



Poultry and Egg Education Project (PEEP) Curriculum Resource



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CURRICULUM GUIDE FOR EDUCATING YOUTH ON SAFE HANDLING AND USE OF POULTRY AND EGGS



What's the Problem?:

The Centers for Disease Control estimates that approximately 1 in 6 Americans are affected by foodborne illnesses, and approximately 128,000 of these people are hospitalized and 3,000 die. There are eight known pathogens that cause most foodborne illnesses, hospitalizations and deaths each year. Both *Salmonella* and *Campylobacter* pathogens are in the top five list of pathogens that cause humans to be ill, hospitalized or die. According to the United States Department of Agriculture and our research, raw and undercooked poultry and eggs are often associated with *Campylobacter* and *Salmonella* caused illnesses. Consumers can reduce their risk of foodborne illness from these bacteria by safely purchasing, storing, handling, and preparing poultry products and eggs.

What's Inside?

The following six lesson plans in this curriculum are based on the research findings of the PEEP project that was funded by the United States Department of Agriculture. The six lessons represent six themes that were identified through a content analysis of all of the microbiological and consumer food safety research conducted as part of the program. The purpose of the following plans are to inform and educate youth on how to better store, handle, and prepare raw poultry and eggs to reduce contamination from *Salmonella* and *Campylobacter*. It is our hope that youth will share the research-based knowledge learned in these lessons with their parents and other members of the community.

This curriculum comes with everything an educator needs to deliver important messages that will be adopted by their students. The lessons provide the educator with requisite background, content, and materials needed. Several options for teaching with inquiry-based and problems-based learning, videos, and evaluation tools are also provided. Helpful formative and summative evaluation tools include handouts, activity pages, video guides, and review sheets. Lessons are helpful to educators because they can be cross-walked with important academic standards.

Standards

Because this curriculum was developed from the research findings of the Poultry and Egg Education Project, the lessons naturally support many of the Next Generation Science Standards associated with science content and knowledge. Tennessee was used as an example of how to crosswalk the standards with our lessons. We encourage users to consult the standards in their respective states.

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Wash Your Hands: Leave NO Germ Behind!



Lesson Overview

Time: 10-20 Minutes

Learning Objectives:

In this lesson, participants will:

- Describe how hand washing relates to poultry and egg safety.
- Provide examples of when it is necessary to wash hands to prevent illness.
- Identify major steps to properly wash hands.

Tennessee Department of Education Academic Standards

- Health Education Standards 3-5: 2.1, 2.3, 9.1, 9.3, 9.4
- Science Education Standards 5: 0507.Inq.1, 0507.Inq.2, 0507.Inq.4

Contents:

- **Video:** Short, educational video outlining key points from this lesson
- **Handout & Activity Page:** Overview of key points and puzzle activity
- **Video Guide:** Fill-in-the-blank and short answer worksheet to supplement educational video
- **Check For Understanding Review:** Review of key points

Materials:

- Printed handout for each participant
- Access to “Wash Your Hands: Leave NO Germ Behind!” Video
- Printed video guide for each participant
- Printed check for understanding review for each participant
- PowerPoint or other visual
- Activity 1: Paper or sticky notes, markers or pens
- Activity 2: Soap, access to a sink or bathroom
- Activity 3: Glo Germ™ kit OR glitter, paper, pencils, access to a sink or bathroom

How Does This Relate to Poultry and Egg Safety?

- Egg and Poultry safety begins with cleanliness. This means washing hands often to prevent harmful bacteria that can be found on poultry and in eggs from spreading to other foods and surfaces, which can cause illness.

Vocabulary

- **Foodborne Illness:** Illness or sickness that is transmitted to humans by food containing harmful bacteria or pathogens
- **Bacteria:** Living single-celled organisms that can be found everywhere; they can be dangerous or beneficial and thrive best in places such as the mouth, nose, intestines, and room temperature foods.
- **Germ:** A microorganism capable of spreading disease and illness
- **Salmonella:** Bacteria that can be found in raw or undercooked eggs and poultry as well as other meats and dairy products
- **Salmonellosis:** Illness caused by ingesting Salmonella bacteria in contaminated or under-cooked foods
- **Campylobacter:** *Campylobacter jejuni*– Bacteria that can be found on food animals and are most commonly associated with raw or undercooked poultry and unpasteurized milk
- **Campylobacteriosis:** Foodborne illness caused by ingesting *Campylobacter*

When Should You Wash Your Hands?

- Before and after handling food or food products
- Before and after cracking an egg
- After using bathroom
- After touching hair or face
- After touching pets
- After coughing, sneezing, etc.
- After touching the trash can

Hand Washing: Steps to Leave NO Germ Behind!

1. Wet hands under running water.
2. Add soap.
3. Scrub palms and in-between fingers.
4. Make sure to scrub under running water for at least 20 seconds.
5. Dry hands with a clean paper towel.

Teaching Guide

Interest Approach:

Lead students through the *Activity 1: Everywhere I Touch*. Detailed procedures for this activity can be found in the Activity Guide section of this lesson. Make sure you prepare ahead of time and have the right supplies. You could also do *Optional Activity 3: Glo or Glitter Germ* or substitute it for *Activity 1*.

Objective 1. Describe how hand washing relates to poultry and egg safety:

- a. **Discussion:** Ask students the following questions, and respond to their answers in a way that leads them to the correct knowledge of the relationship between hand washing and safety.
 - “How does hand washing relates to poultry and egg safety?”
 - “Why is it important to wash your hands?”
 - “Why should you wash your hands when cooking or handling food (poultry and eggs)?”
- b. **Explain** “Egg and Poultry safety begins with cleanliness. This means washing hands often to prevent harmful bacteria that can be found on poultry and in eggs from spreading to other foods and surfaces, which can cause illness.”
- c. **Review** the Vocabulary of the *Subject Matter Outline* in this lesson. For extra practice with the Vocabulary, you could ask students to create a formula representing the relationship between each of the Vocabulary words.

Objective 2. Provide examples of when it is necessary to wash hands to prevent illness.

- a. **Discussion** Ask, “When do you think you should wash your hands while in the kitchen cooking and handling food?”
- b. Write answers on a board or large sticky pad, or type into a slide as the students respond. (Can also have a student act as a “scribe” for this part of the lesson and write answers for you.)
- c. **Skip this step if you plan to watch the video in the next section** **Compare** the list the students create with the “When you should wash your hands” list from the subject matter outline. **Ask** students if there are steps they think should be added to either list.

Objective 3. Identify major steps to properly wash hands.

- a. **Discussion** Ask students to share what they do when they wash their hands on a daily basis. Let them share in groups or pairs, or to the class. **Review** and discuss their responses.
- b. **Play Video 1: Leave No Germ Behind.** Distribute copies of the *Video Guide* worksheet and use it to identify the major steps to properly wash hands.
- c. *Optional Activity 2: “Perfect Hand Washing Practice”*

Review

- a. **Ask** “What questions do you have?”.
- b. **Evaluate** with the *Check For Understanding Handout*.
- c. Puzzle answers from the *Check For Understanding Handout*
 - Across: 2. Food; 3. Egg; 5. Pet; 6. Sneezing
 - Down: 1. Coughing; 3. Eating; 4. Trash

Activity & Video Guide

Outline

Video 1: Leave No Germ Behind

- Give each student a copy of the *Leave No Germ Behind Video Guide*.
- Play the *Leave No Germ Behind Video* (About 2 minutes in length). Give students enough time to fill in *Video Guide*.
- **Video Discussion:** Ask students to recall the “When you should wash your hands” part of the video (go back to and pause on the review screen) How does this list compare to the list the students made before the video? Is there anything we should add to our list? Is there anything the video might have missed?
- **Video Discussion:** Ask students to recall the beginning of the video where “John” is making eggs. Point out other food safety mistakes John might be making.

Activity 1: Everywhere I Touch

- Using sticky notes or small pieces of paper, demonstrate how bacteria can easily spread from surface to surface without proper hand washing.
- Give each student a stack of sticky notes (approx. 10-15 notes total per student).
- Give them approx. 3 minutes and ask them to put a sticky note on everything they touch (door handles, desks, water bottles, pencils, papers, phones, etc.).
- Discuss how the spread of bacteria and germs can be minimized with proper hand washing.
- Discuss how this activity relates to the safety of poultry and eggs.
- For added creativity (especially with younger students) give each student markers or crayons and have them draw or color “germs”.

Key Points

Leave No Germ Behind Video

This video outlines and reviews steps to Perfect Hand Washing and when you should wash your hands.

A summary of key points is at the end of the video. Pause the video before you come to this part if you wish to see if the students can identify when to wash their hands.

Everywhere I Touch

This activity should demonstrate:

- How easily germs and harmful bacteria from your hands are spread to other surfaces.
- A simple visual of what bacteria looks like spread around the kitchen and what it could be contaminating.
- How the spread of bacteria from food can be minimized with proper hand washing.

