Seeks Information Asks Questions	Shares Tasks Well	Stays on Task	Responds to Ideas	Presents Information Clearly



Date: _____ Activity: _____ Curriculum Area: _____

Suggested Resource Material



Chicken Farmers of Canada
Les Producteurs de poulet du Canada

Chicken Web Sites

Chicken Farmers of Canada
www.chicken.ca

Provincial Chicken Board web sites
www.chicken.ca/E__links.htm

Other Helpful Sites

Canadian Partnership for Consumer Food Safety Education
www.canfightbac.org

Ontario Farm Animal Council
www.ofac.org

Canadian Turkey Marketing Agency
www.canadianturkey.ca

Poultry Industry Council
www.poultryindustrycouncil.ca

Canadian Egg Marketing Board
www.canadaegg.ca

Eat Well Eat Safe
www.eatwelleatsafe.ca

British Eggs Information Service
www.eggsedu.org.uk/ks3/indexks3.htm

Chicken Related Books - Fiction:

TITLE	AUTHOR	PUBLISHER	ISBN#
Brewster Rooster	Berny Lucas	Kids Can	1-55074-292-2
Too Many Chickens	Paulette Bourgeous	Kids Can	1-55074-067-9
Emma's Egg	Margriet Ruurs	Stoddard	0-77375-898-4
Benjamin's Barn	Reeve Lindberg	Penguin USA	0-14050-863-5
Chickens Aren't The Only Ones	Ruth Heller	Price Stern	0-448-40454-0
Chickens and Their Wild Relatives	Alice L. Hopf	Granite Impex	0-396-08085-5

Chicken Related Books - Non Fiction:

TITLE	AUTHOR	PUBLISHER	ISBN#
The Usborne Book of Animals	Felicity Everett	National Book Service	0-7460-1022-2
Eggs and Chicks	F. Patchett	Usborne	0-7460-47037
Farm Animals	F. Everett	Usborne	0-7460-1023-0
On The Farm	A. Smith	Usborne	0-7460-2775-3
1001 Things to Spot on the Farm	G. Doherty	Usborne	0-7460-2955-1
Canada at Work-Farming	Ann Love	Kids Can	1-55074-821-1

Fight BAC!™

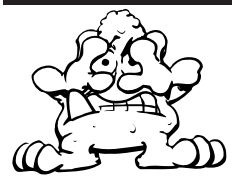
for Food Safety

FIGHT BAC!

EDUCATION PROGRAM™

Food Safety Information for Grades 4 to 7

Acknowledgements



What is the *Fight*BAC!™ Campaign?

The *Fight*BAC!™ Campaign is a consumer awareness campaign designed to give consumers the knowledge they need to keep themselves and their families safe from foodborne illness.

BAC!™, the campaign's mascot, helps to illustrate the four simple steps to safe food handling and preparation.

Wash hands and surfaces often

Cook foods to proper temperatures

Refrigerate promptly

Don't cross-contaminate

This program is made possible by the Canadian Partnership for Consumer Food Safety Education. The Partnership wishes to acknowledge the United States Partnership for Food Safety Education for its *Your Game Plan for Food Safety* video and teacher's guide which were used as prototypes for this Canadian resource.

The You Can *Fight*BAC!™ For Food Safety Teacher's Guide and Student Activities were adapted for Canadian schools by Nicole Thibault (lead writer) and Robert Morrow (project manager) of Ontario Agri-Food Education, Inc. The video was produced by Carleton Productions. The poster was designed by Lynn Chudleigh. Translation was provided by Health Canada.

Thanks to the many people and organizations who committed their time and skills to the development of this resource. Committee members include:

Justine Callahan	Health Canada
Isabelle Dufresne	Health Canada
Cheryl Jitta	Canadian Food Inspection Agency
Jim McCorry	Nova Scotia Dept of Agriculture & Fisheries
Christine Moses	Agriculture and Agri-Food Canada
Joelle Perreault	National Institute of Nutrition
Nadine Stumpf	Eastern Ontario Health Unit
Lynn Richards	Environmental Health Services
Klaus Seeger	Department of Public Health and Emergency Measures, County of Oxford Health Unit
Lynn Wilcott	British Columbia Ministry of Health
Chris Yost	Agriculture and Agri-Food Canada

 The Teacher's Guide and Student Activities are also available in PDF format on the Partnership website: www.canfightbac.org

The *Fight*BAC!™ campaign has a number of consumer tools available to help consumers, educators, industry, and others to prevent or reduce foodborne illness. Most of these materials are available free of charge from the Partnership. *Fight*BAC!™ consumer tools include the web site, Community and Retail Action Kits, a Kindergarten to Grade 3 (Ages 5 to 9) Learning Program, Partnership and Chill Out brochures, portable display, BAC!™ mascot, bookmarks, fact sheets, stickers, colouring pages, puzzles, and refrigerator thermometers. For more information, please contact the Partnership: phone (613) 798-3042.

A Food Safety Education Program for Grades 4 to 7

Foodborne Illness Is Serious!

More and more, foodborne illness is in the news. According to Health Canada's latest statistics, there are an estimated two million cases of foodborne illness each year in Canada which cost Canadian health services, industry and society an estimated one billion dollars annually. Children as well as the elderly are some of the most susceptible to foodborne illness.

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. As a teacher, you play a big role in helping to "spread the word... not the germs!"

... and It's Easy!

The You Can *Fight*BAC!™ For Food Safety Program is designed for use in Grades 4 to 7 classrooms and will help you teach food safety in a way that is both easy for you and exciting. Using the inquiry approach to learning, the program inspires children to discover the science behind food safety as they experiment ... investigate ... and explore.

The You Can *Fight*BAC!™ For Food Safety Video will introduce food safety to your students as they follow a group of their peers through the process of planning and preparing a birthday celebration for a friend.

The You Can *Fight*BAC!™ For Food Safety Poster lists the four key messages in the program. It can be used to announce the arrival of this food safety program in a classroom display or in a key location in the school (e.g., school bulletin board).

This You Can *Fight*BAC!™ For Food Safety Teacher's Guide provides you with a sequence of activities to introduce the key messages to your students. The student activities are hands-on and interactive, encouraging students to use observation techniques and to discuss their findings with their classmates. Students are encouraged to share their new understandings with family members, with students in other classes and even by reaching out to others in the local community. The appendices provide the reproducible student materials required.

You're invited to *Fight*BAC!™ online. Bookmark this informative Canadian website at www.canfightbac.org

Let's Get Started!

Table of Contents

You Can *Fight*BAC!™ For Food Safety

- A Video-based activity

Curriculum Connections

Students will:

- identify the factors that affect health and explain the relationships among personal habits, lifestyle choices and human health;
- identify issues related to the safe handling of food;
- be aware of the widespread distribution of micro-organisms;
- identify and communicate the main points about a topic by viewing a media work.

Activity Focus

Students are introduced to the term bacteria and to the four key messages to food safety.

Materials Needed

- *TV / VCR*
- *You Can Fight*BAC!™ *For Food Safety video*
- *chart paper and markers*

Teacher Background Information

In Canada, food safety is handled through the partnership of various stakeholders such as farmers, manufacturers, distributors, retailers, municipal and provincial public health departments and food agencies, Health Canada, Agriculture and Agri-Food Canada and the Canadian Food Inspection Agency. But it doesn't stop there. Each of **us** has a role to play in food safety; when we bring our groceries home it is imperative that we follow proper handling, storage, preparation and cleaning procedures. From farm to fork, all steps are important for food safety.

The first section of the video shows students preparing for a birthday party - starting at the grocery store, then food storage, handling and preparation. It ends with the students sitting down to enjoy the birthday celebration!

The second section reviews selected sections of the video to highlight potential concerns in the food preparation process. A food safety expert, Hélène Couture, Food Microbiologist at Health Canada, gives a brief explanation of proper food safety procedures.

Teaching/learning Strategies

NOTES: It is recommended the video be shown twice in order for students to "see" all of the messages in the video.

The script of the video is found in Appendix #1. Teachers should preview the video in order to locate the end of the first part which provides an excellent "pause" for reflection on what has occurred.

Courtesy of the Canadian Partnership for Consumer Food Safety Education
www.canfightbac.org

Previewing Activity
Present a word web to students based on the word "bacteria". Students brainstorm what they know about bacteria and write down all of the ideas that come to mind.

As a class, classify these ideas into groupings. For example, two groupings may be good bacteria and bad bacteria; or bacteria could be classified around other criteria such as food-related, illness-related, or research-related. The video highlights proper handling and storage of food to avoid illnesses from bad bacteria in food. Students should be informed that there are four key "messages" in the video.

Viewing Activity
Students should look for the four key messages to food safety that will be introduced in the video. They should watch how the students in the video proceed through their preparations and identify potential food safety concerns.

Post-viewing Activity
In small groups, students divide the chart paper into four sections by making a cross through the paper. Label each section according to the four key messages - Clean, Separate, Chill and Cook. Students review the video and write down examples of activities for each of the four key messages. Through discussion, identify potential areas for concern in the food handling, storage and preparation in the four areas and add these to each section of the chart.

Some potential mistakes might include: failure to wash hands before handling food, not washing the counter top before cutting food, eating fruit directly from the store packaging without washing it, juices from raw meat spilling onto food in the refrigerator, using the same kitchen towel for wiping up meat juices and then wiping a platter, serving and eating food that has been left out on a counter for several hours, using the same plate for raw and cooked meat, or eating meat that has not been cooked to safe temperatures.

Any one - or any combination- of these mistakes could cause people to become ill.

Second Viewing and Post-viewing Activity
Students listen and take note of the areas highlighted by the food safety expert. In addition, students share areas which may not have been highlighted by the expert.

Review the four key messages - Clean, Separate, Chill and Cook - and discuss the ways food is kept safe before purchase and the importance of consumers doing their part after purchase.

Post the student charts in the hall outside the classroom.

Assessment and Evaluation Suggestions

Students complete a journal reflection of what they have learned about the four key messages from viewing the video and in completing the chart.

Review the food safety charts to ensure the level of understanding of individuals in each group.

Extension Activities

Research food safety and the four key messages at the www.canfightbac.org website.

Students can interview a doctor, public health nutritionist, food lab technician, nurse or a cafeteria supervisor for their recommendations regarding the safe handling of food. Specific details can also be obtained from the local public health inspector or medical officer of health.

Food Safety Survey

Activity Focus

Students complete a Food Safety Survey with family members. The findings from the surveys are used in follow-up class activities. The survey is repeated near the end of the unit.

Curriculum Connections

Students will:

- identify the factors that affect health and explain the relationships among personal habits, lifestyle choices and human health;
- identify issues related to the safe handling of food;
- be aware of the widespread distribution of micro-organisms;
- compile data gathered through investigation in order to record and present results;
- identify the role of the individual in ensuring safe food supplies;
- recognize the need for safety standards to prevent the spread of disease through food;
- demonstrate responsibility through personal actions and as a member of a group.

