Lesson 4: Food Safety Fundamentals

Table of Contents

Lesson-at-a-Glance .................................................................................................................. 111
Lesson Plan .................................................................................................................................. 112
  Objective 1 ................................................................................................................................. 113
  Objective 2 ................................................................................................................................. 114
  Objective 3 ................................................................................................................................. 119
Supporting Documents ............................................................................................................... 121
  Food Safety Fundamentals Note Page ...................................................................................... 122
  Food Safety Myth or Fact ........................................................................................................... 123
  Food Safety Myth or Fact Answer Key ...................................................................................... 124
  Handwashing Procedures ......................................................................................................... 125
  Personal Hygiene ...................................................................................................................... 126
  Keeping It Clean ......................................................................................................................... 127
  Preventing Cross-Contamination ............................................................................................. 128
  Safe Refrigerator Shelves .......................................................................................................... 129
  Types of Thermometers ........................................................................................................... 130
  Calibrating Thermometers in Child Care ................................................................................ 132
  Recommended Minimum Internal Cooking Temperatures ..................................................... 134
  Storage Times for the Refrigerator and Freezer ..................................................................... 135
  How Long Is Too Long? ............................................................................................................. 136
  How Long Is Too Long? Answer Key ....................................................................................... 137
  Grocery Store Safety ................................................................................................................ 138
  Grocery Store Safety Answer Key ............................................................................................. 139
  Find the Safety Mistake ........................................................................................................... 140
  Find the Safety Mistake Answer Key ....................................................................................... 141
  Pre/Post-Assessment ................................................................................................................. 143
  Answers to the Pre/Post-Assessment ....................................................................................... 144
# Lesson-at-a-Glance

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Activity</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 minutes</td>
<td>Introduction to the Lesson</td>
<td>Pre-Assessment Food Safety Myth or Fact</td>
<td>Participant’s Workbook</td>
</tr>
<tr>
<td></td>
<td><strong>Objective 1:</strong> Define “foodborne illness” and its causes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 minutes</td>
<td>Foodborne Illness</td>
<td></td>
<td>Participant’s Workbook</td>
</tr>
<tr>
<td></td>
<td><strong>Objective 2:</strong> Implement practical techniques for keeping food safe during the four steps of food safety: clean, separate, cook, and chill.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 minutes</td>
<td>Clean Separate Cook Chill</td>
<td>Personal Hygiene Gallery Walk: Prevention Cross-Contamination How Long Is Too Long?</td>
<td>Participant’s Workbook Calculators Flip chart paper Markers 3 x 5 inch index cards with the following personal hygiene practice areas written on them: Handwashing, Attire, Fingernails, Jewelry, Wounds and Sores, Hair, Tasting Food</td>
</tr>
<tr>
<td></td>
<td><strong>Objective 3:</strong> Apply food safety knowledge to grocery shopping and food storage.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 minutes</td>
<td>Food Safety in the Grocery Store</td>
<td>Grocery Store Safety</td>
<td>Participant’s Workbook</td>
</tr>
<tr>
<td></td>
<td><strong>Conclusion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 minutes</td>
<td>Conclusion</td>
<td>Find the Safety Mistake Post-Assessment</td>
<td>Participant’s Workbook</td>
</tr>
<tr>
<td></td>
<td><strong>60 minutes</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lesson Plan: Food Safety Fundamentals

Introduction

SHOW SLIDE: Lesson 4: Food Safety Fundamentals

DO:
As participants arrive, have them sign the sign-in sheet and then distribute the Participant’s Workbooks.

SAY:
Welcome to Food Safety Fundamentals. Turn to the Pre-Assessment in your Participant’s Workbook. You will have 5 minutes to complete the assessment. The assessment is designed to measure your current knowledge of this subject. Answer the questions to the best of your knowledge.

DO:
Ask the participants to place an identifier on the top right corner of the page. State the same identifier will be used at the conclusion of the training on the Post-Assessment. The identifier should be something simple and easily remembered by the participant. Allow 5 minutes for the Pre-Assessment. Collect completed Pre-Assessments before beginning the lesson. (Answers to the Pre/Post-Assessment are found at the end of the lesson.)

SAY:
Please find in your Participant’s Workbook the Food Safety Fundamentals Note Page. You can use the note page to take notes as we go through the lesson.

DO:
(Workbook Activity) Food Safety Myth or Fact

Materials Needed: Food Safety Myth or Fact worksheet in the Participant’s Workbook, Food Safety Myth or Fact Answer Key in the Supporting Documents section

SAY:
Instructions: To start, let’s turn in your Participant’s Workbook to the Food Safety Myth or Fact worksheet. Read each statement. Decide if it is a food safety myth or fact, and then check the appropriate box. If you think it is a myth, use the space under the statement to explain proper food safety practices to use in the particular situation. The first item has been done for you as an example.