Activity & Video Guide

Outline

Activity 2: Perfect Hand Washing Practice

- If a sink or bathroom is available, ask students to practice the perfect hand washing technique. Remind them of the hand washing steps.

Activity 3: Glo or Glitter Germ

- Pre-order Glo Germ kits
- Have each student compare the amount of Glo Germ left on their hands after washing:
 - * With no soap for only 10 seconds
 - * With no soap for 20 seconds
 - * With soap for only 10 seconds
 - * With soap for 20 seconds
- Discuss the results and how this relates to the safety of poultry and eggs.
- *NOTE: For a cheaper (but messier) alternative, use glitter glue instead of Glo Germ.*

Key Points

Perfect Hand Washing Practice

This activity or demonstration is an opportunity for students to practice the perfect hand washing technique

Glo or Glitter Germ

The best results should be after using soap for at least 20 seconds.

This activity should demonstrate:

- Why sticking your hands under water for a few seconds is not good enough.
- How hard it is to actually clean your hands.
- How easy it would be for bacteria on your hands to spread into other foods if your hands are not washed properly.

References

Educational Resources:

Academic Standards. (2016). <https://www.tn.gov/education/topic/academic-standards>

Educational Materials On Food Safety. <http://fightc-les.org/>

Fight Bac! - Partnership for Food Safety Education. (2016). <http://www.fightbac.org/>

Activity Resources:

Glo Germ. (2016). <http://www.glogerm.com>

Handout Puzzle:

Discovery Education Puzzle Maker. (2016). http://www.discoveryeducation.com//free-puzzlemaker/index.cfm?campaign=flyout_teachers_puzzle

Wash Your Hands: Leave NO Germ Behind!



How does this relate to Poultry and Egg Safety?

When handling poultry and egg products it is important to wash your hands often to prevent harmful bacteria that can be found on poultry and in eggs from spreading to other foods and surfaces. Without proper hand washing before and after handling poultry, you can become ill or cause others to become ill.

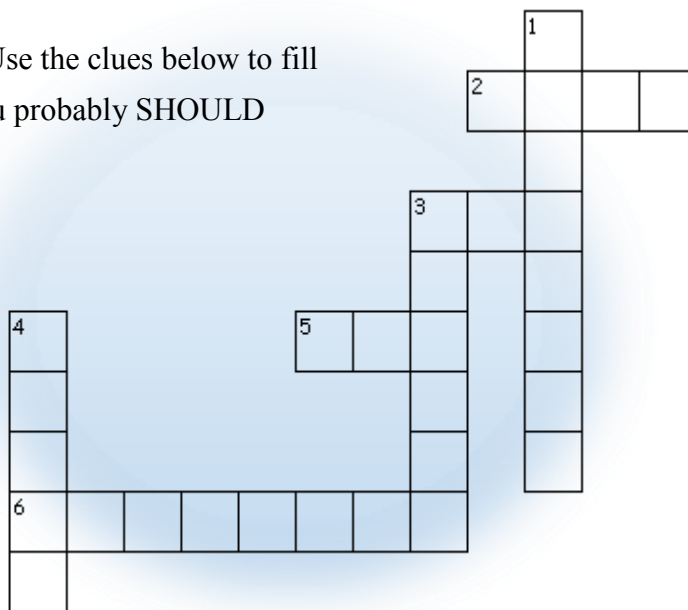
When should you wash your hands? Use the clues below to fill in the Cross Word Puzzle and reveal times when you probably SHOULD wash your hands!

Across:

2. Before you eat this
3. Before and after cracking an ____
5. After touching this furry friend
6. Bless you!

Down:

1. Don't make others sick by not washing after _____.
3. Your parents probably taught you to wash up before _____ a meal.
4. Definitely wash after touching a _____ can

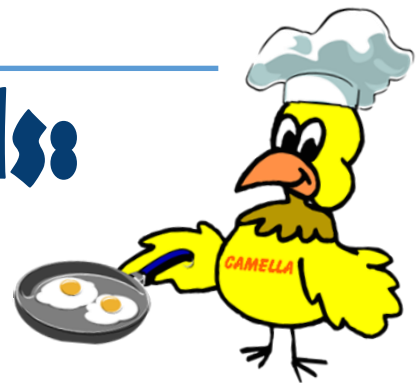


Steps to Leave No Germ Behind!

1. Wet hands under running water
2. Apply soap
3. Scrub palms, in-between fingers, and under fingernails
4. Make sure to scrub for at least 20 seconds
5. Dry with a clean paper towel



Wash Your Hands: Leave NO Germ Behind!



Fill in the blank as you watch the video.

- According to the video, 20 seconds is about the same amount of time it takes to sing the _____ song.
- According to the video, you should wash your hands _____ you crack eggs or touch raw poultry.

Answer these questions about the video.

- What are some examples of mistakes John made in the video?

- List three times suggested in the video that you should wash your hands

Wash Your Hands: Leave NO Germ Behind!



Fill in the Blank:

- You should wash your hands for _____ seconds.
- When washing your hands, make sure to scrub _____ fingers and _____ finger nails.
- True or False _____ It is important to wash hands often when cooking poultry and eggs in order to keep bacteria from spreading.
- True or False _____ It is not necessary to use soap every time you wash your hands.

Short Answer:

- List three examples of times when you should wash your hands.

- List all the steps of perfect hand washing.

Wash Your Hands: Leave NO Germ Behind!



Fill in the Blank:

- You should wash your hands for 20 seconds.
- When washing your hands, make sure to scrub IN-BETWEEN fingers and UNDER finger nails.
- True or False TRUE It is important to wash hands often when cooking poultry and eggs in order to keep bacteria from spreading.
- True or False FALSE It is not necessary to use soap every time you wash your hands.

Short Answer:

List some examples of times when you should wash your hands. Before and after handling food or food products.

- Before and after cracking an egg
- After using bathroom
- After touching hair or face
- After touching pets
- After coughing, sneezing, etc.
- After touching the trash can

List all the steps of perfect hand washing.

1. Wet hands under running water.
2. Add soap.
3. Scrub palms, in-between fingers, and under fingernails.
4. Make sure to scrub under running water for at least 20 seconds.
5. Dry hands with a clean paper towel.

Clean it! Make it Safe!



Lesson Overview

Time: 10-20 Minutes

Learning Objectives:

In this lesson, participants will:

- Define cross contamination and identify ways that it could happen.
- Identify cleaning tips which can be done at home to prevent harmful bacteria from spreading.
- Analyze the home kitchen and create a checklist for clean and safe kitchen monitoring.

Tennessee Department of Education Academic Standards:

- Health Education Standards 3-5: 1.1; 1.2; 2.1, 2.3
- Science Education Standards 5: 0507.Inq.1, 0507.Inq.4

Contents:

- **Handout & Activity Page:** Overview of key points and puzzle activity
- **Clean it! Make it Safe! Checklist:** Handout for participants to make their own cleaning checklist to take home
- **Check For Understanding Review:** Review of key points
- **Video Guide:** Fill-in-the-blank and short answer worksheet to supplement educational video
- **Video:** “Clean It! Make it Safe!”
- Optional extended activity suggestions (Activity 1-2)

Materials:

- Printed handout & activity page for each participant
- Printed Video Guide for each participant
- Access to the “Clean It! Make It Safe” Video
- Printed Check For Understanding Review for each participant
- Printed Clean it! Make it Safe! Checklist for each participant
- PowerPoint or other visual
- Activity 2 Materials: liquid chlorine bleach, water, measuring tools, 1 quart plastic bottle(s)

Subject Matter Outline

How Does This Relate to Poultry and Egg Safety?

- Egg and Poultry safety begins with cleanliness. This means starting with a clean and safe kitchen area to prevent harmful bacteria that can be found on poultry and in eggs from spreading to other foods and surfaces, which can cause illness.

Vocabulary

- **Cross Contamination:** Occurs when harmful bacteria is unintentionally transferred from one surface to another causing a higher risk for foodborne illness
- **Bacteria:** Living single-celled organisms that can be found everywhere; they can be dangerous or beneficial and thrive best in places such as the mouth, nose, hands, intestines and food stored at room temperature.
- **Germs:** A microorganism capable of spreading disease and illness

Cross Contamination:

- Always use clean utensils and surfaces to prevent bacteria from transferring from dirty surfaces to food that will be consumed.
- Clean utensils and surfaces immediately after use and before going on to the next food item.
- Examples of Cross Contamination:
 - Sitting a food item on a dirty kitchen counter before eating it
 - Using the same cutting board and/or knife to cut raw chicken and fresh vegetables without washing
 - Using the same tongs (or other kitchen utensils) on cooked chicken that were used previously on the uncooked chicken

Cleaning Tips:

- Clean dish cloths regularly
- Be sure to clean all surfaces and counter tops
- Don't forget to clean all handles
- Clean sinks and drains
- Take everything out of the refrigerator, and wipe down insides and shelves
- Throw away expired foods

Sanitizing Solution: As an extra precaution, you can make your own sanitation solution to use to wipe down kitchen surfaces.