Materials Needed

- *Food Safety Survey - one copy for each student in the class.*

Teacher Background Information

The home is the place where most of us learn the habits we exhibit throughout our lives. Teachers can also provide guidelines for preparing food at home, as it is the place where we eat most of our meals. We have learned a lot about food safety in the last ten years and sometimes the adults at home do not know about the potential hazards of their actions. That is why it is so important to teach proper food safety procedures early in our students' lives. They can share the information with family members at home.

One of the tricky things about foodborne illness is that it can happen differently to different people, and it can vary depending on the type of bacteria. Sometimes it happens quickly; at other times, people don't realize that foodborne illness is the source of their symptoms because it is not evident for a few days.

The Food Safety Survey is a fun way to introduce the topic with family members and encourage discussion and sharing about proper food handling, storage and preparation procedures.

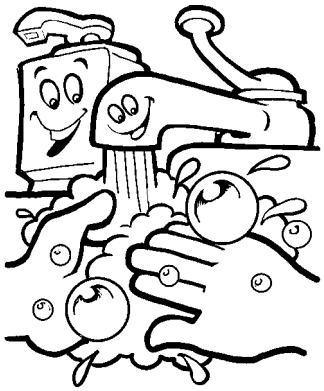
Teaching/learning Strategies

Distribute a copy of the Food Safety Survey to each student. Read through the questions with the students. Discuss the best people to ask for conducting the survey (e.g., those who prepare food regularly in the home). Encourage them to include a grandparent or a senior to highlight any differences in food preparation habits between the generations. Encourage students to discuss their findings with their family members.

Courtesy of the Canadian Partnership for Consumer Food Safety Education
www.canfightbac.org

Demonstrate how long 20 seconds lasts when discussing questions 1 and 2. Repeating a well-known song helps students gauge the duration of time required for hand washing.

Provide students with a timeline to conduct the survey. When the surveys are returned, students compare their findings in small groups. They can make generalizations according to the age of the respondents and develop charts, graphs or other visuals to compare and contrast their findings. Students can then share these visuals with the class.



Assessment and Evaluation Suggestions

Students will complete the reflection page on their personal feelings about the results of their surveys and the comparisons made with others in the class.

Extension Activities

Students create a Family Handwashing Scoreboard. Create a chart with a space for the date, the name of each family member and a spot to write when that person washed his/her hands. Post the chart in the kitchen and washrooms of their house near the sink and encourage family members to fill it out over a one week period.

Family Handwashing Scoreboard

Date	Name	WHEN hands were washed

FOOD SAFETY SURVEY

Orally, ask the following questions of at least three members of your family (try to include one parent, one grandparent or senior, and one sibling).

Do you regularly:

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?

Do you regularly:

6. Clean and disinfect 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 and kept separately 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?

Do you regularly:

9. Rotate or stir food in the microwave to avoid "cold spots?"
10. Bring sauces, soups and gravy to a boil when reheating?
11. Make sure eggs are cooked until the yolk is solid?
12. Avoid eating cookie dough or cake batter that was made with raw eggs?
13. Use a food thermometer when cooking meat, poultry and fish?

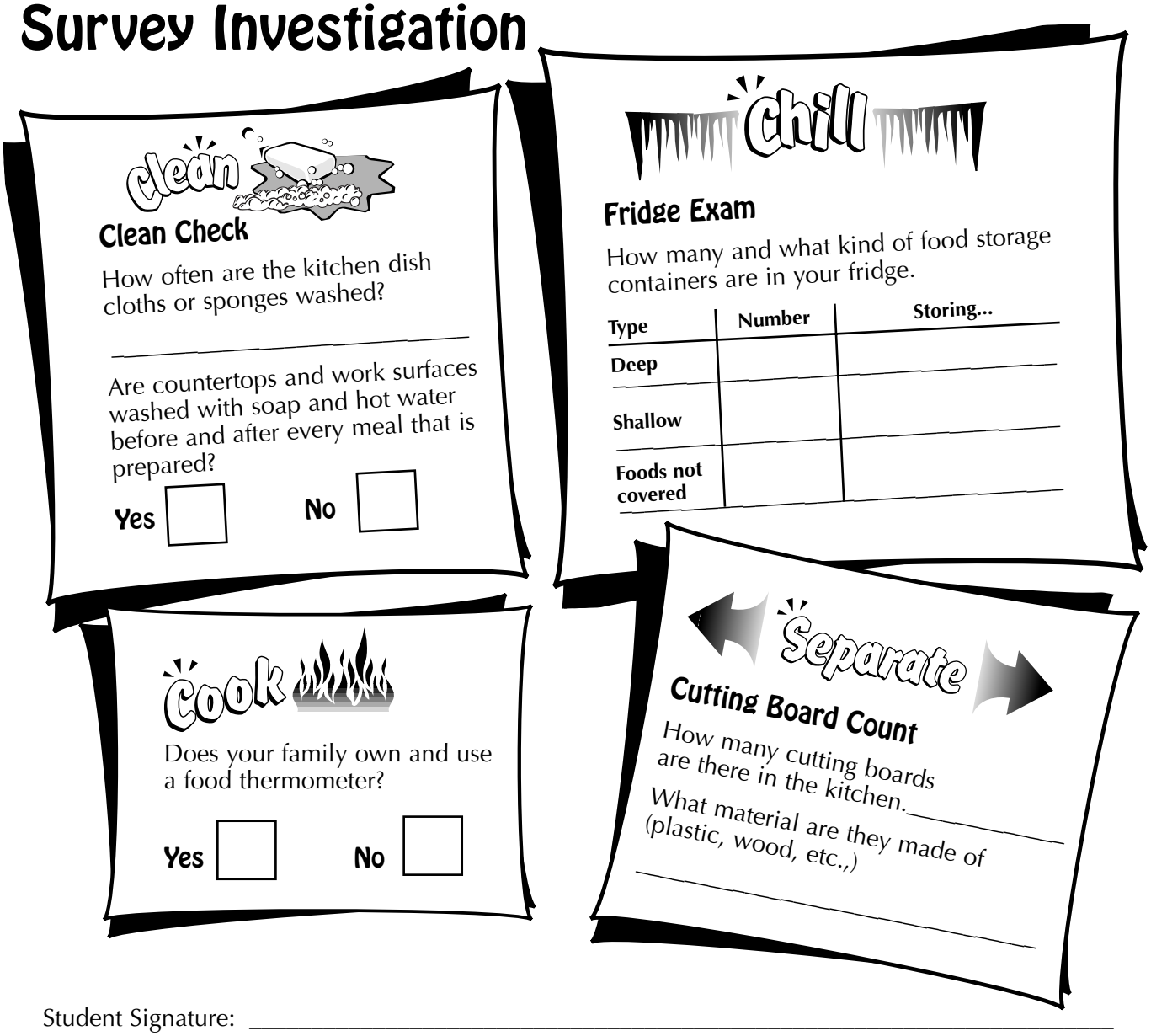
Do you regularly:

14. Use a cold pack for packed lunches or picnic foods?
15. Refrigerate leftovers right away?
16. Defrost foods in the refrigerator, in cold water or in the microwave?

SURVEY SUMMARY

Yes or No Answers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	YES Total	NO Total
Name:																		
Name:																		
Name:																		
Name:																		
Name:																		

Survey Investigation



Student Signature: _____

Parent/Guardian Signature _____

Student Response Form

Reflections

Students record their reflections based on their personal findings as well as the comparisons made within the class.

The person in my family who rated highest in the survey was _____

_____

_____

I think the main reason for this was:_____

_____

_____

I was surprised to find out that ... _____

_____

_____

What I learned the most about was ...._____

_____

_____

The main changes in action I need to make are .... _____

_____

_____

As a class, we found that young people tend to..... _____

_____

_____

As a class, we found that older people tend to ..... _____

_____

Learning About the Science of Food Safety

Turn your classroom into a "food safety science lab" with these four interactive experiments. Student groups may perform different experiments and then share results with the rest of the class or each group can rotate through the four experiments. Several experiments use food products for demonstration purposes. Remind students these "materials" are **NOT** to be eaten and to compost leftover food whenever possible. The focus is on experimentation. Students will have the opportunity to demonstrate their skills and knowledge in the context of a science experiment. These curriculum connections are generic. Each experiment has specific curriculum connections which relate to the content of the experiment. Students will:

- demonstrate appropriate scientific inquiry skills when seeking answers to questions;
- design a scientific experiment (including apparatus, materials, safety considerations, and correct steps of the experiment);
- recognize the importance of observation and measurement;
- identify relevant variables in an experiment;
- identify and test a prediction;
- correctly state a hypothesis;
- draw reasonable conclusions from experiments, based on evidence;
- compare ways of solving problems and finding explanations;
- interpret findings from investigations using appropriate methods.

	Level 1	Level 2	Level 3	Level 4
Inquiry and Design Skills Our group ...	required assistance to follow the procedures of the experiments	followed the procedures with some assistance	followed the procedures step by step	followed the procedures step by step with precision
	had some difficulty using the materials correctly and safely	sometimes used the materials correctly and safely	generally used the materials correctly and safely	consistently used the materials correctly and safely
	was missing some of the observations to be recorded	recorded most observations	group recorded complete observations	recorded detailed and clear observations
Communication of Knowledge Our group ...	used terminology which was unclear or incorrect in our records	sometimes used appropriate terminology in our records	usually used appropriate terminology in our records	consistantly used appropriate terminology
	did not develop conclusions and answers	developed some conclusions supported by our results	developed conclusions mostly supported by our results	developed conclusions supported by our results
	did not provide answers to some questions	provided answers to some questions with limited links to implications of our	provided clear answers and some implications of our findings	provided precise answers and included implications of our findings
Group Social Skills Members of our group ...	needed assistance regularly in contributing ideas and suggestions Members of our group	needed help in contributing ideas and suggestions to help the group	contributed some ideas and suggestions that helped the group	contributed useful ideas and suggestions that helped the group
	required regular assistance to stay on task and complete the activity	sometimes did their fair share of the work and offered help when needed	usually did his or her fair share of the work and offered help when needed	always did his or her fair share of the work and offered help when needed
	required regular assistance sharing materials and using a controlled voice	needed help sharing materials and using a controlled voice	shared materials and used a controlled voice	consistently shared materials and used a controlled voice

Soapy Solutions!

Curriculum Connections

Students will:

- identify the factors that affect health and explain the relationships among personal habits, lifestyle choices and human health;
- identify issues related to the safe handling of food;
- identify micro-organisms, their role in food spoilage and other effects;
- know the natural habitats, and human-made habitats of micro-organisms;
- be aware of the widespread distribution of micro-organisms;
- identify factors that enhance or inhibit the growth of micro-organisms (with application to food);
- understand the need for personal and public decision-making regarding the safe handling of food;
- demonstrate responsibility through personal actions and as a member of a group;
- work collaboratively to carry out science-related activities and communicate ideas, procedures and results.