DO:
Read the first example together as a class. Give participants 5 minutes to complete the worksheet. Then review the answers with the class using the Food Safety Myth or Fact Answer Key.
Objective 1: Define “foodborne illness” and its causes.

SHOW SLIDE: Foodborne Illness

SAY:
Foodborne illness (sometimes called foodborne disease, foodborne infection, or food poisoning) is a common, yet preventable, health problem. The Centers for Disease Control and Prevention (CDC) estimate that roughly 1 in 6 Americans, or 48 million people, get sick every year from foodborne illnesses. Of those, 128,000 are hospitalized and 3,000 die.

Many different disease-causing microbes or pathogens can contaminate foods, so there are many different types of foodborne infections. In addition, poisonous chemicals or other harmful substances can cause foodborne illnesses if they are present in food.

SHOW SLIDE: 5 Most Common Pathogens

SAY:
There are five most common pathogens that account for most of the foodborne illness, hospitalization, and death in the United States. They are Norovirus, Salmonella, Shigella, Hepatitis A, and E. coli.

SHOW SLIDE: People at Risk

SAY:
Some people are at higher risk of getting a foodborne illness than others: infants and children, seniors, pregnant women, and sick, injured, or individuals with compromised immune systems. In addition, anyone who has taken antibiotics in the past few months is at risk of becoming sick from foodborne illness. Young children are especially at risk for having foodborne illnesses because their bodies and immune systems are still developing. Because you care for children every day in your family child care program, it is important that you understand foodborne illness and steps to prevent it.

SHOW SLIDE: Conditions for Pathogen Growth

SAY:
Foodborne illness is caused by the introduction of pathogens into food with the proper conditions for growth. Most foodborne pathogens need food, low acid, time (more than 4 hours), temperatures between 40°F and 140°F, oxygen, and moisture to grow and multiply.

SHOW SLIDE: Top Factors that Contribute to Foodborne Illness

SAY:
The CDC has identified the top five factors that contribute to foodborne illness.

1. Improper hot or cold holding temperatures of potentially hazardous foods (Time/Temperature Control for Safety Food)
2. Improper cooking temperatures
3. Contaminated utensils and equipment
4. Poor employee health and hygiene
5. Food from unsafe sources

Objective 2: Implement practical techniques for keeping food safe during the four steps of food safety: clean, separate, cook, and chill.

SHOW SLIDE: Steps to Food Safety

*SAY:* Today we are going to talk about ways that you can decrease the likelihood of foodborne illness in your family child care program. When we talk about food safety, there are four simple steps you can follow to make sure the food you serve is safe. The steps are clean, separate, cook, and chill.

First, we will discuss “clean”. An important component of the “clean” step is personal hygiene, and good hygiene starts with good handwashing.

SHOW SLIDE: Handwashing and Germs

*SAY:* Handwashing is the most important way to prevent the spread of germs and illness in child care. Caregivers and children need to wash their hands often. How, where, and when hands are washed can help keep germs away.

*DO:* Refer the participants to the *Handwashing Procedures* handout in their Participant’s Workbook and review it together.

*SAY:* Good hygiene also includes many other things. We are going to do an activity to help review other important aspects of good personal hygiene when we are preparing food.

*DO:* *(Workbook Activity) Personal Hygiene*

**Materials Needed:** Personal Hygiene handout in the Participant’s Workbook; 7 index cards (3 x 5 inch) with the following personal hygiene practice areas written on them: 1) Hair, 2) Attire, 3) Jewelry, 4) Handwashing, 5) Fingernails, 6) Tasting Food, and 7) Wounds and Sores

**Instructions:** Ask participants to open to the Personal Hygiene handout in their Participant’s Workbook. Then complete the following steps.

1. Divide participants into seven groups by asking them to count off (1-7). If you have a small group, divide into pairs so that more topics are covered.
2. Distribute one index card to each group.
3. Explain that each group is being assigned one area of personal hygiene. Group members are asked to identify key procedures related to the area assigned and create a “slogan” that represents their area. For example, for the assigned area “hair”, the slogan could be “Keep your hair in a knot. Keep it clean; that helps a lot.”

4. Have each group share its responses. Ask participants from other groups to share additional thoughts.

FEEDBACK:
Instructor’s Note: If you have a very large group, divide the entire class into seven sections, and assign each section one of the seven personal hygiene areas. Then, have participants in each section work in groups of four (or whatever number works the best for your group) to create a slogan for their assigned personal hygiene area. (This means you will have several small groups working on each personal hygiene area.) Provide seven pieces of flip chart paper at the front of the room and label each with one of the seven personal hygiene areas. As the groups finish their slogans, ask one person from each group to come and write the slogan on the flip chart paper that matches the assigned personal hygiene area. You will have several slogans for each area. When everyone has finished, read all of the slogans to the group.