- 1 teaspoon of unscented liquid chlorine bleach
- 1 quart of water
- Spray solution on surfaces and allow to air dry for 2-3 minutes. Wipe down with a clean paper towel.

NOTE: Make fresh solution each time you clean.

Teaching Guide

Interest Approach:

Ask: “Why is it important to have a safe and clean kitchen area when cooking or handling food (poultry and eggs?)”

Explain “Egg and Poultry safety begins with cleanliness. This means starting with a clean and safe kitchen area to prevent harmful bacteria that can be found on poultry and in eggs from spreading to other foods and surfaces, which can cause illness.”

Objective 1. Define cross contamination and identify ways that it could happen.

- a. **Explain** “Before we can talk about keeping a clean and safe environment, we need to know why we should keep a clean and safe environment.”
- b. **Review** the *Salmonella* and *Campylobacter* vocabulary definitions. **Explain** “these harmful bacteria that can be found in poultry and eggs can make us sick. One of the ways that we can avoid becoming sick is preventing them from spreading around our kitchen.”
- c. **Think-Pair-Share.** First ask students to: 1) Write their own definition of Cross Contamination on a sheet of paper, 2) Find a partner and share their definitions with each other, 3) Come up with a definition they can both agree on, and 4) when finished, call on a member of the group to share their definition with the whole class.
- d. **Clarify.** Commend students for a job well done and use the definition of “Cross Contamination” in the Subject Matter Outline to ensure everyone has the correct understanding of cross contamination following the think-pair-share.

Objective 2. Identify cleaning tips which can be done at home to prevent harmful bacteria from spreading.

- a. **Explain** “Now that we know how contamination might happen, let’s talk about some ways we can prevent contamination by keeping a clean and safe environment.”
- b. **Discuss** “Let’s identify some things we can follow at home to keep our kitchens and homes clean and safe. What are some things you would suggest we do?” Use a visual (a dry-erase board, overhead projector, etc.) to make a list of what students suggest are cleaning steps.
- c. **Play Video 2:** Stop here and play the “Clean it! Make it Safe” Video (available at the website where you found this lesson plan) and have students complete the Video Guide as they watch. **Compare** the list the students created in the **Discussion** session above with the Cleaning Steps List on the video. **Ask** students if there are tips they think should be added to either list.

Objective 3. Analyze the home kitchen and create a checklist for clean and safe kitchen monitoring.

- a. **Explain** “It is one thing to watch a video and identify steps for making a kitchen clean and safe. It is quite another to apply what you have learned for your home and family. Our next activity will require you to analyze your home kitchen and develop a list of actions you can take every day to keep your family safe.”
- b. **Activity 1:** See the Activity & Video Guide on the next page for instructions.

Optional Activity 2: “Make Your Own Sanitizing Solution.” See last page Lesson 2.

Teaching Procedure

Teaching Methods

Review:

- a. **Ask** “What questions do you have?”
- b. **Evaluate** students with the “*Check For Understanding*” worksheet.
- c. Give each student a copy of the “*Clean It, Make It Safe*” Handout to take home.

Activity & Video Guide

| Outline | Key Points |
|---|---|
| <p><u>Supplemental Video 2: Clean It! Make It Safe</u></p> <ul style="list-style-type: none"> • Give each student a copy of the “Clean It! Make It Safe” Video Guide. • Play the ‘Clean It! Make It Safe’ Video (About 2 minutes in length). • Give students enough time to fill in the Video Guide. • Discussion Pause the video on the “Review” screen. Refer back to the Cleaning Steps list from earlier and compare. Ask students if there is anything the video could have left out or should be added to the list. | <p><u>Clean It! Make It Safe Video</u></p> <p>This video outlines and reviews steps to keep a clean and safe cooking environment.</p> <p>A summary of key points is at the end of the video. Pause the video before you come to this part if you wish to see if the students can identify steps to cleaning the kitchen.</p> |
| <p><u>Activity 1: Clean It! Make It Safe Checklist</u></p> <ul style="list-style-type: none"> • Have a printed copy of the “Clean It! Make It Safe” Checklist handout for each student. • Have each student take approximately 5-10 minutes to list safety practices on their checklist. Students can also work in pairs. • Let the students share their checklist with each other (in pairs or groups) or to the class. • Remind them to take this checklist home and put on their refrigerator to remind them and their family to keep their kitchen clean and safe. “Next time it is time to clean the kitchen, use the checklist to make sure you have followed all of the steps.” | <p><u>Clean It! Make It Safe Checklist</u></p> <p>This is a simple activity to review and outline steps needed to keep a safe and clean kitchen area at home.</p> |

Activity & Video Guide

Outline

Key Points

Activity 2: Make Your Own Sanitizing Solution:

- Materials Needed: Liquid Chlorine Bleach, measuring utensils, water & enough 1 quart plastic bottles for every student.
- Have each student mix 1 teaspoon of Liquid Chlorine Bleach with 1 quart of water and pour into their plastic container. Make sure to remind them to label their sanitizing solution!
- *NOTE: Instead of every student making their own sanitizing solution, you can also:*
 - *Have them work in pairs or groups*
 - *Do the activity as a demonstration and have the students watch.*

Make Your Own Sanitizing Solution:

Simple demonstration on making homemade sanitizing solution that allows students to take a bottle home for personal use.

References

Educational Resources:

Academic Standards. (2016). <https://www.tn.gov/education/topic/academic-standards>

Educational Materials On Food Safety. <http://fightc-les.org/>

Fight Bac! - Partnership for Food Safety Education. (2016). <http://www.fightbac.org/>

Clean it! Make it Safe!



How does this relate to Poultry and Egg Safety?

Poultry and Egg Safety begins with cleanliness! This means starting with a safe and clean environment to prevent harmful bacteria, like Salmonella and Campylobacter, from spreading to other foods and surfaces, which can make us sick!

What is Cross Contamination?

Cross contamination occurs when harmful bacteria is unintentionally transferred from one surface to another causing a higher risk for foodborne illness. An example of cross contamination is using the same cutting board or knife for fresh vegetables and raw chicken.



Tips for keeping it CLEAN and SAFE!

- Clean your refrigerator often, wiping down all inside surfaces and shelves.
- Throw away expired foods.
- Wipe down surfaces, counters, and appliances.
- Clean door knobs and handles.
- Don't reuse dirty utensils or plates.
- Clean sinks and drains.
- Clean dish cloths after use.
- Clean utensils and surfaces immediately after use and before going on to the next food item.

Make Your Own Sanitizing Solution!

As an extra precaution, you can use sanitizing solution to wipe down kitchen surfaces and prevent harmful bacteria from spreading throughout your kitchen. Here is HOW to make your OWN:

Mix:

- 1 teaspoon of unscented liquid chloride bleach
- 1 quart of water

Lightly spray down surfaces

Let stand for 2 minutes

Wipe down with a clean paper towel



Clean it! Make it Safe!



Fill in the blanks as you watch the video.

- According to the video, you should wash sinks and drains _____ after use.
- According to the video, you should clean the kitchen and _____.
- Wipe off all handles and kitchen _____.
- Be sure to wipe down counters with sanitizing solution, water, a paper towel, and let air _____.

Answer these questions about the video.

- How should you clean the refrigerator?

- What is the formula for creating your own sanitizing solution?



Clean it! Make it Safe!

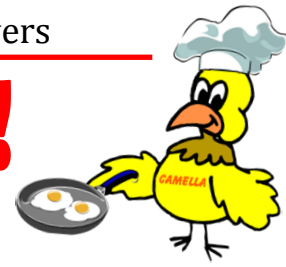
Fill in the blank:

- Keeping a clean and safe kitchen helps prevent _____ that can be found on poultry and eggs from making us sick.
- _____ occurs when harmful bacteria is unintentionally transferred from one surface to another causing a higher risk for foodborne illness.
- Always use _____ utensils and surfaces to prevent bacteria from transferring from dirty surfaces to foods that will be consumed.
- You should regularly take everything out of your _____ and wipe down the shelves and surfaces.
- Make sure to regularly throw away _____ foods.

Short Answer

- What are some examples of cross contamination?

- What are some steps you can take at home to make sure you have a clean and safe environment before cooking poultry or eggs?



Clean it! Make it Safe!

Fill in the blank:

- Keeping a clean and safe kitchen helps prevent BACTERIA that can be found on poultry and eggs from making us sick.
- CROSS CONTAMINATION occurs when harmful bacteria is unintentionally transferred from one surface to another causing a higher risk for foodborne illness.
- Always use CLEAN utensils and surfaces to prevent bacteria from transferring from dirty surfaces to foods that will be consumed.
- You should regularly take everything out of your REFRIGERATOR and wipe down the shelves and surfaces.
- Make sure to regularly throw away EXPIRED foods.