Activity Focus

Students learn by sharing results of experimentation, evaluating implications of their observations, and drawing conclusions about food safety. This interactive experiment focuses on the key message of CLEAN.

Materials Needed

- *cooking oil, ground cinnamon, access to a sink to wash hands, measuring spoons*
- *soap*
- *paper towels*

Teacher Background Information

The oil on students' hands simulates the natural oils in the skin to which bacteria 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. Remind students of the method used for estimating 20 seconds by singing a known song, or use a timer.

Bacteria can spread throughout the kitchen and get onto cutting boards, utensils, sponges, dishcloths and countertops.

Here's how to *Fight*BAC!™

Wash hands, utensils and surfaces with soap and hot water before and after food preparation and especially after preparing raw meat, poultry, eggs or seafood to protect adequately against bacteria. Then use a bleach solution (5 mL household bleach to 750 mL water) on utensils and surfaces, rinse with hot water and dry with clean cloth before using.

NOTES: EXERCISE CAUTION WHEN USING HOT WATER!

Exercise caution when using the bleach solution. You may want to mix the bleach solution ahead of time. Label the bleach solution.

Courtesy of the Canadian Partnership for Consumer Food Safety Education
www.canfightbac.org

Change or resurface wooden cutting boards if the surface is marred. Use plastic or other non-porous cutting boards as they are the easiest to clean. Wash with soap and hot water then use a bleach solution (5 mL household bleach to 750 mL water) on utensils and surfaces, rinse with hot water and dry with clean cloth before using.

Consider using paper towels to clean up kitchen surfaces. If you use cloth towels, wash them often in the hot water cycle of your washing machine.

Teaching/learning Strategies

Work in groups of five with each student assuming a specific role. One person will record the observations and results of the experiment; one person will collect materials and be the time keeper; three student volunteers will conduct the investigation. All group members observe the three hand washing methods.

Encourage students to hypothesize and predict the outcome. They will follow the steps outlined in the procedure of the experiment using observation techniques and recording their findings.

The three students in the group rub 15 mL of cooking oil all over their hands until completely coated and then sprinkle 5 mL of cinnamon on their hands and rub it around until it is evenly distributed. The cinnamon will simulate the bacteria. The students wash their hands by rubbing them briskly for 20 seconds and record the results.

A class-sharing time following the experiment would be beneficial for students to review their findings and to consolidate their learning.

Assessment and Evaluation Suggestions

Students apply the scientific process to the experiment by writing a lab report in their science journals using the following outline.

Problem
Hypotheses
Materials
Procedure
Observation
Conclusion
Questions for further investigation

Extension Activities

Sometimes school washrooms do not have soap available for use by students. Brainstorm the reasons why and consider solutions to remedy the situation.

Research the origin of soap.

Make "Wash Your Hands" reminder signs to hang near the kitchen sink, bathroom or on the refrigerator at home to encourage good habits for all family members.

Use the Internet to research the availability of soap and clean water in a global society. How might people in different parts of the world deal with food safety? How does the availability of soap, water, and refrigeration make a difference? What about places impacted by natural disasters like earthquakes or hurricanes? What strategies would be required for these affected areas?

Student Response Form

Soapy Solutions!

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

Our Group Hypothesis:_____

_____

_____

Materials Needed:

cooking oil, cinnamon, access to a sink to wash hands, measuring spoons - 5 mL and 15 mL, soap, paper towels.

Procedure:

The three students in each group rub 15 mL of cooking oil all over their hands until completely coated and then sprinkle 5 mL of cinnamon on their hands and rub it around until it is evenly distributed. The cinnamon will be like bacteria. It's all over! The students wash their hands by rubbing them briskly for 20 seconds and record the results. EXERCISE CAUTION WHEN USING HOT WATER!

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

The method of hand washing that removed the most "bacteria" was _____

_____

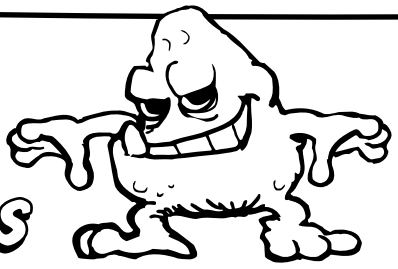
The method that removed the least "bacteria" was_____

_____

Illustrate how the hands of students 1,2, and 3 looked after washing

#1	#2	#3

Our 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? _____

_____

_____

Why does the soap help?_____

_____

_____

Why does the rubbing help? _____

_____

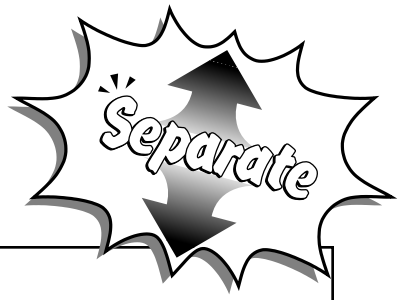
_____

You Can Fight BAC!™

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

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

Safely Separate



Activity Focus

Students learn by sharing results of experimentation, evaluating implications of their observations, and drawing conclusions about food safety. This interactive experiment focuses on the key message of SEPARATE.

Materials Needed

- *two clean sponges, cut in the shape of chicken legs*
- *red or other brightly coloured water-based craft paint*
- *paint brush*
- *cutting board*
- *cucumber*
- *light-coloured plate*
- *a serrated knife*

Curriculum Connections

Students will:

- identify the factors that affect health and explain the relationships among personal habits, lifestyle choices and human health;
- understand the processes responsible for the maintenance of an organism's life;
- identify micro-organisms, their role in food spoilage and other effects;
- know the natural habitats, and human-made habitats of micro-organisms;
- be aware of the widespread distribution of micro-organisms;
- identify factors that enhance or inhibit the growth of micro-organisms (with application to food);
- recognize the need for safety standards to prevent the spread of illness through food;
- identify the role of the individual in ensuring safe food supplies;
- apply safe food-handling concepts to the selection, preparation and handling of food materials;
- understand the need for personal and public decision-making regarding the safe handling of food.

Teacher Background Information

This experiment simulates how easy it can be to cross-contaminate food during storage and preparation. Sponges and paint are used to show how bacteria can spread from raw meat, poultry or seafood to cooked foods or vegetables. Remind students that bacteria on a cutting board can spread to other foods, too - like a bagel. "Cross-contamination" is the scientific term for how bacteria can spread from one food product to another. This is especially true when handling raw meat, poultry and seafood, so it is important to keep these foods and their juices away from ready-to-eat foods. ***Chicken could be contaminated by pathogens other than Salmonella. Salmonella is used as an example for this experiment.***

Here's how to *Fight*BAC!™

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

If possible, use a different cutting board for raw meat products. Choose a different colour for this cutting board, so everyone in the family will know to use it for raw meat only.

Courtesy of the Canadian Partnership for Consumer Food Safety Education
www.canfightbac.org

Wash hands, utensils and surfaces with soap and hot water before and after food preparation and especially after preparing raw meat, poultry, or seafood to protect adequately against bacteria. Then use a bleach solution (5 mL household bleach to 750 mL water) on utensils and surfaces, rinse with hot water and dry with clean cloth before using.

Every cutting board must be thoroughly washed between uses. Wash with soap and hot water then use a bleach solution (5 mL household bleach to 750 mL water) on the surfaces, rinse with hot water and dry with clean cloth before using. This is especially important when the same cutting board has been used for raw meat, poultry or seafood and is going to be used for fruits, vegetables or other ready-to-eat foods.

Teaching/learning Strategies

Work in small groups of three to five students.

Encourage students to hypothesize and predict what the outcome will be. They will follow the steps outlined in the procedure of the experiment using observation techniques and recording their findings.

1. Dampen both sponges with water. Set aside one sponge to represent the "cooked chicken". The other sponge represents the "raw chicken". Paint both sides of it with the red paint. Use only enough paint to cover the surface of both sides. This simulates the juice of the chicken that may have been contaminated with *Salmonella*.
2. The painted sponge is placed on the cutting board and cut it in half with the knife. The painted sponge is moved onto the plate, and the cutting board is not washed. Cut a slice of raw cucumber on the same cutting board. Place the clean sponge ("cooked chicken") on the plate with the "raw chicken" sponge.

Students observe what happens and review their findings to consolidate their learning.

Assessment and Evaluation Suggestions

Students write a short expository essay stressing reasons it is important to separate food following this format:

Paragraph 1 - write a 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

Extension Activities

Students retrieve the information gathered from the Food Safety Survey, especially about the questions related to the cutting board(s) in the home.

- What was the average number of cutting boards in each household?
- What was the most common material they were made from?

From these findings and this experiment what recommendations would students make to their family members for future action?

Under a microscope, bacteria can look like a colorful work of art! Students can find pictures of magnified bacteria cells in the encyclopedia or through other research. Draw labelled pictures of bacteria as if you were seeing them through a microscope. Use coloured pencils and other materials to give texture to the artwork. (What does *Salmonella* really look like?)

Student Response Form

Separate

Safely Separate

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

Our Group Hypothesis: _____

_____

_____

_____

Materials Needed

Two clean sponges, cut in the shape of chicken legs; red or other brightly coloured water-based craft paint; paint brush; cutting board; cucumber; light-coloured plate; serrated knife.

Procedure

Note: Exercise caution when using the knife.

1. Dampen both sponges with water. One sponge is set aside to represent the "cooked chicken".
2. The other sponge represents the "raw chicken". Paint both sides of it with the red paint. Use only enough paint to cover the surface of both sides. Pretend this paint is the juice of the chicken that may have been contaminated with *Salmonella.*
3. The painted sponge is placed on the cutting board and cut it in half with the knife. The painted sponge is moved onto the plate, and the cutting board is not washed.
4. Cut a slice of cucumber using the same knife and cutting board.
5. Place the clean sponge ("cooked chicken") on the plate with the "raw chicken" sponge.

Our observations related to the red paint representing *Salmonella* _____

_____

Our observations related to the cucumber slices:_____

_____

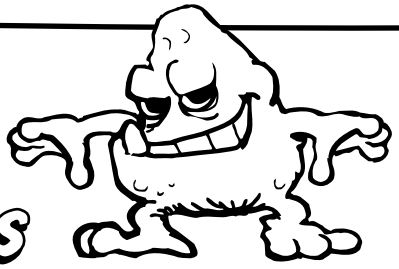
Our observations related to the "cooked chicken" sponge:_____

_____

Illustrate the path of the *Salmonella* paint between each item: _____

_____

Our Conclusions



What could happen when cooked chicken is placed on the same plate as raw chicken?_____

_____

What could happen if someone ate the cucumber? _____

_____

What could happen if we touch something else without washing our hands, or we use the knife again? _____

_____

How should we get rid of bacteria on a cutting board? _____

_____

How should we get rid of bacteria on a knife? _____

_____

How should we get rid of bacteria on our hands?_____

_____

How should we get rid of bacteria on a plate? _____

_____

What should be done to kill the bacteria on the chicken? _____

_____

You Can Fight BAC!™

Remind family members...