SAY:
In addition to personal hygiene, it is important to keep everything else that touches your food clean.

DO:
Refer the participants to the Keeping It Clean handout in their Participant’s Workbook. Review the handout with the class.

SAY:
Now we will move on to the second step in food safety, “Separate.” Cross-contamination is a major cause of foodborne illness. One way to prevent cross-contamination is to separate products. For example, you can separate raw food from cooked food, and you can store chemicals in a location separate from food.

ASK:
What are some ways that food might become contaminated in your family child care home?

DO:
List answers on a flip chart and thank them for their answers.

SHOW SLIDE: Methods of Cross-Contamination

SAY:
There are four major ways in which food may become contaminated. The first is hand-to-food contamination, which can happen when hands are not washed properly or gloves are not properly used. Next is food-to-food contamination that can occur when food in the refrigerator is not wrapped properly or when raw food is stored over cooked food. Equipment-to-food contamination happens when equipment is not cleaned and sanitized properly. Lastly, chemical-to-food contamination occurs when chemicals are not properly removed from work surfaces or when a chemical gets spilled into food.
DO:
(Workbook Activity) Gallery Walk: Preventing Cross-Contamination

Materials Needed: Preventing Cross-Contamination worksheet in the Participant’s Workbook, flip chart paper, markers, painter’s tape

SAY:
Instructions: Now we will discuss ways that you or your assistant(s) can minimize cross-contamination in your child care program. Turn to the Preventing Cross-Contamination worksheet in your Participant’s Workbook to use as a reference during this activity.

DO:
1. Divide participants into four groups by using the four types of contamination to count off: hand-to-food, food-to-food, equipment-to-food, and chemical-to-food.
2. Ask each group to take one sheet of flip chart paper and write the type of contamination they were assigned at the top.
3. Ask each group to write down two or three ways to avoid the type of contamination they have been assigned and then post their flip chart paper on the wall. Allow 2–3 minutes to complete this part of the activity.
4. Ask each group to do a gallery walk. To do the gallery walk, each group will rotate around the room until they have viewed the responses of the other three groups. As they rotate, ask them to add any new items that come to mind. Allow 4–6 minutes to complete this part of the activity.
5. Do a short overview, making sure that all the points on the Preventing Cross-Contamination worksheet are covered.

SAY:
You have identified some really good methods that you can use to avoid cross-contamination. It is important that these methods be implemented by all family child care staff.

FEEDBACK:
Instructor’s Note: If you have a very large group, divide the entire group into four sections. Assign each group one of the four types of contamination. Have participants work in pairs to write down two or three ways to avoid the type of contamination their section has been assigned. Then using a flip chart, go through each type of contamination and ask participants to share their answers. Write answers on the flip chart.

SAY:
As we have discussed, storing food properly is one way to avoid cross-contamination. Often, refrigerator storage space is limited and many types of food are stored in the same refrigerator. When that occurs, the placement of food in the refrigerator unit is extremely important. Items that will not be cooked should be on the top shelf. The next shelf is for food that will be cooked to 140°F, like precooked items. Then below that shelf should be items that will be cooked to 145°F, like beef roast. The next shelf should include items that will be cooked to 160°F, like ground beef. On the bottom shelf should be food that will be cooked to 165°F, like raw poultry. The end-point cooking temperature is higher for the foods at the bottom of the refrigerator,
and the cooking temperature will kill pathogens associated with foods on the next higher shelf should cross-contamination occur.

**DO:**
Refer participants to *Safe Refrigerator Shelves* handout in their Participant’s Workbook.

**SAY:**
The third step in food safety is “Cook.” You cannot tell when food is done simply by checking the color and texture. There is no way to be sure the food is safe except by using a thermometer. If you do not already have a thermometer, you should purchase one.

**FEEDBACK:**
*Instructor’s Note:* Refer participants to *Types of Thermometers* in the Participant’s Workbook for more information about different types of thermometers.

**SHOW SLIDE: Using a Thermometer**

**DO:**
Refer participants to *Calibrating Thermometers in Child Care* handout in their Participant’s Workbook.

**SAY:**
To accurately use a thermometer, place it in the thickest part of the food making sure not to touch bone, fat, or gristle. Wait the amount of time recommended for the thermometer being used. Then, compare your thermometer reading to the minimum cooking temperature recommendation to be sure it reaches a safe temperature.