Short Answer

What are some examples of cross contamination?

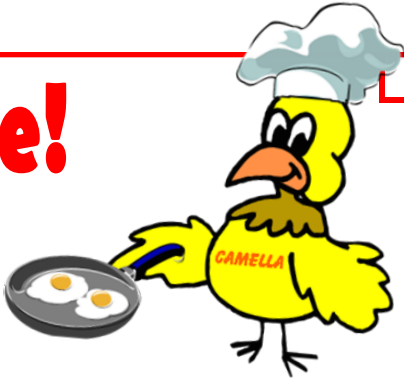
- Using the same cutting board or knife for fresh vegetables and raw chicken
- Taking your lunch in a bag that stored chicken from the store
- Not changing dish cloths after use

What are some steps you can take at home to make sure you have a clean and safe environment before cooking poultry or eggs?

- Clean your refrigerator often, wiping down all inside surfaces and shelves.
- Throw away expired foods.
- Wipe down surfaces, counters, and appliances.
- Clean door knobs and handles.
- Don't reuse dirty utensils or plates.
- Clean sinks and drains.
- Clean dish cloths after use.
- Clean utensils and surfaces immediately after use and before going on to the next food item.

Clean it! Make it Safe!

Checklist ✓



Directions: List different steps you can follow at home to keep your kitchen clean and safe.

1. _____

2. _____

3. _____

4. _____

5. _____

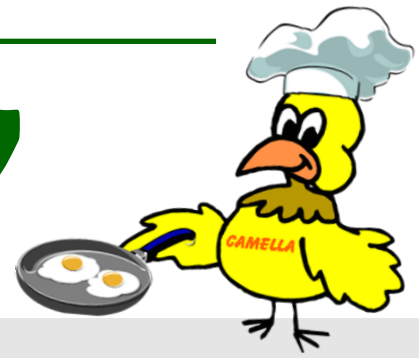
6. _____

7. _____

8. _____



Grocery Store Safety



Lesson Overview

Time: 10-20 Minutes

Learning Objectives:

In this lesson, participants will:

- Identify poultry and egg safety practices shoppers can do while in the grocery store.

Tennessee Department of Education Academic Standards

- Health Education Standards 3-5: 1.1, 1.4, 2.1, 2.3
- Science Education Standards 5: 0507.Inq.1, 0507.Inq.3

Contents:

- **Handout & Activity Page:** Overview of key points and puzzle activity
- **Check For Understanding Review:** Review of key points (Use if not using video & Video Guide)

Materials:

- Printed Handout & Activity Page for each participant
- Printed Check For Understanding Review for each participant (If not using video)
- PowerPoint or other visual
- Activity 2 materials: Paper, construction paper or poster board, markers

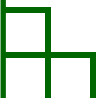
Subject Matter Outline

How Does Shopping at the Grocery Store Relate to Poultry and Egg Safety?

- “Poultry and egg safety is just as important in the grocery store as it is at home. As consumers, it is important to follow food safety procedures while shopping.”

Vocabulary

- **Sell-By Date:** The date marked on a food item indicating the last day it should be sold in stores.
- **Expiration Date:** The date marked on a food item indicating the date it expires or could spoil. Perishable foods should be consumed before or on this date for maximum freshness.



Subject Matter Outline

Grocery Store Safety Tips

Check Storage

Don't buy any poultry or eggs that were not stored properly at the market.

Eggs should be in a refrigerated area and poultry should be in the meat section.

Check Package

Make sure the package has not been tampered with or broken.

If there is a broken seal or leak, juices from the meat can contaminate other food items in your cart.

Check Date

Check the sell-by date on poultry and poultry products before adding them to your cart.

If anything happens to be expired, you should notify a store employee.

Meat Bags

Use the bags provided for meat products at the grocery stores. This keeps juices from leaking onto other items in your cart. Leave meat in these bags when putting into the refrigerator or freezer at home to keep juices from contaminating your appliances.

Keep Separate

Keep poultry and egg products separate from other items in your shopping cart.

Make sure poultry and eggs are bagged separately from other items, especially fresh produce, at checkout.

Timing Matters

Poultry and eggs should not be out of the refrigerator for more than an hour.

Make sure these are the last items to go in your cart.

Make the grocery store the last stop on your way home.

Put away poultry and eggs (as well as other meat and meat products) first and immediately after returning home.

Teaching Guide

Interest Approach:

Discussion Ask students “What is your favorite food to buy at the grocery store? [*seek answers from the group*]” **Write** the name of your favorite store bought food on a sheet of paper. From the time you pick up your favorite food at the store until the time you eat it at home, **List** at least five steps your favorite food had to go through. **Begin!** Have student share their lists. Share with students that “different foods have different safety concerns that must be considered at different points and that includes poultry and eggs.”

Review the Vocabulary terms, but explain that dates are only one consideration of many.

Explain “Poultry and egg safety is just as important in the grocery store as it is at home. As consumers, it is important to follow food safety procedures while shopping in order to prevent further contamination.”

Teaching Guide

Objective 1. Identify poultry and egg safety practices shoppers can do while in the grocery store.

- **Discussion** Ask students “What are some ways you might demonstrate food safety at the grocery store?” Let them share their answers with a group, partner or to the class.
- Using the PowerPoint for this lesson or other visual, **Present** the information on Grocery Store Tips outlined in the *Subject Matter Outline* of this lesson.
- **Discussion** Ask students
 - “Are some of these suggestions things you already do, or your parents do at the grocery store?”
 - “Which, if any, of these suggestions surprises you or is something you have never thought of?”
- **Create** a poster using *Activity 2: Design A Poster*

Review

- a. Ask “What questions do you have?”
- b. **Evaluate** with the *Check For Understanding* worksheet
- c. Give each student a copy of the *Grocery Store Safety Handout* to take home.
- d. For further practice in a realistic setting, *Activity 3: Grocery Store Observation*

Activity Guide

| Outline | Key Points |
|--|--|
| <p><u>Activity 1: Design A Poster</u></p> <ul style="list-style-type: none"> • Working on their own, in pairs, or in small groups have students design a poster that reminds shoppers of grocery safety tips. • Let students share their posters. • Partner with a local grocery store or the public library to see if the class posters can be part of a display. | <p><u>Design A Poster</u></p> <p>This is an activity that lets the students review and check for understanding of main points learned in this lesson.</p> |

Activity & Video Guide

Outline

Key Points

Activity 2: Grocery Store Observation

- Instruct students to take a quick trip to their favorite grocery store, or accompany their parents to the grocery store and report back.
- Tell them to take a note pad and pencil and keep track of what they observe.
- Remind them to look for these things:
 - All poultry and eggs are stored in a refrigerated section or cooler
 - Sell-by dates are clearly marked on eggs (look at one or two cartons)
 - No leaks or breaks in packages
 - No cracked eggs (look at one or two cartons)
 - Are meat bags available in the meat section, and are they close to the poultry products?
 - Is hand sanitizer available in the meat section or other parts of the store?
- *NOTE: These suggestions are provided on the “Grocery Store Safety Handout”*

Grocery Store Observation

This activity is an opportunity for students to observe what they have learned at the actual grocery store.

References

Educational Resources:

- Academic Standards. (2016). <https://www.tn.gov/education/topic/academic-standards>
- Educational Materials On Food Safety. <http://fightc-les.org/>
- Fight Bac! - Partnership for Food Safety Education. (2016). <http://www.fightbac.org/>

Grocery Store Safety



How does this relate to Poultry and Egg Safety?

Poultry and egg safety is just as important in the grocery store as it is at home. As consumers, it is important to follow food safety procedures while shopping in order to prevent contamination before we get back to the kitchen.

Grocery Store Safety Tips

Check the Storage: Eggs and poultry should be stored in the refrigerated sections of the store.

Check the Package: Check for broken or leaky packages before placing in your cart.

Check the Date: Check the sell-by dates on eggs and poultry products before adding them to your cart. If anything happens to be expired, you should notify a store employee.

Meat Bags: Use the bags provided for meat products at the grocery stores to keep juices from leaking onto other items in your cart.

Keep them Separate: Keep poultry and egg products separate from other items in your shopping cart and makes sure they are bagged separately from other items, especially fresh produce, at checkout.

Timing Matters: The grocery store should be the last stop before returning home. Poultry and eggs should be the LAST items in your cart and the FIRST items you put away when arriving home.

Grocery Store Observation

The next time you visit a grocery store, take a look around and observe some poultry and egg safety measures being put into action.