- Cooked meat, poultry or seafood should never be placed back on the same (unwashed) plate that was used for the raw meat, poultry, or seafood;
- Every cutting board must be thoroughly washed between uses, in a dishwasher or with soap and hot water. This is especially important when the same cutting board has been used for raw meat, poultry or seafood and is going to be used for foods that will be eaten without furthur cooking.

Proper Patties

Students learn by sharing results of experimentation, evaluating implications of their observations, and drawing conclusions about food safety. This interactive experiment focuses on the key message of COOK.

Materials Needed

- *125 g of fresh, lean ground beef; food thermometer; access to a toaster oven with a broiler and broiler tray (or an electric frypan); a pot holder, tongs or lifter*

Curriculum Connections

Students will:

- identify the factors that affect health and explain the relationships among personal habits, lifestyle choices and human health;
- identify issues related to the safe handling of food;
- identify micro-organisms, their role in food spoilage and other effects;
- know the natural habitats, and human-made habitats of micro-organisms;
- be aware of the widespread distribution of micro-organisms;
- analyse the beneficial and harmful effects of micro-organisms on other organisms;
- identify factors that enhance or inhibit the growth of micro-organisms (with application to food);
- recognize the need for safety standards to prevent the spread of disease through food;
- identify the role of the individual in ensuring safe food supplies;
- apply safe food-handling concepts to the selection, preparation and handling of food materials;
- identify methods for the handling and processing of food, their problems and benefits;
- understand the need for personal and public decision-making regarding the safe handling of food;
- recognize the need for safety standards to prevent the spread of illness through food;
- demonstrate responsibility through personal actions and as a member of a group;
- work collaboratively to carry out science-related activities and communicate ideas, procedures and results.

Teacher Background Information

Health Canada recommends a minimum internal cooking temperature of 71°C for ground beef. Contact your local health authority for further information. Proper cooking is the only way to make sure harmful bacteria that might be present have been killed. The colour of the meat is not a reliable indicator the meat has reached a temperature high enough to destroy harmful bacteria, such as *E. coli* 0157:H7.

Food safety experts agree that foods are properly cooked when they are heated for a long enough time, at a high enough temperatures to kill the harmful bacteria that cause foodborne illness. Please refer to Appendix 3 - Food Thermometer for more information on how to correctly use a food thermometer and for the Danger Zone chart.

Courtesy of the Canadian Partnership for Consumer Food Safety Education
www.canfightbac.org

NOTE: Exercise caution when using cooking appliances, bleach solutions, hot water, and food thermometers. Read and follow the manufacturer's directions for use and cleaning of food thermometers.

Teaching/learning Strategies

Work in small groups of three to five students. Encourage students to hypothesize and predict the outcome. These steps outline the procedure for the experiment. Students record their findings on the student response form.

Students make a round, thick (2-3 cm) hamburger patty. They record their observations about the patty and measure and record the temperature of the patty 1 cm from the edge. Take the meat's temperature by inserting the food thermometer sideways into the centre of the patty. Students should wash hands and all utensils that were in contact with the raw meat including the thermometer.

Place the patty on the toaster oven broiling tray. Place the tray in the toaster oven and turn the dial to broil. When the burger looks cooked on one side, turn it over to cook the other side. When this side looks cooked, remove the patty from the oven. Have the students take the patty temperature as directed above and record. This must be done quickly so the patty doesn't lose its heat!

CAUTION: Do not let the thermometer touch the cooking surface.

If the temperature reading is less than 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 71°C in the centre. Students record temperature readings on the chart each time.

Cut open the patty and observe the inside.

A class sharing time following the experiment would be beneficial for students to review their findings and to consolidate their learning.

Assessment and Evaluation Suggestions

Students complete a reflection journal on what they have learned and what future actions they will undertake.

Extension Activities

Students learn to use a food thermometer properly and research the different types of food thermometers available.

Students research safe cooking temperatures for eggs, meat, poultry and seafood.

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

Contact food handlers to ask about their cleaning practices regarding cutting boards and other food preparation surfaces.

Student Response Form

Cook

Proper Patties - Hot Stuff

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

Our Hypothesis _____

Materials Needed
- 125 g fresh, lean ground beef
- food thermometer
- access to a toaster oven with a broiler and broiler tray (or an electric frypan)
- a pot holder, tongs or lifter

Procedure:
Note: Use caution when using cooking appliances.

1. Form one round, thick (2-3 cm) hamburger patty. Use soap and hot water, then use a bleach solution (5 mL household bleach to 750 mL water) on surfaces, rinse with hot water and dry with clean cloth before using.

2. Take the temperature of the meat (1 cm from the edge) by inserting the food thermometer sideways into the centre of the patty. Record your temperature reading on the chart.

3. Place the patty on the toaster oven broiling tray. Place the tray in the toaster oven and turn the dial to broil.

4. When the burger looks cooked on one side, have your teacher turn it over to cook the other side. When this side looks cooked, remove the patty from the oven. Take the patty temperature as directed above. CAUTION: Do not let the thermometer touch the cook surface. This must be done quickly so the patty doesn't lose its heat! Record your temperature readings on the chart. Record your observations of the appearance of the meat patty as well.

5. If the temperature reading is less than 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 71°C in the centre. Record your temperature readings on the chart each time. Record your observations of the appearance of the meat patty as well.

6. Cut open the patty and observe the inside.

7. Wash hands and all utensils that were in contact with the raw meat.

Record your observations. (see next page)

Hamburger Temperature Reading Chart

	Raw	**Test 1** (looks cooked outside	**Test 2** [time]	**Test 3** [time]	Done safe to eat
1 cm from edge					71°C
centre of patty					71°C
difference					

Observations of Hamburger Appearance

Test 1 - before cooking began
the inside of the patty looked: _____
the outside of the patty looked: _____

Last Test - when meat safe to eat
the inside of the patty looked: _____
the outside of the patty looked: _____

The best way to tell if the hamburger is done and safe to eat is to: _____

It is important to wash the thermometer after each use because:_____

At what temperature is meat safe to eat? _____

If hamburger is not cooked to 71°C this is what could happen:_____

Does the colour of meat tell you whether it is cooked enough to be safe to eat? _____

You Can Fight BAC!™

Remind your family members to...

- Wash their hands after handling raw meat, poultry or seafood;
- Purchase a food thermometer and use it regularly! Show them how to use it with caution when testing temperatures on thin items-it should never touch the cooking surface!
- Wash the thermometer with soap and hot water each time it is used. Read the thermometer instructions for further details.

Yeast Balloon Blow-Up

Activity Focus

Students learn by sharing results of experimentation, evaluating implications of their observations, and drawing conclusions about food safety. This interactive experiment focuses on the key message of CHILL.

Curriculum Connections

- identify the factors that affect health and explain the relationships among personal habits, lifestyle choices and human health;
- identify issues related to the safe handling of food;
- understand the processes responsible for the maintenance of an organism's life;
- identify micro-organisms, their role in food spoilage and other effects;
- know the natural habitats, and human-made habitats of micro-organisms;
- analyse the beneficial and harmful effects of micro-organisms on other organisms;
- identify factors that enhance or inhibit the growth of micro-organisms (with application to food);
- apply safe food-handling concepts to the selection, preparation and handling of food materials;
- identify the use of micro-organisms in food productions (e.g., yeast, bacterial cultures);
- identify methods for the handling and processing of food, their problems and benefits;
- understand the need for personal and public decision-making regarding the safe handling of food;
- recognize the need for safety standards to prevent the spread of illness through food;
- demonstrate responsibility through personal actions and as a member of a group
- work collaboratively to carry out science-related activities and communicate ideas, procedures and results.

Materials Needed

- *2 balloons*
- *3 - 500 mL beakers, 2 - 250 mL flasks or small clear glass or plastic bottles with small openings*
- *three containers of water at different temperatures - room-temperature (21°C), warm (43°C to 49°C) and ice-water (below 4°C)*
- *food thermometer to measure the temperature of the water*
- *50 mL of sugar*
- *1 package of dry yeast*

Teacher Background Information

Yeast is a good microorganism and can show how bacteria can multiply. 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 refrigerated. Bacteria grows considerably slower in the refrigerator.

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 Appendix 3) and will grow. The danger zone is 4°C to 60°C. As the yeast grows it bubbles, creates gas and causes the balloon to inflate.

Bacteria also thrives on a certain quantity sugar; the sugar solution makes the growth more rapid.

Take advantage of this opportunity to talk about "good bacteria" with your students. Note that if too much sugar is added, it will decrease water activity and it will inhibit the growth of microorganisms.

Explain the term "perishable" to describe foods on which bacteria could grow if not stored properly - like dairy products, meat or vegetables.

The temperature of the water in a shallow container will cool more quickly than in a large or deep container. It is important to store leftovers in shallow containers in the refrigerator for quickest cooling.

Courtesy of the Canadian Partnership for Consumer Food Safety Education
www.canfightbac.org

If food is left in the Danger Zone - temperatures of 4°C to 60°C, bacteria will multiply more quickly.

Refrigerate foods quickly because cold temperatures keep harmful bacteria from growing and multiplying. So, set your refrigerator no higher than 4°C and the freezer at -18°C. Check these temperatures occasionally with an appliance thermometer.

Here's how to *Fight*BAC!™

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.

Teaching/learning Strategies

Work in small groups of three to five students.

Encourage students to hypothesize and predict what the outcome will be. They will follow the steps outlined in the procedure of the experiment using observation techniques and recording their findings.

Fill the mixing beaker with 500 mL of room-temperature water. (Room temperature is about 21°C) and measure the temperature of the water. Then, students will dissolve the sugar in the room-temperature water and add yeast to the sugar/water solution and stir gently to dissolve.

Instruct students (or you can do this part yourself) to pour half the solution into each flask and stretch the balloon openings to fit over the openings of the flasks. Place one flask in each of the other two beakers.

Add warm water (about 43°C to 49°C) to the beaker labelled - Warm Water Bath - just enough to cover the yeast mixture in the flask.

Add ice water (below 4°C) to the Ice Water Bath beaker - just enough to cover the yeast mixture in the flask.

Student will observe the differences in the balloons.

A class-sharing time following the experiment would be beneficial for students to review their findings and to consolidate their learning.

Assessment and Evaluation Suggestions

Students evaluate why it's so important to avoid bacterial growth in food and create a "Best Practices" list for the refrigerator. They can take apply their learning at home with recommendations to family members on:

How to store leftovers in the fridge in future;

How to pack a picnic lunch to ensure safe food;

How to defrost food in the future.

Extension Activities

Not all bacteria are bad! Students research good bacteria and bring in three kinds of food or pictures of food that have good bacteria (like yogurt or cheddar cheese).

Research the purpose of good bacteria in food. Encourage them to use a variety of sources: Internet, library, public health inspector, health nurse, etc.

Students retrieve information from the Food Safety Survey - Conduct a Fridge Exam.

How are leftovers stored in their home?

Discuss the types of containers used to store leftovers in their fridge.