It is important to calibrate your thermometers on a regular basis, when they are dropped, and when they appear not to be functioning properly. Calibrating the thermometer ensures that the thermometer is working properly and measuring temperatures correctly.

**SHOW SLIDE: Important Cooking Temperatures**

**DO:**
Refer participants to the *Recommended Minimum Internal Cooking Temperatures* handout in their Participant’s Workbook.

**SAY:**
Recommended minimum internal cooking temperatures are your guide to ensuring foods are safe to serve during mealtimes. There are four key temperatures to remember: 165°F (raw poultry), 160°F (ground beef), 145°F (roast beef), and 140°F (precooked items). Cooking foods to the recommended minimum internal cooking temperature ensures that harmful bacteria are destroyed, assisting in the prevention of foodborne illnesses.
When preparing fresh beef, veal, lamb, pork, and ham, note that it requires rest time. “Rest time” is the period of time (3 minutes) the meat remains at the final temperature, after being removed from the heat source. This time is very important because when the meat is removed from the heat source, the temperature remains the same or continues to rise, which destroys harmful bacteria. After the meat has rested for a minimum of three minutes, check the temperature to be sure it has reached the recommended minimum internal cooking temperature of 145°F.

When reheating foods, refer to the Recommended Minimum Internal Cooking Temperatures handout in your Participant's Workbook for the appropriate temperatures. If you are reheating leftovers, it is important to heat them to a temperature of 165°F for 15 seconds to kill harmful bacteria (regardless of the temperature you used to originally cook the food). When you reheat foods, stir the food throughout the process and cover with a lid.

SHOW SLIDE: Danger Zone

SAY:
The final step is “Chill.” In this step, it is important to keep in mind the “Temperature Danger Zone,” which is between 40°F and 140°F. This is the temperature range in which bacteria that cause foodborne illness multiply most quickly. You should try to keep food above or below the “Temperature Danger Zone” temperatures. To do this, you should refrigerate your food promptly and properly.

SHOW SLIDE: Chill

SAY:
Cold temperatures slow the growth of illness-causing bacteria. Refrigerate perishable food and leftovers within 2 hours. Remember to divide leftovers into several clean, shallow containers (no more than 2 inches thick) to allow them to chill faster.

Keep the refrigerator at 40°F or below. Keep the freezer at 0°F or below. Use thermometers designed for each location and check the temperatures regularly according to your local health department's recommendations or policies.

FEEDBACK:
Instructor’s Note: Refer to the Types of Thermometers handout in the Participant's Workbook for more information on refrigerator and freezer thermometers.

SAY:
Another important part of the chill step is to thaw food properly. Never thaw or marinate food on the counter tops because bacteria grow rapidly at room temperatures. You can thaw food in the refrigerator (refer to Safe Refrigerator Shelves handout in the Participant's Workbook for safe storage locations in the refrigerator during thawing), under running water, or in the microwave. Cook meat, poultry, egg casseroles, and fish immediately after defrosting in the microwave oven because some areas of the frozen food may begin to cook during the defrosting time. Do not hold partially cooked food to use later.

Finally, know when to throw food out. Many times, you cannot look at or smell a food and know whether harmful bacteria have started growing in your leftover or refrigerated foods. Be sure you throw out food according to the Storage Times for the Refrigerator and Freezer handout, which can be found in your Participant's Workbook.
DO:
(Workbook Activity) How Long Is Too Long?


SAY:
Instructions: Turn to the How Long Is Too Long? worksheet in your Participant’s Workbook. There you will see a chart; it lists foods that are stored at the ABC Family Child Care. Read the description of each item and the time in storage. Then decide if you think the product would be safe to use, be potentially unsafe, or has spent too long in storage. You can use the Storage Times for the Refrigerator and Freezer handout that is in your Participant’s Workbook. Write your answer in the last column.

DO:
Give participants 3–5 minutes to complete the worksheet. Then review the answers with the class using the How Long Is Too Long? Answer Key.

Objective 3: Apply food safety knowledge to grocery shopping and food storage.

SHOW SLIDE: Grocery Store Safety

SAY:
It is important to apply the principles of clean, separate, and chill when you are grocery shopping to keep the food you are purchasing safe. For example, wash reusable grocery bags each time you shop. Separate foods by placing raw meat, poultry, and seafood in plastic bags and keeping hazardous foods separate from ready-to-eat foods in your shopping cart. Finally, for the chill principle, select cold foods last in your shopping trip and keep a cooler in your car to transport perishable foods.