- Look for these things:
 - All poultry and eggs are stored in a refrigerated section or cooler
 - Sell-by dates are clearly marked on eggs (look at one or two cartons)
 - No leaks or breaks in packages
 - No cracked eggs (look at one or two cartons)
 - Are meat bags available in the meat section, and are they close to the poultry products?
 - Is hand sanitizer available in the meat section or other parts of the store?



Grocery Store Safety



Fill in the blanks:

Poultry and eggs should be stored in the _____ section of the grocery store.

The _____ date is marked on a food item to indicate the last day it should be sold in stores.

Poultry and eggs should be kept _____ from other food items in your _____.

Poultry and eggs should be the _____ items you put in your cart before checkout.

At the checkout counter, make sure poultry and eggs are _____ from other foods, especially fresh produce.

Poultry and eggs should not be out of refrigeration for more than _____. Therefore, the grocery store should be the _____ stop you take before heading home.

Poultry and eggs should be the _____ items you unload and put away upon returning home.

Short Answer:

Name at least three ways you can prevent Cross Contamination at the grocery store.





Grocery Store Safety



Fill in the blanks:

Poultry and eggs should be stored in the refrigerated section of the grocery store.

The sell-by date is marked on a food item to indicate the last day it should be sold in stores.

Poultry and eggs should be kept separate from other food items in your shopping cart.

Poultry and eggs should be the last items you put in your cart before checkout.

At the checkout counter, make sure poultry and eggs are bagged separately from other foods, especially fresh produce.

Poultry and eggs should not be out of refrigeration for more than one hour. Therefore, the grocery store should be the last stop you take before heading home.

Poultry and eggs should be the first items you unload and put away upon returning home.

Short Answer:

Name at least three ways you can prevent Cross Contamination at the grocery store.

Use the meat bags provided in the meat section to bag poultry.

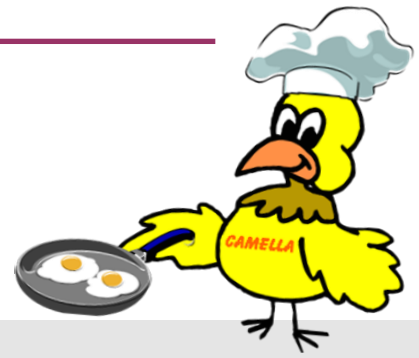
Use hand sanitizer after touching poultry products and packages.

Keep poultry and eggs separate from other food items in your cart.

Bag poultry and eggs separately from other food items at check out.



Store It Right!



Lesson Overview

Time: 10-20 Minutes

Learning Objectives:

In this lesson, participants will:

- Discuss safe ways to store poultry and eggs at home.
- Describe safe poultry and egg practices as it relates to temperature.
- Identify the best methods for storing leftovers.

Tennessee Department of Education Academic Standards

- Health Education Standards 3-5: 1.1, 1.4, 2.1, 2.3
- Science Education Standards 5: 0507.Inq.1, 0507.Inq.2, 0507.Inq.4

Contents:

- **Video:** Short, educational video outlining key points from this lesson
- **Handout & Activity Page:** Overview of key points and puzzle activity
- **Video Guide:** Fill-in-the-blank and short answer worksheet to supplement educational video
- **Check For Understanding Review:** Review of key points (Use if not using video & Video Guide)

Materials:

- Printed Handout & Activity Page for each participant
- Printed Video Guide for each participant (if using video)
- Printed Check For Understanding Review for each participant (If not using video)

Subject Matter Outline

How Does This Relate to Poultry and Egg Safety?

- At home, food safety includes the proper storage of food and food products. In order to prevent foodborne illness and spoilage, it is important to learn how to properly and safely store all poultry and poultry products.

Vocabulary

- **Spoilage:** The process of perishable foods decaying.
- **Danger Zone:** Between 40°F and 140°F where bacteria grows best.
- **Leftovers:** Food that has already been cooked, stored in the refrigerator or freezer, and then re-heated.

Subject Matter Outline

Store What Where!?

- Always refrigerate or freeze meat and other perishables as soon as you get home from the grocery store.
- Poultry should be stored either in the freezer or on the bottom shelf of the refrigerator (to defrost if you are preparing to cook the next day) away from produce, ready to eat foods and cooked foods.
- Place the package on a plate or in a pan to keep juices from dripping in your refrigerator.
- Eggs should be stored in their original container.
- Keep all perishable foods chilled until serving time.

Temperature Matters:

- What is the “Danger Zone?” Between 40 and 140 °F. This “Zone” is where bacteria thrives and grows best. This is why we say to “Keep cold foods cold, and hot foods hot.”
- Keep a thermometer in the refrigerator
- Make sure the temperature of the refrigerator is no warmer than 40 °F.

Leftovers:

- You have one hour to put any egg or poultry leftovers in the refrigerator or freezer after cooking.
- Leftovers should reach 40°F or below within two hours after cooking to prevent the food from entering the Danger Zone and being contaminated.
- When storing egg or poultry leftovers, divide into small portions and place into a clean airtight storage container.

Teaching Guide

Interest Approach:

- **Discussion** Ask students “Have you ever found anything growing in your refrigerator?” Ask students to share examples.
- **Explain** that “at home, food safety includes the proper storage of food and food products. In order to prevent spoilage and more importantly, foodborne illness, it is important to learn how to properly and safely store poultry and poultry products.”
- **Show** students pictures, video, or actual samples of food that wasn’t stored properly. Let them know that this is not only gross it is dangerous and completely preventable.

Teaching Guide

Objective 1. Discuss safe ways to store poultry and eggs at home.

- **Discussion** Ask “What are some suggestions you have for storage safety?” “What are some ways you demonstrate storage safety at home?” Give an example, such as “How do you store eggs at home? What about leftovers?” Let them share their answers with a group, partner or to the class.
- **Play Video 4: *Play the Store It Right!*** video and complete the Video Guide in this lesson plan.
- Using the completed *Video Guide* and the *Subject Matter Outline*, clarify **Storing What Where**.

Objective 2. Describe safe poultry and egg practices as it relates to temperature.

- Using the the *Subject Matter Outline*, ask students to work in groups to **design** a bumper sticker making people aware of the major safety procedures related to temperature. Ask students to share their bumper stickers with the group.

Objective 3. Identify the best methods for storing leftovers.

- Lead students through *Activity 1: Leftover Temperature Experiment*
- **Review** the Activity and the *Subject Matter Outline* to clarify concepts with students

Review

- **Evaluate** with the *Check For Understanding* worksheet
- Give each student a copy of the *Store It Right! Handout* to take home. (*Puzzle Answers (Unscrambled in order): Danger Zone, Leftovers, Refrigerator, Freezer, Cooking, Chicken Phrase: “Keep Cold Foods Cold, and Hot Foods Hot”*)

Activity & Video Guide

| Outline | Key Points |
|--|--|
| <p><u>Video 4: Store It Right!</u></p> <ul style="list-style-type: none"> • Give each student a copy of the “Store It Right!” Video Guide. • Play the “Store It Right!” Video (About 2 minutes in length) and give students enough time to fill in the Video Guide. • Pause the video on the “Review” screen. • Video Discussion Topics <ul style="list-style-type: none"> • What are some ways the video shows are not good ways to store poultry and eggs? Why are these not good ways to store these food items? • Why is it necessary to divide leftover food in shallow airtight containers? | <p><u>Store It Right! Video</u></p> <p>This video outlines and reviews steps for storing foods properly.</p> <p>A summary of key points is at the end of the video. Pause the video before you come to this part if you wish to see if the students can identify proper storage techniques.</p> |

Activity & Video Guide

Outline

- How long do you have after cooking to put food away?
- What about holidays and sleepovers? The video doesn't specifically say, but what do you think?
- The video doesn't say exactly, but how should you store leftovers from a restaurant?

Activity 1: Leftover Temperature Experiment:

- Ask students to pair up (or get in groups depending on the number and amount of supplies).
- Each student group or pair will have:
 - A large container
 - A small container
 - Dough (Play-Doh or homemade)
 - A thermometer
- Have each group divide the dough out into the containers as instructed. There should be a large amount in the large container and a small amount in the small container.
- Have students check the temperature of the refrigerator to make sure it is about 40°F.
- Have students put both containers in the refrigerator or freezer. (This can also be done by submerging the containers in a bucket or tub of cooled water and ice chilled to 40°F or below. Have students check the temperature first).
- Record the temperature of the dough in both containers after they have been chilled 20 minutes.

Key Points

Leftover Temperature Experiment:

This activity is a simple experiment to demonstrate why you should divide leftovers into smaller containers.

The smaller container of dough should cool down much faster than the larger container of dough.

If you put a food container directly into the refrigerator without dividing into containers, it will take more than two hours for the food to cool down.

Leaving a food in the danger zone between 40°F and 140° F gives bacteria the perfect chance to grow and thrive in the food.