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

Students pack two lunches in the morning with some cold food items (like pasta salad, a cheese sandwich or yogurt). They use a cold pack in **one** lunch bag. Test each food's temperatures at 1-hour intervals to see if any of the foods are in the "danger zone." Make a bar chart of the food's temperatures to show the difference between the two lunches, plotting the temperatures taken at each interval. Students then explain the significance of this information! Do not eat the lunch without the cold pack.

Student Response Form

Chill

Yeast Balloon Blow Up

Question: Can chilling food help stop the growth of bacteria?

Our Class Hypothesis_____

Materials Needed

- 2 balloons
- 3 - 500 mL beakers, 2 - 250 mL flasks or small clear glass or plastic bottles with small openings
- three containers of water at different temperatures - room-temperature (21°C), warm (43°C to 49°C) and ice-water (below 4°C)
- food thermometer to measure the temperature of the water
- 50 mL of sugar
- 1 package of dry yeast

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 #1 with 500 mL of room-temperature water. (Room temperature is about 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 43°C to 49°C) into beaker #2 - just enough to cover the yeast mixture in the flask.

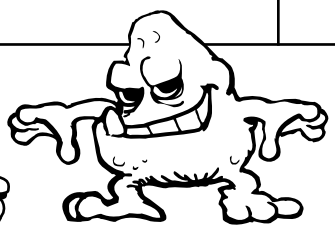
5. Put ice water (below 4°C) into beaker #3 - just enough to cover the yeast mixture in the flask.

Observations:

Observe and record what happens in the chart below

	the yeast in the warm water bath	the yeast in the ice water bath
After 5 minutes		
After 30 minutes		
After 60 minutes		

Our Conclusions



What effect did the cold temperature of the ice water have on the yeast? _____

_____

How do yeast and bacteria act the same? _____

_____

If the yeast in the warm water bath was dangerous instead of good yeast what could you say the warm environment does? _____

_____

If the yeast in the ice water bath was 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?

_____

_____

You Can Fight BAC!™

Remind family members to...

- 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.
- Allow cool air to circulate in the refrigerator by not packing it too full.

Foodborne Illness

Activity Focus

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

Curriculum Connections

Students will:

- identify the factors that affect health and explain the relationships among personal habits, lifestyle choices and human health;
- identify issues related to the safe handling of food;
- be aware of the widespread distribution of micro-organisms;
- analyse the beneficial and harmful effects of micro-organisms on other organisms;
- identify practical difficulties in the management of food supplies;
- recognize the need for safety standards to prevent the spread of illness through food;
- identify the role of the individual in ensuring safe food supplies;
- apply safe food-handling concepts to the selection, preparation and handling of food materials;
- identify methods for the handling and processing of food, their problems and benefits;
- understand the need for personal and public decision-making regarding the safe handling of food.

Materials Needed

- *copies of the student reading - Perils at the Picnic and the student response form - Cracking the Case.*

Teacher Background Information

Get your students on the Foodborne Illness detection team with this inquiry-based investigation! This activity makes an excellent "culminating" assessment exercise, allowing students to process what they have learned about each of the four key messages and apply their knowledge and skills in the investigation of a "crime scene" involving a potential foodborne illness.

Teaching/learning Strategies

Photocopy and distribute copies of the reading - Perils at the Picnic and the student response form - Cracking the Case. Students can complete the response form individually, with a partner or in small groups.

After the forms are completed and collected, a class discussion time would be beneficial for students to review their understandings and to consolidate their learning.

Assessment and Evaluation Suggestions

Assess the completed student response forms for application to the four messages contained in the *Fight*BAC!™ program

Students rewrite the picnic scenario as "The Perfect Picnic," with proper food handling, storage and preparation practices as an application of their learning.

Extension Activities

Students develop and perform skits of the incident. Group one presents the "mistakes," the action stops or is "rewound," and group two presents the correct approach. Encourage them to incorporate dialogue between the characters and to create their own costumes and props.

Courtesy of the Canadian Partnership for Consumer Food Safety Education
www.canfightbac.org

Perils at the Picnic

[student reading]

Calling all detectives! The Detection Team has learned of a possible foodborne illness incident in progress! As a detective, you must investigate the facts and give your "expert" conclusions. Since you are now an "expert," you can *Fight*BAC!™ for food safety!

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, Nicki, is bringing her older brother along to help with the barbecue. The group 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. Nicki's older brother, Stephane, 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 - 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 washroom to wash up 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 put 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. Nicki'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. Stephane says he wants to cook them a bit more, but they insist that they love to eat them rare.

9

Retrieving the fork Tom used to separate the frozen burgers, they 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

[Student Response Form]

1. **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? _____

2. **What questions do you have for Tom and his friends ...**

   about what they did? _____

   about the food they were eating? _____

3. **Does it matter . . . (and explain why ...)**

   how long Tom and his friends played ball? _____

   that Tom didn't go to the washroom to wash up with his friends? _____

   that they chose a table in the sun? _____

   that the hamburgers were dripping on the outside but still frozen on the inside? _____

   that they ate their hamburgers rare? _____

4. **What might happen to Tom and his friends?** _____

You Can *Fight*BAC!™ For Food Safety Poster Projects

Activity Focus

Students will critique the food safety poster provided with this resource and create their own versions to depict individual food safety messages based on the four key areas.

Materials Needed

- *a copy of the You Can FightBAC!™ poster*
- *a black and white copy of the poster and the four main messages for each student*
- *art supplies: poster boards, markers, paints, glue, etc.,*
- *(optional) - computer draw and paint programs, access to a computer lab*

Curriculum Connections

Students will:

- interpret findings from investigations using appropriate methods;
- identify the factors that affect health and explain the relationships among personal habits, lifestyle choices and human health;
- identify issues related to the safe handling of food;
- recognize the need for safety standards to prevent the spread of disease through food;
- identify the role of the individual in ensuring safe food supplies;
- apply safe food-handling concepts to the selection, preparation and handling of food materials;
- identify methods for the handling and processing of food, their problems and benefits;
- understand the need for personal and public decision-making regarding the safe handling of food;
- recognize the need for safety standards to prevent the spread of illness through food;
- create a simple media poster incorporating basic techniques to convey a message in print;
- demonstrate responsibility through personal actions and as a member of a group.

Teacher Background Information

Information campaigns use a variety of media products to inform their audience. Posters are effective ways to persuade or teach people about new or important topic. An effective poster needs a clear message and strong visual appeal to grab the attention of a large audience. The message must be expressed in few words that can be easily remembered.

Such catchy slogans as "Spread the word . . . not the germs!" , "I'm going to wash my hands of you, Bacteria", "Chill out! use a cold pack!" can really help to emphasize the message. Students will critique the You Can *Fight*BAC!™ Poster by evaluating the effectiveness of the visual aspects and the written text. Students will then design their own food safety posters to post in key places around the school and in the community to spread the word on food safety. Suggestions for poster topics for each of the four key messages are provided at the end of this lesson. These can be distributed to students or chosen by a draw. Students could also be given the choice of developing an original idea or food safety concept.

Teaching/learning Strategies

Students will review the You Can *Fight*BAC!™ Poster and the depictions of the four key food safety action messages. Their review should focus on the appeal of the poster, the individual components such as the artwork, the captions and the layout.

Courtesy of the Canadian Partnership for Consumer Food Safety Education
www.canfightbac.org

Students will then create food safety posters highlighting one of the specific actions to take to ensure safe food. Students can use a wide variety of art supplies or can produce their visuals and titles with a draw or paint program on the computer. Students can also access the www.canfightbac.org website to download and print out the BAC!™ character.

The following outline will help students to create their own food safety poster

- Choose a topic and the gather facts.
- Think about the best way to illustrate the idea.
- Creating a draft on paper.
- Show your work to a friend to get feedback, new ideas.
- Copy the plan onto a poster board - use all the space available and put your title in big letters
- Check your spelling and facts.
- Colour and complete your poster.

The posters can be used in a school-wide food safety campaign, posted in the hallways or near the lunchroom. CLEAN posters can go on bathroom doors or walls by the sink. The posters can also be used in community-based activities.

Assessment and Evaluation Suggestions

Use the Food Safety Poster rubric following this lesson. Teachers are encouraged to share this rubric with students before they begin the poster creating activity.

Extension Activities

Students post a copy of the You Can *Fight*BAC!™ poster on the refrigerator at home.

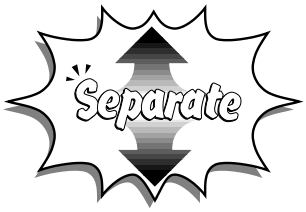
Students can create food safety refrigerator magnets based on the four key messages to post on the refrigerator at home to reinforce food safety.

Food Safety Poster Rubric

	Level 1	Level 2	Level 3	Level 4
Visual presentation	uses few or no visuals	uses some visuals	uses visuals that are well planned and well chosen	uses visuals effectively and creatively
	overall poster lacks visual appeal	overall poster offers limited visual appeal	overall poster has some visual appeal	overall poster is very visually
	little or no connection between text and visuals	simple connection between text and visuals	visuals well connected to text	innovative connections between text and visuals
Clarity and understanding of concept	message is unclear	message somewhat unorganized	simple and clear message	original presentation of clear message
	no captions or slogans	limited use of captions and slogans	clear and well-organized captions and slogans	very clear and effective captions and slogan

Wash hands and surfaces often

- Wash hands, utensils and surfaces with soap and hot water before and after food preparation and especially after preparing raw meat, poultry, eggs or seafood to protect adequately against bacteria. Then use a bleach solution (5 mL household bleach to 750 mL water) on utensils and surfaces, rinse with hot water and dry with a clean cloth before using.
- 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 washed in the dishwasher - or washed with soap and hot water, then use a bleach solution, as directed above.
- Consider using paper towels to clean up kitchen surfaces. If you use cloth towels, wash them often in the hot water cycle of your washing machine.



Don't cross-contaminate

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

Cook to proper temperatures

- Use a clean thermometer, which measures the internal temperature of foods, to make sure meat, poultry, casseroles and other foods are cooked to their proper temperatures.
- Cook ground beef, where bacteria can spread during processing, to a minimum internal temperature of 71°C. If a thermometer is not available, do not eat ground beef that is still pink inside.

Refrigerate promptly

- 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.
- Set your refrigerator no higher than 4°C and the freezer unit at -18°C. Check these temperatures occasionally with an appliance thermometer.

Student Response Form

You Can Fight BAC!™

Food Safety Poster Projects

Look closely at the food safety poster. Note the visuals, titles, captions, layout, and colour choices.

What does each photo or illustration contribute to the poster?_____

_____

_____

_____

Would the poster be as appealing without these visuals? Why or why not? _____

_____

What other illustrations or photos would you have added? Why? _____

_____

How do the titles enhance the poster? _____

_____

How are layout and the colours used to make the poster more attractive? _____

_____

Media productions (like posters) have an audience in mind. Who is the audience for this poster?