DO:
(Workbook Activity) Grocery Store Safety

Materials Needed: Grocery Store Safety worksheet in the Participant’s Workbook, Grocery Store Safety Answer Key in the Supporting Documents section

SAY:
Instructions: Turn to the Grocery Store Safety worksheet in your Participant’s Workbook to see more food safety tips for shopping and storing food. Read each statement and decide if it follows the food safety steps: clean, separate, chill, or other. Then write “CL” if it follows the “clean” step, “S” for “separate”, “CH” for “chill” and “O” for other good food safety practices. The first item has been completed for you.

DO:
Give the participants 5 minutes to finish the worksheet, and then review it together using the answer key.
Conclusion

DO: (Workbook Activity) Find the Safety Mistake

Materials Needed: Find the Safety Mistake worksheet in the Participant’s Workbook, Find the Safety Mistake Answer Key in the Supporting Documents section

SAY:
Instructions: Now we will have a chance to apply all of food safety skills. Turn to the Find the Safety Mistake worksheet in your Participant’s Workbook. You will see the scenario featuring Ms. Maria and Ms. Anna. They work in a family child care program. From what you learned today, underline the food safety mistakes you see in the story.

DO:
Give the participants 5 minutes to complete the worksheet, and then review it as a class using the Find the Safety Mistake Answer Key.

SHOW SLIDE: Questions

SAY:
This lesson has provided you with strategies for preventing foodborne illnesses in your family child care program. Are there any questions before we complete the post assessment? Please take a few minutes to do the Post-Assessment in your Participant’s Workbook. Remember to add the same identifier to the top right corner of the assessment.

DO:
Give participants 5 minutes to take the Post-Assessment. Ask participants to score their own assessments as you review the correct answers using the Answers to Pre/Post-Assessment. Collect the assessments.
Supporting Documents

Food Safety Fundamentals Note Page ................................................................. 122
Food Safety Myth or Fact ..................................................................................... 123
Food Safety Myth or Fact Answer Key ................................................................. 124
Handwashing Procedures ............................................................................... 125
Personal Hygiene .......................................................................................... 126
Keeping It Clean ........................................................................................... 127
Preventing Cross-Contamination .................................................................. 128
Safe Refrigerator Shelves ............................................................................... 129
Types of Thermometers .................................................................................. 130
Calibrating Thermometers in Child Care ....................................................... 132
Recommended Minimum Internal Cooking Temperatures ....................... 134
Storage Times for the Refrigerator and Freezer .............................................. 135
How Long Is Too Long? ................................................................................ 136
How Long Is Too Long? Answer Key ............................................................... 137
Grocery Store Safety .................................................................................... 138
Grocery Store Safety Answer Key ................................................................. 139
Find the Safety Mistake .............................................................................. 140
Find the Safety Mistake Answer Key .............................................................. 141
Pre/Post-Assessment ................................................................................... 143
Answers to the Pre/Post-Assessment ............................................................. 144
Food Safety Fundamentals Note Page

INSTRUCTIONS: Use the note page to take notes you may find useful in your family child care program.

Introduction:
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________

Objective 1: Define “foodborne illness” and its causes.
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________

Objective 2: Implement practical techniques for keeping food safe during the four steps of food safety: clean, separate, cook, and chill.
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________

Objective 3: Apply food safety knowledge to grocery shopping and food storage.
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________

Conclusion:
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________________________________________________________________________
## Food Safety Myth or Fact

**INSTRUCTIONS:** Read each statement. Decide if it is a food safety myth or fact, and then check the appropriate box. If it is a myth, use the space under the statement to explain proper food safety practices to use in the particular situation. The first item has been done for you as an example.

<table>
<thead>
<tr>
<th>Situation</th>
<th>Myth</th>
<th>Fact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Always put cooked meat back on a plate that held the raw meat.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Solution: Germs from the raw meat can spread to the cooked meat. Always use separate plates for raw meat and cooked meat. The same rule applies to poultry and seafood.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Put food on the counter top to thaw it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Do not wash meat or poultry before cooking.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Let food cool completely before you put it in the refrigerator.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Do not wash your fruits and vegetables if you are going to peel them.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Under cook meat, poultry, or eggs because it keeps them tender.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Wash your hands for 20 seconds.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Food Safety Myth or Fact

**Instructor's Note:** Answers to the activity appear in the chart below.

**INSTRUCTIONS:** Read each statement. Decide if it is a food safety myth or fact, and then check the appropriate box. If it is a myth, use the space under the statement to explain proper food safety practices to use in the particular situation. The first item has been done for you as an example.