References

Educational Resources:

Academic Standards. (2016). <https://www.tn.gov/education/topic/academic-standards>

Educational Materials On Food Safety. <http://fightc-les.org/>

Fight Bac! - Partnership for Food Safety Education. (2016). <http://www.fightbac.org/>

Handout Puzzle Created By:

Discovery Education Puzzle Maker. (2016). http://www.discoveryeducation.com/free-puzzlemaker/index.cfm?campaign=flyout_teachers_puzzle

Store It Right!



Fill in the blanks as you watch the video.

- According to the video, you should always store _____ in the original container.
- According to the video, you should store poultry on the _____ shelf.
- Leftovers need to reach a temperature of _____ degrees Fahrenheit within _____ hours after cooking.
- The _____ is between 40 and 140 °F.

Answer these questions about the video.

- How soon after cooking should you put leftovers in the refrigerator? Why?

- Explain why you should divide leftovers into small portions and place into a clean airtight storage container?

Store It Right!



Fill in the blanks:

Eggs should be stored in their _____.

Your refrigerator should be set no warmer than _____.

True or False _____ It is ok to store eggs in a bowl on the kitchen counter.

True or False _____ Poultry should be placed on the top shelf of the refrigerator.

How long do you have after cooking to put away leftovers? _____.

True or False _____ Leftovers should reach an internal temperature of 40°F within two hours after cooking.

The “Danger Zone” is between _____°F and _____°F.

Label all leftovers with the _____ of food and the _____.

Short Answer:

- Explain why leftovers should be stored in smaller, shallow containers instead of the larger dishes they may have been cooked in.

Store It Right!



Fill in the blanks:

Eggs should be stored in their original carton or container.

Your refrigerator should be set no warmer than 40°F.

True or False FALSE It is ok to store eggs in a bowl on the kitchen counter.

True or False FALSE Poultry should be placed on the top shelf of the refrigerator.

How long do you have after cooking to put away leftovers? One hour.

True or False TRUE Leftovers should reach an internal temperature of 40°F within two hours after cooking.

The “Danger Zone” is between 40 °F and 140 °F.

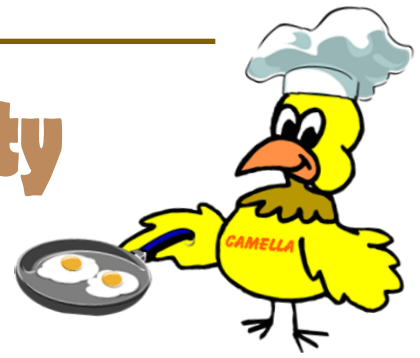
Label all leftovers with the type or name of food and the date.

Short Answer:

- Explain why leftovers should be stored in smaller, shallow containers instead of the larger dishes they may have been cooked in.

Leftovers should reach an internal temperature of 40°F or lower within two hours of cooking to prevent them from being in the “danger zone” for extended periods of time and potentially risking spoilage or contamination. Leftovers should be divided into smaller, shallow containers because it will allow them to cool quicker. Leaving them in larger dishes, or dishes they were cooked in will take the food longer to cool down. They should be put INTO the refrigerator one hour after cooking to make sure they have plenty of cooling time to get to 40 °F before the two hour time limit is up.

Thawing & Cooking Safety



Lesson Overview

Time: 10-20 Minutes

Learning Objectives:

In this lesson, participants will:

- Identify safe thawing methods for poultry
- Demonstrate the proper use of a cooking thermometer on poultry and poultry products.

Tennessee Department of Education Academic Standards

- Health Education Standards 3-5: 1.1; 1.2; 1.4; 2.1; 2.3; 9.1; 9.3; 9.4
- Science Education Standards 5: 0507.Inq.1, 0507.Inq.2, 0507.Inq.4

Contents:

- **Video:** Short, educational video outlining key points from this lesson
- **Handout & Activity Page:** Overview of key points and puzzle activity
- **Video Guide:** Fill-in-the-blank and short answer worksheet to supplement educational video
- **Check For Understanding Review:** Review of key points (Use if not using video & video guide)

Materials:

- Printed Handout & Activity Page for each participant
- Printed Video Guide for each participant (if using video)
- Printed Check For Understanding Review for each participant (If not using video)
- Visual

Subject Matter Outline

What Does Cooking and Thawing Have to Do with Poultry and Egg Safety?

When cooking poultry and poultry products, it is very important to follow food safety precautions to prevent sickness from foodborne illnesses. This includes proper defrosting and thermometer use to ensure food stays out of the danger zone and is cooked to completion.

Vocabulary

- **Danger Zone:** Between 40°F and 140°F; where bacteria grows best
- **Doneness:** The degree of how completely cooked a dish is
- **Food Thermometer:** Special thermometer used to measure the temperature of food
- **Calibrate:** To adjust

Subject Matter Outline

Thawing

- The Refrigerator:
 - The safest way to thaw or defrost frozen poultry is in the refrigerator.
 - This allows for a safe and slow thawing process.
 - Place in a pan on the bottom shelf of the refrigerator to prevent juices from dripping on other refrigerated items and foods.
 - Plan Ahead! It will usually take a whole day (or longer for whole chicken and turkeys) for foods to thaw in the refrigerator.
 - When food is left on the counter or in the sink to thaw, it enters the danger zone (between 40-140 °F) where bacteria can quickly grow.
- Cold Water
 - Using cold water is a much faster way to thaw foods; however, some precautions will need to be taken in order to do it safely.
 - Place the frozen poultry in a leak proof bag and submerge completely in cold tap water.
 - Replace the tap water every 30 minutes until it is thawed.
- The Microwave
 - A microwave is a very quick way to defrost foods and most microwaves have a “defrost” setting.
 - The microwave will also begin to cook the item it is defrosting, therefore foods thawed in this way need to be cooked immediately to prevent bacterial growth.

Temperature Matters: Using Thermometers

- Doneness: Completely cooked.
- Calibrate: Make sure the thermometer is reading the correct temperatures. Make sure to read the directions that come with the thermometer to calibrate correctly. You can check for the accuracy of the thermometer by boiling a pot of water. The temperature should read 212°F.
- Whole Poultry: Insert the thermometer into the inner thigh area near the breast but not touching the bone.
- Ground Poultry: Place the stem into the thickest part of the poultry dish. The thermometer may be inserted sideways into patties.
- Casseroles containing poultry: The thermometer should be inserted into the thickest portion.

Subject Matter Outline

Safe Cooking & Reminders: Just a few safety reminders to remember when cooking to help prevent cross contamination.

- You should always begin meal preparation with a clean environment & utensils. This includes counter tops & surfaces, cutting boards, knives, dishes and plates, etc. *For more information on cleaning your kitchen, refer to Lesson 2: Clean It! Make It Safe!*
- You should wash your hands often when preparing and handling poultry. Especially wash your hands before you begin preparation, after touching raw poultry, and after you finish cooking. *For more information on hand washing, refer to Lesson 1: Wash Your Hands: Leave No Germ Behind.*
- To prevent cross contamination do not reuse any plate, bowl, cutting board, surface, or utensil that has touched raw poultry on cooked poultry. *For information on cross contamination refer to Lesson 2: Clean It! Make It Safe!*

Teaching Guide

Interest Approach:

- Preparing a nice meal for someone can be quite rewarding. Suppose you wanted to cook a nice dinner for a friend who was coming into town, but to use the kitchen you had to answer three questions:
 - “What do you know about cooking food and being safe?”
 - “What do you think you know about cooking food and being safe?”
 - “What do you need to know about cooking food and being safe? *Give students time to think and write their responses. Then ask them to share.*
- **Explain** “When cooking poultry and poultry products, it is very important that we follow food safety precautions to prevent us from becoming sick from foodborne illnesses. This includes thawing correctly and using cooking thermometers to make sure we are keeping our food out of the danger zone as well as cooked to completion.”
- **Introduce** this lesson’s vocabulary, found in the *Subject Matter Outline*, and encourage students to look for them during the remainder of the lesson.

Objective 1. Identify safe thawing methods for poultry

- **Discussion** Ask “What are some ways that you might thaw or defrost a chicken or other meat?” You can also ask “What are some ways that we “shouldn’t” defrost or thaw food?” Refer back to the vocabulary definition if needed.
- **Play Supplemental Video 4: Thawing and Cooking Safety** and **complete** the *Video Guide*.
- Using a Visual, **present** the information on thawing outlined in *the Subject Matter Outline*.
 - **Discussion** Ask students
 - “Are some of these suggestions things you already do, or your parents do at home?”
 - “Which, if any, of these suggestions surprises you, or is there something you have never thought of before?”