_____

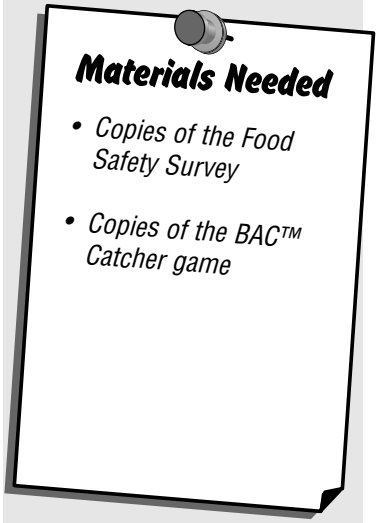
Rate the overall effectiveness of the poster based on its ability to get attention and sharing its message.

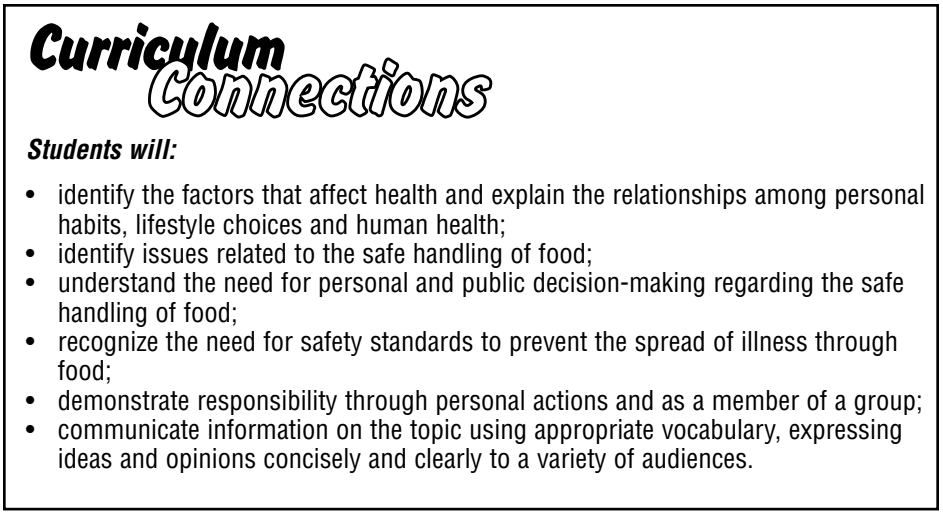
Poor 1 2 3 4 Very good

Spreading the News ... Not the Germs

At Home, At School, In the Community

Students will do three activities to consolidate their food safety learning - one for home, one for school, one for the community.





Teacher Background Information

Students love sharing their knowledge with friends and family, and "teaching" younger students. Students will choose an activity to share with younger students in the school, an activity to do at home with family members and one activity to be done in the local community.

Teaching/learning Strategies

Students are encouraged to choose one of these activities or devise their own activities to share their understanding about food safety issues.

At Home
- Food Safety Survey
- Repeat the Food Safety Survey with family members as a "post unit" assessment and compare the results with the first survey.

Then and Now
- Talk to parents and grandparents about how food was stored when they were growing up and contrast it with how food is stored today. Students can 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.

Reaching Out to Other Classrooms and Grades

- Declare Food Safety Month!
- Students write fun "copy" for morning announcements giving basic food safety messages including a "tip of the day" for example reminding all students to wash their hands before eating lunch, encouraging them to clean their desks before eating, reviewing the storage containers used for their lunches, etc. Some changes in classroom and school practices may need to be addressed with teachers, administrators and the custodian.
- Students can compose a rap song or chant using the basic messages of food safety to share at a school assembly. Students list all the vocabulary words they can think of for each key message along with words that rhyme. They can create one verse for each key message. They can perform it with percussion or rhythm instruments.
- Students can write a play or present the skit, Perils At the Picnic, at the assembly.
- The food safety posters created by the students can be posted in the hallways throughout the school. Classes could circulate through the area and students can explain the importance of their food safety tip.

***Fight*BAC!™ Food Safety Buddies**

- Write a short adventure story from the point of view of the bacteria - featuring their efforts to stay alive and multiply! Include several food safety mistakes that help bacteria multiply and several good food safety habits that keep bacteria from multiplying! Illustrate the stories with a logo (like BAC!™) and share stories with students in another class.

- Distribute one copy of Appendix #2 The Student BAC!™ Catcher. Prepare a personal version of the BAC!™ Catcher, a new look at an age-old favorite game. Suggestions for the questions and answers are provided to get started, but students can add their own ideas!, Play the BAC!™ Catcher game and review the four key messages with food safety buddies.

Spreading the Message Outside the School

Restaurant Safety

- Generate a list of local restaurants. Compose a letter letting the restaurants know the class is studying food safety and wants to learn more about how to keep food safe. Include a copy of the food safety poster. Invite a local restaurant manager to visit the class and talk more about the food safety rules that restaurants follow. Prepare questions in advance and follow up with an interview and report back to the class.

A Supermarket Field Trip

- Arrange a class trip to a local supermarket by contacting the store manager. Check to see if food thermometers are sold and what types are available. Ask questions of the manager about the procedures the store must follow to keep food safe. Ask permission to post the food safety posters (developed by the students) in the store and staff an information booth on a Saturday morning to share with store customers.

Helping the Elderly or Home-bound

- Prepare bookmarks or little refrigerator magnets as food safety reminders for Meals on Wheels, and other Seniors' food programs that reach out to those with special needs.
- Plan a food safety presentation using the food safety posters (developed by the students) to introduce the four key messages to a local seniors residence (one where seniors prepare their own meals).

Assessment and Evaluation Suggestions

Review the individual student BAC!™ Catchers for knowledge about food safety.

Students complete a personal reflection on what they have learned throughout the You Can *Fight*BAC!™ food safety program.

Appendix 1 - Video Script - You Can FightBAC!™ For Food Safety

Scene One: Opening

That's BAC!™ the mascot for the *Fight*BAC!™ Program. By the time this video is over, you will have learned to fight BAC!™.

Title: You Can *Fight*BAC!™ For Food Safety comes into frame.

Scene Two: Key Messages

What you are about to see may surprise you. Nasty bacteria are lurking everywhere. Watch out for bacteria and clues to help you fight BAC!™ So let's move along. Meet François... Brittany... Jeremy... Michelle... and Celess. They are planning a birthday party. There's lots of work in preparing for this bash! We are going to zero in on the most important part of a party...next to the presents...the FOOD. This gang is going to take us through all the steps starting with the shopping. Once we are back in the kitchen you will discover more about the four key steps to food safety...Clean...Separate...Chill and Cook.

CLEAN	wash hands and surfaces often!
SEPARATE	don't cross contaminate!
CHILL	refrigerate promptly!
COOK	cook to proper temperatures!

Now let's go shopping!

Scene Three: Shopping

Check this out. It's a good idea to start with the dry goods, you know the crackers, canned food and pasta. Cans of soup and packages of pasta are neat and clean and stacked carefully on the shelves. Pay attention to how the grocer stores the fresh fruits and vegetables. See how the meat and cheese are well wrapped? Look at how the milk is kept cold in the refrigerator too. Pick up your refrigerated and frozen items like fresh meat, cheese and ice cream last. The raw meat is kept together in one bag while the veggies are bagged separately. These kids know how to Fight BAC!™ by keeping the fresh meat separate from the veggies, cheese and bread. While at the checkout counter see how the food is bagged to go home. You can do this too!

Scene Four: Food Preparation

Clean...Separate...Chill and Cook.

With everyone back from the grocery store, the fun begins as they put the groceries away. BAC!™ likes warm temperatures, so fight BAC!™ by putting groceries away as quickly as possible. It's also a good idea to store fresh meat separately from the other foods. Next, everybody washes his or her hands. It's important to keep your hands clean all of the time, especially before starting to prepare foods, after handling raw meats and before you start eating. Wash your hands with soap and hot water for 20 seconds. Use paper towels or a clean towel to dry your hands.

It's important to wash hands and surfaces often! Wow! This kitchen is already clean (sparkling stars) thanks to François' Mom and Dad who cleaned up while everyone was at the grocery store. The counters, the cutting boards and sinks are sparkling clean. So the friends are ready to go!

Everyone has a part to play in the party. While Celess and Jeremy are setting the table, Michelle and Brittany cut up the veggies. And later François and Brittany prepare the beef burgers. Notice how the veggies are prepared separately from the hamburgers to prevent cross-contamination.

Even though everyone's hungry it's important to wait until the beef burgers are cooked properly. The best way to make sure that the hamburgers are cooked properly is to use a food thermometer. Health Canada recommends a minimum internal cooking temperature of 71°C for ground beef. Mmmmm smells delicious!! One more step before they dig in. Make sure the burgers go onto a clean plate. Hey, we just covered the 4 key steps to fighting BAC!™:

CLEAN	wash hands and surfaces often
SEPARATE	don't cross contaminate
CHILL	refrigerated promptly
COOK	cook to proper temperatures

GOOD POINT FOR A BREAK TO RECAP THE VIDEO

Scene Five: QUIZ!

A birthday party should be full of surprises, so let's do a QUIZ! I'll ask the question, you have 5 seconds to think about it. Then an expert will reveal the right answer. Are you ready?

CLEAN	How do you get rid of bacteria on your hands and cutting board?
SEPARATE	How do you keep raw meat juices from dripping on your veggies?
CHILL	What is the best way to store perishables such as milk or meat?
COOK	How do you kill bacteria in raw meat?

(Expert answers.)
So how did you do? It's a lot of common sense, good preparation, and cooperation with everybody. It's easy!! Clean, Separate, Chill and Cook!