<table>
<thead>
<tr>
<th>Situation</th>
<th>Myth</th>
<th>Fact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Always put cooked meat back on a plate that held the raw meat.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Solution: Germs from the raw meat can spread to the cooked meat. Always use separate plates for raw meat and cooked meat. The same rule applies to poultry and seafood.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Put food on the counter top to thaw it.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Solution: Harmful germs can multiply rapidly at room temperature. Thaw food safely: in the refrigerator, in cold water, in the microwave.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Do not wash meat or poultry before cooking.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Explanation: Washing raw meat or poultry can spread bacteria to your sink, countertops, and other surfaces in your kitchen. Don’t wash meat, poultry, or eggs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Let food cool completely before you put it in the refrigerator.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Solution: Illness-causing bacteria can grow in perishable foods within 2 hours unless you refrigerate them. Refrigerate perishable foods within 2 hours (or within 1 hour if the temperature is over 90°F).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Do not wash your fruits and vegetables if you are going to peel them.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Solution: Because it’s easy to transfer bacteria from the peel or rind to the inside of your fruits and veggies when cutting, it’s important to wash all produce, even if you plan to peel it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Under cook meat, poultry, or eggs because it keeps them tender.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Solution: Cooked food is safe only after it has been cooked to a high enough temperature to kill harmful bacteria. Use Safe Minimum Cooking Temperatures Chart and a food thermometer.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Wash your hands for 20 seconds.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Explanation: Germs on your hands can contaminate the food that you or others eat. Wash hands the right way—for 20 seconds with soap and running water.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Handwashing Procedures

HOW to Wash Hands

• Use soap and warm, running water. Liquid soap is best. Bar soap can be a source of germs. Check with your health or licensing agency about soap requirements.

• Rub hands together to make a lather and scrub well for 20 seconds. Scrub the backs of your hands, between your fingers, and under your nails. Sing or hum the “Birthday Song” or “ABC Song” from beginning to end two times and you will have washed for 20 seconds. This is a good way to help children learn how long to wash their hands.

• Rinse hands thoroughly under running water.

• Dry hands with a paper towel and use it to turn off faucets; throw away the paper towel. Cloth towels can spread germs when used more than once.

Where to Wash Hands

• Wash hands at the bathroom sink when possible. To allow for supervision, hands may be washed in the kitchen sink, but the sink must be sanitized immediately after handwashing.

• Keep liquid soap and paper towels near the handwashing sink.

• Have a step stool for children if the sink is not positioned at child’s height.

When to Wash Hands

• Wash hands anytime you are not sure hands are clean.

• Wash hands anytime hands come into contact with body fluids.

• Wash hands after you handle raw food, especially meat, chicken, or fish.

• Wash hands before, during, and after preparing food.

• Wash hands before you prepare, handle, or feed bottles of infant formula or breastmilk to an infant.

• Wash hands before setting the table or sitting down to eat.

• Wash hands after you eat, drink, or smoke.

• Wash hands after diapering a child or cleaning up a child who has used the restroom.

• Wash hands after you change a bandage or give any kind of first aid to a child or adult.

• Wash hands after you use the toilet.

• Wash hands after you sneeze, use a tissue, or help a child to do so.

• Wash hands after you cough or cover your mouth with your hand.

• Wash hands after touching garbage.

• Wash hands after you play with, feed, or care for pets or other animals.

• Wash hands upon arrival and departure from home.
Personal Hygiene

**INTRODUCTION:** Good personal hygiene is an important step for food safety in your family child care program.

When preparing food for the children in your care, follow the recommendations below.

- Start your work day in good health, clean, and dressed in clean attire.
- Change apron when it becomes soiled.
- Only wear an apron when in the kitchen; remove the apron upon exiting the kitchen.
- Wash hands properly, frequently, and at the appropriate times.
- Keep fingernails trimmed, filed, and maintained.
- Avoid wearing artificial fingernails or fingernail polish.
- Do not wear any jewelry except for a plain ring with no stones such as a wedding band.
- Treat and bandage wounds and sores immediately. When hands are bandaged, wear single-use gloves to cover bandage.
- Cover any lesion with a bandage. If the lesion is on a hand or wrist, cover with an impermeable cover such as a finger cot or stall and a single-use glove.
- Eat, drink, use tobacco, or chew gum only in designated areas or rooms where food or food contact surfaces may not become contaminated.
- Wear suitable and effective hair restraints while in the kitchen.
- Taste food using the following procedures:
  - Place a small amount of food into a separate container.
  - Step away from exposed food and food contact surfaces.
  - Use a teaspoon to taste the food. Remove the used teaspoon and container to the sink. Never reuse a spoon that has already been used for tasting.
  - Wash hands immediately.
Keeping It Clean

Always start preparing food with clean cutting boards, pots, pans, utensils, and counter tops.