Teaching Guide

Objective 2. Demonstrate the proper use of a cooking thermometer on poultry and poultry products

- **Remember** or **Replay** *Supplemental Video 4: Thawing and Cooking Safety*. Ask students what was shared about the proper use of a cooking thermometer.
- **Discussion** Ask students, “when at home, how often do you (*or your parents with younger students*) use a thermometer to check for doneness of cooked food (especially poultry)? Why do you think it is important to use a thermometer to check the doneness of poultry?”
- **Lead** students through *Activity 1: Thermometer Demonstration*
- Using an engaging lecture style and the PowerPoints or a projection system, summarize major concepts associated with proper thermometer using the *Subject Matter Outline*.

Review:

- **Evaluate** by having students complete the *Check For Understanding* worksheet
- Give each student a copy of the *Thawing & Cooking Safety* Handout to take home.



| Activity & Video Guide | |
|--|--|
| Outline | Key Points |
| <p><u>Supplemental Video 4: Thawing & Cooking Safety</u></p> <ul style="list-style-type: none"> • Give each student a copy of the “Thawing & Cooking Safety” Video Guide. • Play the “Thawing & Cooking Safety” Video (About 2 minutes in length) and give students enough time to fill in the Video Guide. • Pause the video on the “Review” screen. • Discussion “What are some ways the video shows are not good to thaw poultry? What are the BEST ways to thaw poultry?” • Discussion “How does the video suggest we measure the doneness of poultry?” <p><u>Activity 1: Thermometer Demonstration</u></p> <ul style="list-style-type: none"> • Calibrate thermometers. Make sure to read the instructions that come with the thermometers in order to correctly calibrate them. • Test thermometers with a pot of boiling water. Heat a pot of boiling water and let the students take turn testing and reading their thermometers. The temperature should read about 212°F. • With uncooked chicken, demonstrate to the class how to insert a thermometer into the correct place. • Have the students take turns correctly placing and reading thermometers. | <p>This video outlines and reviews steps for thawing and cooking poultry properly..</p> <p>A summary of key points is at the end of the video. Pause the video before you come to this part if you wish to see if the students can identify proper thawing and cooking techniques.</p> <p><u>Thermometer Demonstration:</u></p> <p>For this lab type of activity the student will learn:</p> <ul style="list-style-type: none"> • About calibrating and testing thermometers to make sure they are taking the accurate temperature. • How to correctly insert a thermometer into a chicken. |
| <p>References</p> | |
| <p>Educational Resources:</p> <p>Academic Standards. (2016). https://www.tn.gov/education/topic/academic-standards</p> <p>Educational Materials On Food Safety. http://fightc-les.org/</p> <p>Fight Bac! - Partnership for Food Safety Education. (2016). http://www.fightbac.org/</p> <p>Handout Puzzle Created By:</p> <p>Discovery Education Puzzle Maker. (2016). http://www.discoveryeducation.com/free-puzzlemaker/index.cfm?campaign=flyout_teachers_puzzle</p> | |

Thawing & Cooking Safety



How does thawing and cooking relate to Poultry and Egg Safety?

When cooking poultry and poultry products, it is very important that we follow food safety precautions to prevent us from becoming sick from foodborne illnesses. This includes defrosting correctly and using cooking thermometers to make sure food is being kept out of the danger zone as well as cooked to completion.

The following represent Thawing and Cooking safety. Find them in the Word Search!

- | | |
|---------------------|----------------------|
| <i>Calibrate</i> | <i>Casserole</i> |
| <i>Chicken</i> | <i>Chicken Patty</i> |
| <i>Cold Water</i> | <i>Cooking</i> |
| <i>Danger Zone</i> | <i>Defrosting</i> |
| <i>Doneness</i> | <i>Illness</i> |
| <i>Microwave</i> | <i>Poultry</i> |
| <i>Refrigerator</i> | <i>Safety</i> |
| <i>Sink</i> | <i>Temperature</i> |
| <i>Thawing</i> | <i>Thermometer</i> |
| <i>Turkey</i> | |

E O C P S Y Y G I E X C F C N
 N R K A I S N E N E O D N A E
 P I U E L I E O K L I S O S K
 R O A T K I Z N D R A Q C S C
 K B U O A R B W E F U H R E I
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 O C D G T T E T A C O V T O C
 V H N N E R Y P K T H D E L T
 Z A R R F W Y E M O E E M E H
 D G M Q E P N I P E E I O I A
 K S Y A E P C Z R Y T V M K W
 C R O T A R E G I R F E R N I
 Q N V T I L L N E S S Y E I N
 U B T E V A W O R C I M H S G
 L Y D E F R O S T I N G T U N

Poultry Thermometer Chart

| Poultry Product | Temperature | Where To Insert |
|-------------------------------------|-------------|--|
| Whole Turkey or Chicken | 165°F | Inner thigh area near the breast, but not touching the bone. |
| Poultry Parts (Breasts, Drumsticks) | | Thickest Part |
| Chicken/Turkey Patty | | Thickest Part, Sideways |
| Ground Poultry | | Thickest Portion |
| Casseroles and Egg Dishes | 160°F | Middle of the Dish |

Thawing & Cooking Safety



Fill in the blanks as you watch the video.

- Begin _____ food immediately after defrosting in the microwave to prevent harmful bacteria growth.
- Keep hot foods _____ and cold foods _____.
- Cook all poultry products to at least _____ degrees Fahrenheit.
- The safest way to thaw food is in the _____.

Answer these questions about the video.

- Explain the process for thawing frozen poultry.

- Why is it not recommended that you leave your thawing poultry on a counter or under running water in the sink?



Thawing & Cooking Safety

Fill in the blanks as you watch the video:

- The preferred and safest way to thaw poultry is _____.
- True or False _____ If you thaw poultry with water, it should be warm water.
- The only way to know for sure that your poultry is cooked to completion is by _____.
- _____ is the degree of to which a dish is cooked.
- True or False _____ After thawing in the microwave, food must be cooked immediately.

Short Answer:

- What are three safe methods to thaw poultry?

- Describe where to take the internal temperature of each of the following:

- Whole Chicken: _____
- Turkey Breasts: _____
- Chicken Wings: _____
- Chicken Patty: _____
- Ground Turkey: _____
- Chicken Casserole: _____



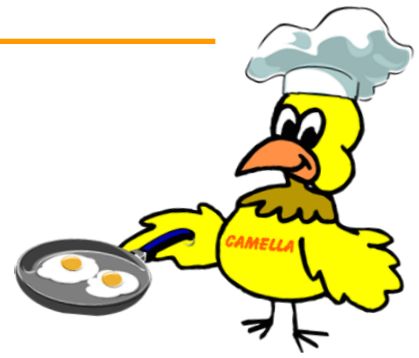
Thawing & Cooking Safety

Fill in the blanks as you watch the video:

- The preferred and safest way to thaw poultry is in the refrigerator.
- True or False FALSE If you thaw poultry with water, it should be warm water.
- The only way to know for sure that your poultry is cooked to completion is by using a thermometer.
- Doneness is the degree of how completely cooked a dish is.
- True or False TRUE After thawing in the microwave, food must be cooked immediately.

Short Answer:

- What are three safe methods to thaw poultry?
 - In the refrigerator
 - Under cold water
 - In the microwave
- Describe how to take the internal temperature of each of the following:
 - Whole Chicken: Insert thermometer at inner thigh area near the breast, but not touching the bone; cook until chicken reaches 165 °F.
 - Turkey Breasts: Insert thermometer in the center of the thickest area, cook until turkey reaches 165 °F.
 - Chicken Wings: Insert thermometer in thickest area, but not touching the bone; cook until chicken reaches 165 °F.
 - Chicken Patty: Insert thermometer from the side of the patty until it reaches the center of the patty, cook to 165 °F.
 - Ground Turkey: Use a spatula to raise some turkey chunks off pan, insert thermometer in several pieces of turkey, cook until 165 °F.
 - Chicken Casserole: Cook until center of casserole reaches 160 °F. or until chicken pieces reach 165 °F.



All About Eggs!

Lesson Overview

Time: 10-20 Minutes

Learning Objectives:

In this Lesson, participants will:

- Identify safe cooking practices and precautions for eggs and egg dishes.
- Explain why a thermometer should be used instead of visual cues to check for doneness of egg dishes.
- Practice using a food thermometer on egg dishes.

Tennessee Department of Education Academic Standards

- Health Education Standards 3-5: 2.1; 2.3; 9.1; 9.3; 9.4
- Science Education Standards 5: 0507.Inq.1, 0507.Inq.2, 0507.Inq.4

Contents:

- **Handout & Activity Page:** Overview of key points and puzzle activity
- **Check For Understanding Review:** Review of key points

Materials:

- Printed Handout & Activity Page for each participant
- Printed Check For Understanding Review for each participant
- Visual (PowerPoints, Easel, etc.)

Subject Matter Outline

Be Careful with Eggs Too!

- Eggs are a staple in many dishes and meals. Because they can carry harmful bacteria that causes us to become ill, it is very important we follow food safety precautions to prevent us from becoming sick when cooking with and preparing eggs.