Scene Six: Closing

So there it is...You Can *Fight*BAC!™ for Food Safety. If you would like more information about food safety, please check out www.canfightbac.org

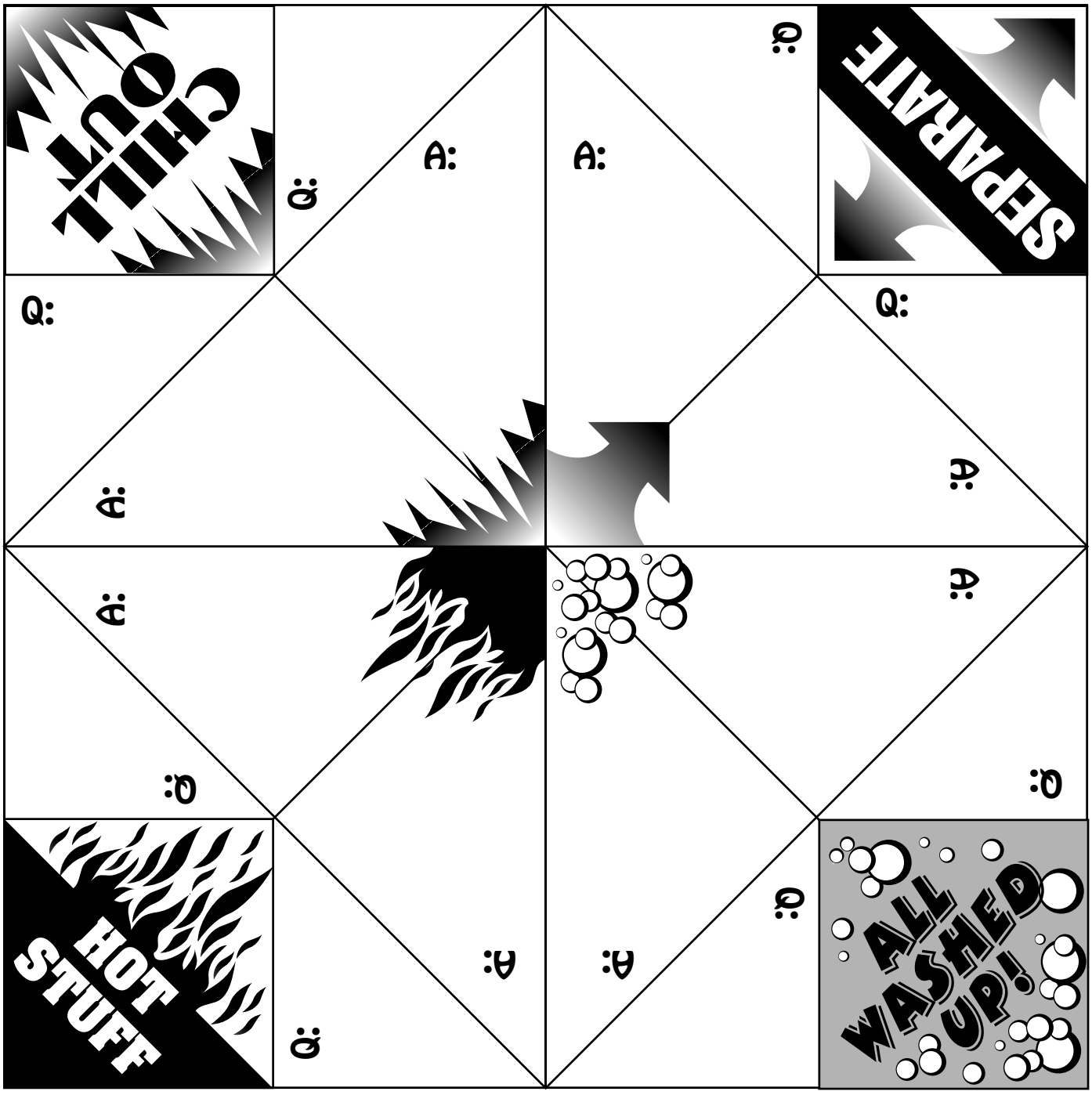
Appendix 2 - BAC™ Catcher Game

Student Directions

Choose from these food safety questions and answers and write them in the Questions & Answers triangles on your BAC!™ Catcher. You need two for each key message - Clean, Separate, Cook, and Chill. Or invent and write some of your own questions and answers from what you have learned in this unit.

Folding instructions

1. Cut out 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.



Food Safety Questions and Answers:

Clean All Washed Up!

Q What do you get when you mix 10 live fingers, warm water and soap?	A Clean hands!
Q Knock knock. Who's there? Get back. Get back who?	A Get bacteria off your counters! Clean them before preparing food!

Separate

Q Why did the chicken cross the road?	A To stay away from the vegetables on the cutting board. He didn't want to contaminate them!
Q What do you get when you cross a tomato with raw meat?	A Cross-contamination! Yuck - don't do it!

Cook Hot Stuff!

Q Knock, knock. Who's there? Temper. Temper who?	A Temperature counts! Cook your burgers thoroughly until you see clear juices.
Q What do you get when you mix a "zap", a "rotate" and "time"?	A Food that's been microwaved the right way!

Chill Chill Out!

Q Why did the milk like to hang out in the refrigerator?	A Because it was cool!
Q What's the difference between a cold pack and a confused bank teller?	A One keeps the food in the lunchbox safe, the other keeps the lunchbox in the safe!

Once you have finished writing the food safety questions and answers follow these instructions to make your BAC!™ Catcher

You Can *Fight*Bac!™ Catcher Game
Student Response Form

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.

Have Fun Fighting BAC!™

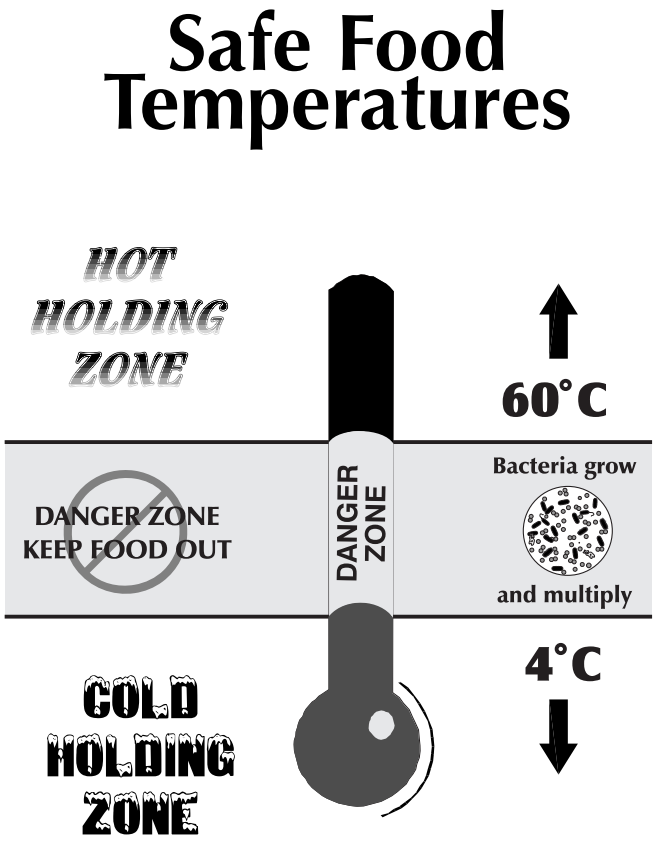
Appendix 3 - Food Thermometers

Why use a food thermometer?

to prevent food borne illness ...
- using food thermometers is the only reliable way to make sure that food is cooked to safe temperatures;
- to be safe, foods must be cooked to an internal temperature high enough to destroy any harmful bacteria that may be in the food;
- colour is not a reliable indication that food has been properly cooked; for example a hamburger may turn brown on the inside before it has been cooked to a safe temperature; if the thermometer registers a minimum internal temperature of 71°C, the hamburger is safe to eat regardless of the colour.

to hold foods at a safe temperature ...
- use a food thermometer to check that foods are held at safe temperatures until they are served;
- keep hot foods HOT - above 60°C;
- keep cold foods COLD - below 4°C;
- DO NOT keep foods in the Danger Zone, between 4°C to 60°C.

to prevent foods from overcooking ...
- using a food thermometer takes the guess-work out of cooking; simply use the thermometer to check if the proper temperature has been reached.

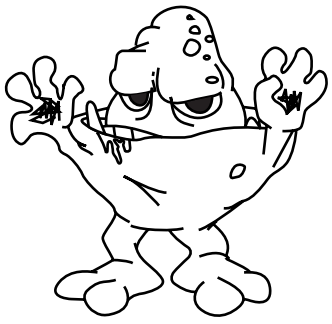


Source: The Regional Municipality of Halton, Health Department

What are the different types of food thermometers?

There are several different types of food thermometers including: dial oven-safe, digital instant-read, fork, dial instant-read, thermocouple, disposable temperature indicators (single use) and pop-up. Each type of thermometer varies in its usage, so be sure to read the manufacturer's instructions.

Look at
www.fsis.usda.gov/OA/thermy/ktherms.htm for kitchen thermometer illustrations. Keep in mind that this is an American site and some information may not be applicable to Canada.



Appendix 4 - Curriculum Connections for grades 4 - 7

The Methods of Science

- demonstrate appropriate scientific inquiry skills when seeking answers to questions
- design a scientific experiment (including apparatus, materials, safety considerations, and correct steps of the experiment)
- recognize the importance of observation and measurement
- identify relevant variables in an experiment
- identify and test a prediction
- correctly state a hypothesis
- draw reasonable conclusions from experiments, based on evidence
- compare ways of solving problems and finding explanations
- interpret findings from investigations using appropriate methods

Food and Micro-organisms

- identify the factors that affect health and explain the relationships among personal habits, lifestyle choices and human health
- identify issues related to the safe handling of food
- understand the processes responsible for the maintenance of an organism's life
- identify micro-organisms, their role in food spoilage and other effects
- know the natural habitats, and human-made habitats of micro-organisms
- be aware of the widespread distribution of micro-organisms
- analyse the beneficial and harmful effects of micro-organisms on other organisms
- describe the human body's various defences against harmful micro-organisms
- identify factors that enhance or inhibit the growth of micro-organisms (with application to food)
- identify and describe diseases that may occur from poor cleanliness or improper food handling
- identify practical difficulties in the management of food supplies
- recognize the need for safety standards to prevent the spread of illness through food
- group foods by their susceptibility to micro-organisms
- identify the role of the individual in ensuring safe food supplies
- apply safe food-handling concepts to the selection, preparation and handling of food materials
- identify the use of micro-organisms in food productions (e.g., yeast, bacterial cultures)
- identify methods for the handling and processing of food, their problems and benefits
- evaluate legislated food standards, inspection and monitoring systems

Applying scientific knowledge

- relate scientific knowledge and technology to the maintenance of a healthy food supply
- recognize the various perspectives which may need to be considered in decisions regarding the setting and enforcement of food safety standards
- understand the need for personal and public decision-making regarding the safe handling of food;
- recognize the need for safety standards to prevent the spread of disease through food

Collaborative Learning Skills

- demonstrate responsibility through personal actions and as a member of a group
- work collaboratively to carry out science-related activities and communicate ideas, procedures and results

What is the Canadian Partnership for Consumer Food Safety Education?

The Canadian Partnership for Consumer Food Safety Education, formed in December 1997, is a coalition of industry, consumer, government, health and environmental organizations that joined together to present a unified front in the fight against foodborne illness. The goal of the Partnership is to contribute to the reduction of microbial foodborne illness in Canada by increasing consumer awareness of what they can do to protect against these illnesses, specifically through the use of safe food handling practices. The 60-plus member coalition has been working through the *Fight*BAC!™ campaign, launched in November 1998, to improve consumer understanding of foodborne illness and the measures that can be taken to decrease the risks of the illness.

Although Canada's food supply is one of the safest in the world, fighting foodborne illness is a major challenge. Health Canada estimates that there are approximately 2 million cases of foodborne illness in Canada each year, with an estimated cost to Canadian health services, industry, and society of more than $1 billion annually.

Everyone has a role to play in Canada's food safety system - from the farmer who produces the food, to industry processors, government inspectors and consumers who prepare food for their families.