- Wash cutting boards, dishes, utensils, and counter tops with hot soapy water after preparing each food item and before you proceed to the next. This is especially important before and after preparing raw meat, poultry, seafood, and eggs.
- Use clean towels or paper towels to wipe kitchen surfaces, counter tops, sinks, and tables. Dirty towels and sponges often collect and spread bacteria, instead of removing them.
- After washing and drying, you may choose to sanitize the food preparation surfaces with a bleach solution. Spray surfaces or immerse cutting boards and utensils with the bleach solution, and let surfaces air dry. For current recommendation on mixing bleach solution, check with your sponsoring agency or go to the National Resource Center for Health and Safety in Child Care and Early Education, Bleach Concentration found at http://cfoc.nrckids.org/Bleach/Bleach.cfm.
- Do not allow books, backpacks, or other items to be placed on tables or counters where food will be prepared or served.
- Rinse all fresh fruits and vegetables just before peeling, eating, cutting, or cooking. Under running water, rub produce briskly with your hands and scrub firm-skinned fruits and vegetables with a clean produce brush to remove dirt and germs. Some vegetables like lettuce, celery, and broccoli should be broken apart before rinsing to remove dirt between the different layers.
- Before opening cans of food, wash the top of the can under clean running water.
- Do not rinse raw fish, seafood, meat, and poultry. Bacteria in these raw juices can splash and spread to other foods and surfaces. Cooking foods to appropriate temperatures will kill harmful bacteria.
## Preventing Cross-Contamination

Cross-contamination is the transfer of bacteria or viruses from hands-to-food, food-to-food, equipment-to-food, or chemical-to-food.

<table>
<thead>
<tr>
<th>Food-to-Food Cross-Contamination</th>
<th>Hand-to-Food Cross-Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Separate raw animal foods from ready-to-eat foods.</td>
<td>• Wash hands properly, frequently, and at appropriate times.</td>
</tr>
<tr>
<td>• Thaw food properly.</td>
<td>• Wash hands before putting on single-use gloves and change gloves between each task.</td>
</tr>
<tr>
<td>• Separate different types of raw animal foods, such as eggs, fish, meat, and poultry, from each other except when combined in recipes.</td>
<td>• Cover cuts, sores, and wounds.</td>
</tr>
<tr>
<td>• Separate unwashed fruits and vegetables from washed fruits and vegetables and other ready-to-eat foods.</td>
<td>• Keep fingernails short, unpolished, and clean.</td>
</tr>
<tr>
<td>• Store chemicals away from food.</td>
<td>• Avoid wearing jewelry.</td>
</tr>
<tr>
<td>• Store raw animal foods in the refrigerator by placing the raw animal foods on shelves in the following order of cooking temperature: whole beef or pork on top shelf, raw ground meats on middle shelf, and poultry on bottom shelf.</td>
<td>• Do not handle food while sick.</td>
</tr>
<tr>
<td>• Place food in covered containers or packages except during cooling and store in the refrigerator or cooler.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Equipment and Food Contact Surface-to-Food Cross-Contamination</th>
<th>Chemicals-to-Food Cross-Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Use only dry, cleaned, and sanitized equipment and utensils for food preparation.</td>
<td>• Store all chemicals away from food products, preferably in a separate storeroom.</td>
</tr>
<tr>
<td>• Clean and sanitize work tables, equipment, and cutting boards after each use and before beginning a new task.</td>
<td>• Do not use chemicals when you are preparing food.</td>
</tr>
<tr>
<td>• Use separate cutting boards for different foods.</td>
<td>• Store chemicals properly.</td>
</tr>
<tr>
<td>• Clean and sanitize surfaces that are handled often, such as refrigerator and freezer handles.</td>
<td>• Store in original containers.</td>
</tr>
<tr>
<td>• Use only dry, cleaned, and sanitized containers for food storage.</td>
<td>• Label containers.</td>
</tr>
<tr>
<td>• Clean and sanitize shelves in the storage unit on a routine basis.</td>
<td>• Never use food containers for chemicals or chemical containers for food containers.</td>
</tr>
<tr>
<td>• Cover all foods well and label and date them.</td>
<td>• Use chemicals only for recommended purposes</td>
</tr>
</tbody>
</table>
Safe Refrigerator Shelves

The placement of food in the refrigerator unit is extremely important. Items that will not be cooked should be on the top shelf. The next shelf is for food that will be cooked to 140°F, like preCooked items. Then below that shelf should be items that will be cooked to 145°F, like beef roast. The next shelf should include items that will be cooked to 160°F, like ground beef. On the bottom shelf should be food that will be cooked to 165°F, like raw poultry. The end-point cooking temperature is higher for the foods at the bottom, and the cooking temperature will kill pathogens associated with foods on the higher shelves should cross-contamination occur.