Subject Matter Outline

Vocabulary

- **Casserole:** A dish cooked in an oven containing multiple ingredients
- **Egg Dish:** Any recipe containing eggs (Examples: Casseroles, Quiches, Pies)
- **Danger Zone:** Between 40°F and 140°F
- **Doneness:** The degree of how completely cooked a dish is
- **Food Thermometer:** Special thermometer used to measure the temperature of food
- **Calibrate:** To adjust
- **Salmonella:** Bacteria that can be found in eggs and cause illness

No More Runny Eggs!

- Cook eggs until both the yolks and the whites are firm. Runny eggs are still undercooked and could potentially make you sick.
- Scrambled eggs should not be runny.
- You can use a thermometer to determine doneness of scrambled eggs too! (to 160°F)
- Never consume raw or undercooked eggs! This includes most cookie doughs and cake/brownie batters.
- You can buy pasteurized eggs to use when making homemade recipes (like ice cream!) for a safer alternative! Much like milk is pasteurized to make it safe to drink, these eggs have been heat treated in the shell to eliminate harmful bacteria.

Thermometers

- Doneness: completely cooked.
- When making quiche, pies, casseroles, or other dishes that contain eggs, use a thermometer to check the doneness of the product.
- These dishes should be cooked to 160°F.
- Never rely on visual cues or toothpicks to determine if an egg dish is done. This can be misleading.
- Calibrate: Make sure the thermometer is reading the correct temperatures. Make sure to read the directions that come with the thermometer to calibrate correctly. You can check for the accuracy of the thermometer by boiling a pot of water. The temperature should read 212°F.
- Insert the thermometer into the middle of the egg dish (should be 160°F or higher).

Safe Cooking & Reminders

- You should always begin meal preparation with a clean environment & utensils. This includes counter tops & surfaces, cutting boards, knives, dishes and plates, etc. *For more information on cleaning your kitchen, refer to Lesson 2: "Clean It! Make It Safe!"*
- You should wash your hands often when preparing and handling eggs. Wash your hands **before and after** cracking an egg. *For more information on Hand washing, refer to Lesson 1: "Hand Washing: Leave No Germ Behind."*
- Do not reuse any plate, bowl, surface or utensil that has held uncooked or raw eggs without properly washing them. *For more information on cleaning your kitchen, refer to Lesson 2: "Clean It! Make It Safe!"*

Teaching Guide

Interest Approach:

- **Discussion** Ask students “How many of you have ever eaten a runny egg or snuck a bite of cookie dough? Why are these things bad? Why is egg safety important?”
- **Explain** “Eggs are a staple in many dishes and meals. Because they can carry harmful bacteria that causes us to become ill, it is very important we follow food safety precautions to prevent us from becoming sick when cooking with and preparing eggs.”
- Briefly review this lesson’s vocabulary in the *Subject Matter Outline*

Objective 1. Identify safe cooking practices and precautions of eggs and egg dishes.

- Using the PowerPoint for this lesson as a visual (or other method), **present** the recommended safety practices provided in **No More Runny Eggs** section in the *Subject Matter Outline*.
- **Explain** “Runny eggs and cookie dough contain undercooked eggs. Consuming raw or undercooked eggs can put us at risk of becoming sick.” Refer to the vocabulary definition of Salmonella.

Objective 2. Explain why thermometer use instead of visual cues to check for doneness is safer.

- **Discussion** Ask students how often they (or their parents) use thermometers to check the temperature of egg dishes (refer to the vocabulary definition of egg dish). Ask students how often they notice visual cues being used instead of thermometers in recipes. Examples of visual cues would be firmness, liquefied, gelatinous, etc.
- Using the PowerPoints (or other visual), explain why thermometer use is necessary.
- Lead students through *Activity 1: Recipe Hunt*

Objective 3. Practice using a food thermometer on egg dishes.

- Lead students through *Activity 2: Cooking Lab* for practice using food thermometers on eggs.

Review:

- a. **Evaluate** with the *Check For Understanding* worksheet
- b. Give each student a copy of the *All About Eggs* Handout to take home.

Answers to word puzzle:

- Cook eggs until both the yolks and the whites are firm
- The only way to determine doneness is with a thermometer
- Wash your hands before and after cracking an egg

Activity Guide

Outline

Key Points

Activity 1: Recipe Hunt

- Let students work in pairs (or alone).
- Ask them to look up 5-10 recipes of egg dishes (quiches, casseroles, pies).
- They can search for these recipes online or in a cookbook (if you have a cookbook).
- Have the students take note of how the recipe talks about “doneness.” Does it give visual cues, a temperature, etc.?
- Have the students determine what recipes are safe and unsafe based on how they tell the consumer to check for doneness.
- Have the students re-write the recipes (just the doneness part) to incorporate using a thermometer to safely check if the dish is done.
- Have students share their results and recipes with the group.

Recipe Hunt

This activity will show how many recipes in cookbooks and online fail to tell the consumer to use or how to use a thermometer. Most recipes rely on visual cues or toothpicks to determine doneness.

Activity Guide

Outline

Key Points

Activity 2: Cooking Lab

- Decide on two to four egg based dishes (quiche, casseroles, etc.) that take approximately 20-30 minutes to bake and have ingredients ready and measured.
- Divide students into pairs or groups and assign each group or pair an egg dish.
- Let the students prepare the egg dish following the recipes given.
- Have the students use the visual cues given in the recipe to determine the “doneness” of the dish. Then have them take the temperature of the dish to determine if it is really “done.” Some dishes may need to be cooked longer.
- Compare the results of the experiment. Discuss and review the importance of using a thermometer vs. visual cues.
- ***Can continue on to another lesson or activity while egg dishes are cooking.***
- ***Make sure all dishes are prepared safely and are completely done before consuming (if you plan on students consuming them)**

Cooking Lab

This activity will show that doneness can only be determined properly by using a thermometer. Some of the dishes may not be cooked completely when only relying on color or a toothpick to determine doneness.

Can continue on to another lesson or activity while egg dishes are cooking.

***Make sure all dishes are prepared safely and are completely done before consuming (if you plan on students consuming them).**

References

Educational Resources:

Academic Standards. (2016). <https://www.tn.gov/education/topic/academic-standards>

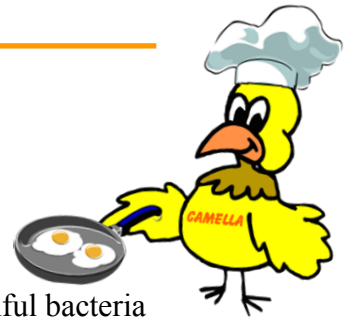
Educational Materials On Food Safety. <http://fightc-les.org/>

Fight Bac! - Partnership for Food Safety Education. (2016). <http://www.fightbac.org/>

Handout Puzzle Created By:

Discovery Education Puzzle Maker. (2016). http://www.discoveryeducation.com/free-puzzlemaker/index.cfm?campaign=flyout_teachers_puzzle

All About Eggs!



How does this relate to Poultry and Egg Safety?

Eggs are a staple in many dishes and meals. Because they can contain harmful bacteria that causes us to become ill, it is very important that we follow food safety precautions to prevent us from becoming sick when cooking with and preparing eggs.

To uncover some important tips on egg safety, solve the three word puzzles below!

| | | | | | | | | | | | | |
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| A | B | C | D | E | F | G | H | I | J | K | L | M |
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| | | | | | | | | | | | | |
|---|---|----|----|---|----|----|----|----|---|----|----|----|
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All About Eggs!

Fill in the blank:

- _____ is the bacteria that can often be found in eggs that makes us sick.
- You should never consumer _____ or _____ eggs.
- Cook eggs until both the _____ and _____ are firm.
- Egg dishes should be cooked to the temperature of _____.
- You should wash your hands _____ and _____ cracking an egg.
- _____ is the degree to which a dish is cooked.

Short Answer:

- What are some ways recipes often incorrectly tell us to measure doneness of dishes?

- What is one thing you can do to enjoy “raw” eggs in recipes such as, cookie dough, ice cream and milk shakes?



All About Eggs!

Fill in the blank:

- Salmonella is the bacteria that can often be found in eggs that makes us sick.
- You should never consume runny or undercooked eggs.
- Cook eggs until both the egg white and yolk are firm.
- Egg dishes should be cooked to the temperature of 160 °F.
- You should wash your hands before and after cracking an egg.
- Doneness is the degree to which a dish is cooked.

Short Answer:

- What are some ways recipes often incorrectly tell us to measure doneness of dishes?
 - Visual cues
 - Smell
 - Color
 - Clean fork or toothpick
 - Timer
- What is one thing you can do to enjoy “raw” eggs in recipes such as, cookie dough, ice cream and milk shakes?
 - Buy pasteurized eggs



**Appreciation is expressed to the following for
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