Partnership Members as of March 31, 2001:

Level I Partners
Agriculture and Agri-Food Canada
Beef Information Centre*
Canadian Council of Grocery Distributors*
Canadian Egg Marketing Agency*
Canadian Food Inspection Agency *
Canadian Meat Council*
Canadian Poultry & Egg Processors Council*
Canadian Produce Marketing Association*
Chicken Farmers of Canada*
Health Canada*

Level II Partners
British Columbia Ministry of Health
Canada Pork*
Canadian Turkey Marketing Agency*
Dairy Farmers of Canada*

Level III Partners
Canadian Federation of Independent Grocers*
Canadian Institute of Public Health Inspectors/Association of Supervisory Public Health Inspectors of Ontario
Canadian Meat Science Association
Capital Health Authority (Alberta)
Crop Protection Institute of Canada*
Environmental Health Foundation of Canada*
Further Poultry Processors Association of Canada*
Kidney Foundation of Canada*
National Institute of Nutrition
Newfoundland & Labrador Department of Health & Community Services
Ontario Independent Meat Packers & Processors
Ontario Ministry of Health
Province of Manitoba
Soap & Detergent Association of Canada
Vancouver/Richmond Health Board*

Level IV Partners
Alberta Agriculture, Food and Rural Development
Alberta Home Economics Association Food Safety Infoline
Alberta Environmental Health
Association des manufacturiers de produit alimentaires du Québec
Association of Supervisory Public Health Inspectors of Ontario
Boundary Health Unit (BC)
Canadian Federation of Agriculture*
Canadian Home Economics Association*

Canadian Pork Council
Consumers Association of Canada*
Eastern Ontario Health Unit
Environmental Health Services-Queen's Region Health (PEI)
FarmFolk/CityFolk Society
Federal/Provincial/Territorial Committee on Food Safety*
Guelph Food Technology Centre
Ministère d'agriculture des pêcheries et de l'alimentation du Québec
National Dairy Council of Canada
New Brunswick Public Health
Northern Lights Regional Health Authority (AB)
Nova Scotia Department of Agriculture
Northwest Territories Department of Health
Ontario Farm Women's Network
Ontario Ministry of Agriculture, Food & Rural Affairs*
Ontario Provincial Food Service Health Promotion Program
Ontario Public Health Association
Palliser Health Authority (AB)
Peace River Health Region (AB)
Prime Restaurants Group Inc
Regional Municipality of Halton
Regional Municipality of Waterloo Community Health Department
Region of Peel Health Department
Saskatchewan Health
South Fraser Health Region
Wellington-Dufferin-Guelph Health Unit (ON)
Yukon Health & Social Services

*Founding Member

International Affiliate

United States Partnership for Food Safety Education

Resources

Print
Food Safety Can Be Fun! OAFE

Web Sites
Canadian FightBAC!™ website
www.canfightbac.org/english/ccentre/factsheets/causeoffoodborn.shtml

Canadian Food Inspection Agency's food facts

http://www.cfia_acia.agr.ca/english/corpaffr/food-facts/fftoce/shtml

U.S. Partnership for Food Safety Education
http://www.fightbac.org/fbi/10_least.htm

U.S. Food and Drug Administration
http/vm.cfsan.fda.gov/~mow/intro.html

bacterial cells http://www.cellsalive.com

U.S. Food Safety Government Site
http://www.foodsafety.gov

General Microbiology
http://commtechlab.msu.edu/sites/dlc_me/zoo/index.html

U.S. Food Safety and Inspection Service
www.fsis.usda.gov/OA/thermy/ktherms.htm

*Fight*BAC™ Evaluation

By completing this form and returning it as indicated below, you will assist the Partnership with its mission to provide consumers with the knowledge they need to keep themselves and their families safe from foodborne illness.

1. In general, did you find the *Fight*tBAC!™ project for grades 4 - 7 useful? YES ____ NO ____

2. Do you feel that this *Fight*Bac!™ project, including the video and educational materials, helped your students to:

2.1 understand the four key messages of food safety	YES ____	NO ____
2.2 understand the science associated with food safety	YES ____	NO ____
2.3 reinforce/apply skills in language and the arts	YES ____	NO ____

3. How useful were each of the following components of the project "package"
(1 = low useability .... 4 = high useability)

3.1 The Teacher's Guide (in general)	1	2	3	4
3.2 The teacher background information for each activity	1	2	3	4
3.3 The activity instructions (teaching/learning strategies)	1	2	3	4
3.4 Assessment and Evaluation suggestions	1	2	3	4
3.5 The reproducible student materials	1	2	3	4
3.6 The video component of the project	1	2	3	4
3.7 The poster component of the project	1	2	3	4
3.8 The "packaging" (loose-leaf, in plastic bag)	1	2	3	4

4. Did the students enjoy the student activities in the project? YES ____ NO ____

5. Did the project have an impact beyond the classroom (e.g., in the rest of the school, with student families, in the community)

YES ____ NO ____

6. How did you learn about the *Fight*BAC!™ project?

_____

_____

7. What changes could be made to future versions of this project that could enhance its useability?

_____

_____

_____

8. Please include comments about this *Fight*BAC!™ project for the Partnership members; these comments will be useful in evaluating the project and planning for future projects related to food safety.

_____

_____

_____

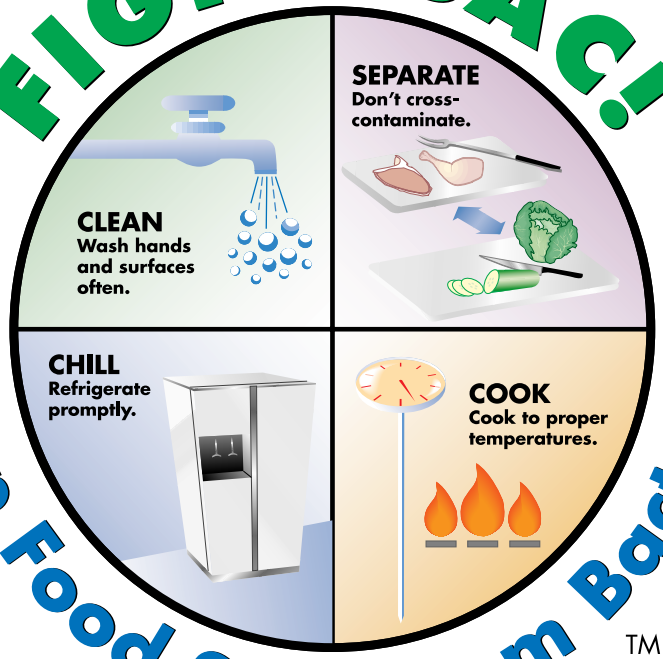
Please return this form ...

by fax to - (613) 952-6400

by mail to - Canadian Partnership for Consumer Food Safety Education
ATTN: Grade 4 to 7 Evaluation Form
75 Albert Street, Suite 1101
Ottawa, ON K1P 5E7

Fight BAC!™ for Food Safety

FIGHT BAC!

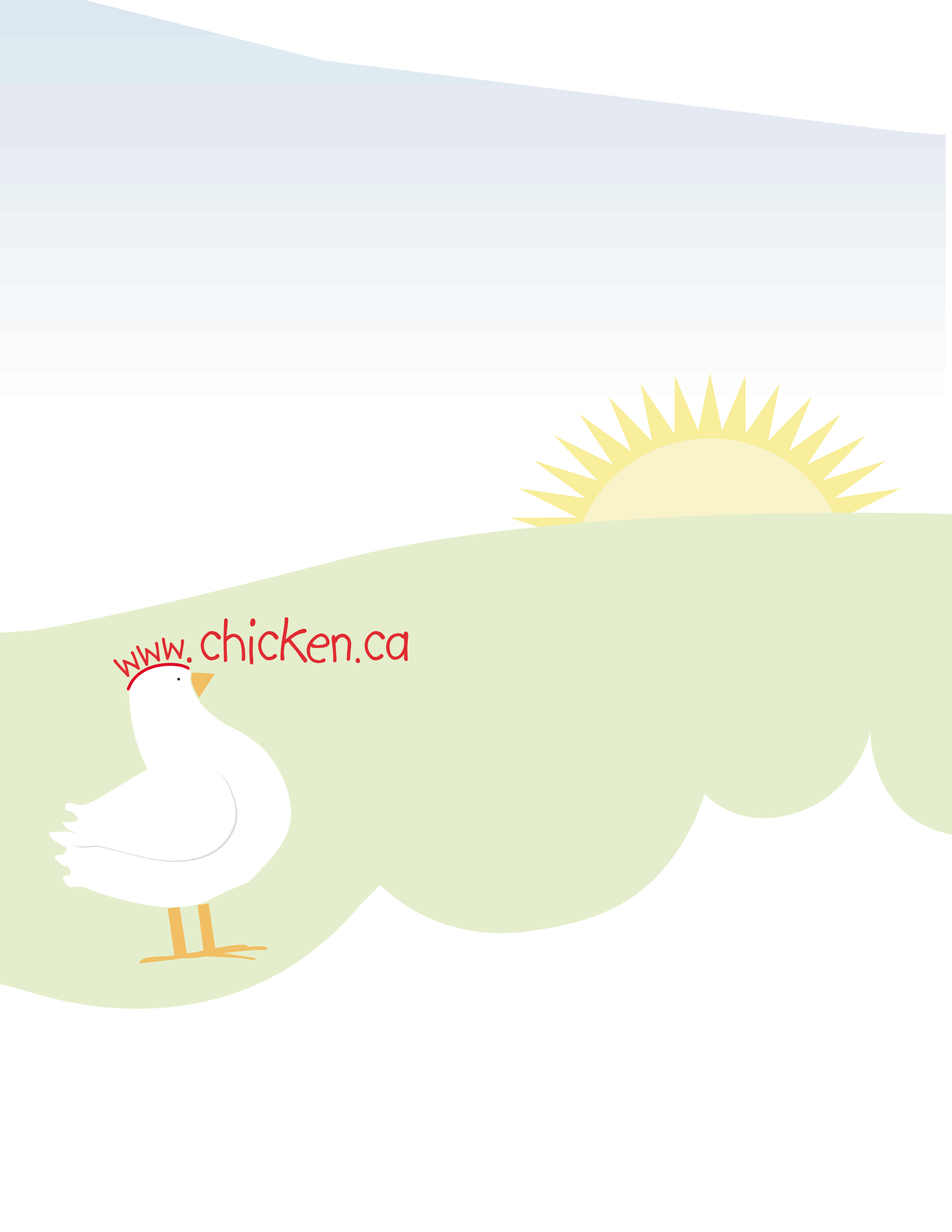


Keep Food Safe From Bacteria™

SEAL OF APPROVAL
ONTARIO AGRI-FOOD EDUCATION
RECOMMENDED FOR SCHOOL USE

CANADIAN PARTNERSHIP FOR CONSUMER FOOD SAFETY EDUCATION
PARTENARIAT CANADIEN POUR LA SALUBRITÉ DES ALIMENTS

SEAL OF APPROVAL
BC AGRICULTURE IN THE CLASSROOM


www.chicken.ca