<table>
<thead>
<tr>
<th>Food Category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>No-Cook Foods</td>
<td>Birthday Cake</td>
</tr>
<tr>
<td></td>
<td>Milk</td>
</tr>
<tr>
<td></td>
<td>Fruits and vegetables</td>
</tr>
<tr>
<td>Cook to 140°F</td>
<td>Precooked items</td>
</tr>
<tr>
<td></td>
<td>Precooked ham</td>
</tr>
<tr>
<td>Cook to 145°F</td>
<td>Roast beef</td>
</tr>
<tr>
<td></td>
<td>Lamb chops</td>
</tr>
<tr>
<td>Cook to 160°F</td>
<td>Ground beef</td>
</tr>
<tr>
<td></td>
<td>Sausage</td>
</tr>
<tr>
<td>Cook to 165°F</td>
<td>Raw poultry</td>
</tr>
</tbody>
</table>
Types of Thermometers

**Dial Oven-Safe (Bimetal)**
- Reads in 1–2 minutes
- Place 2–2½ inch deep in thickest part of food
- Can be used in roasts, casseroles, and soups
- Not appropriate for thin foods
- Can remain in food during cooking
- Heat conduction of metal stem can cause false high reading
- Some models can be calibrated; check manufacturer’s instructions

**Digital Instant-Read (Thermistor)**
- Reads in 10 seconds
- Place at least ½ inch deep
- Gives fast reading
- Can measure temperature in thin and thick foods
- Not designed to remain in food during cooking
- Check internal temperature of food near the end of cooking time
- Some models can be calibrated; check manufacturer’s instructions
- Available in “kitchen” stores

**Thermometer-Fork Combination**
- Reads in 2–10 seconds
- Place at least ¼ inch deep in thickest part of food
- Can be used in most foods
- Not designed to remain in food while it is cooking
- Sensor in tine of fork must be fully inserted
- Check internal temperature of food near end of cooking time
- Cannot be calibrated
- Convenient for grilling

**Dial Instant-Read (Bimetal)**
- Reads in 15–20 seconds
- Place 2–2½ inch deep in thickest part of food
- Can be used in roasts, casseroles, and soups
- Temperature is averaged along probe, from tip to 2–3 inches up the stem
- Cannot measure thin foods unless inserted sideways
- Not designed to remain in food during cooking
- Used to check the internal temperature of a food at the end of cooking time
- Some models can be calibrated; check manufacturer’s instructions
- Readily available in stores
Thermocouple
- Reads in 2–5 seconds
- Place ¼ inch or deeper, as needed
- Gives fastest reading
- Good for measuring temperatures of thick and thin foods
- Not designed to remain in food during cooking
- Checks internal temperature of food near the end of cooking time
- Can be calibrated
- More costly; may be difficult for consumers to find in stores

Disposable Temperature Indicator (Single-use)
- Reads in 5–10 seconds
- Place approximately ½ inch deep (follow manufacturer's directions)
- Designed to be used only once
- Designed for specific temperature ranges
- Should only be used with food for which it is intended
- Temperature-sensitive material changes color when the desired temperature is reached

Pop-Up
- Commonly used in turkeys and roasting chickens
- Pops up when food reaches final temperature for safety and doneness
- Checking the temperature in other parts of the food with a conventional food thermometer is recommended

Oven Probe with Cord
- Can be used in most foods
- Can also be used outside the oven
- Designed to remain in the food during cooking in oven or in covered pot
- Base unit sits on stovetop or counter
- Cannot be calibrated

Refrigerator and Freezer Thermometers
- Usually liquid-filled or bimetallic-coil thermometers
- Place in the front of the refrigerator/freezer in an easy-to-read location
- Check temperature regularly

Calibrating Thermometers in Child Care

**INTRODUCTION:** Food temperatures must be checked throughout the food preparation process, and the thermometers used must be accurate. Child nutrition employees are responsible for checking the accuracy of thermometers and calibrating them if they are not accurate.

**Here Are the Facts**
Thermometers that are not calibrated will give misleading information. For example, if it registers 10 degrees higher, it will appear to be 160°F when it is really 150°F, which can be very dangerous because the foods may still contain harmful pathogens. If you are cooking ground beef and the thermometer registers too low, you could easily overcook food.

**Application**
It is important for child nutrition employees to know when and how to calibrate bimetallic stemmed and digital (that can be calibrated) thermometers. Follow state or local health department requirements.

**How to Take Temperatures**

**When?**
Thermometers are sensitive and can lose calibration. It is important to calibrate them:
- weekly,
- when they are dropped, and
- more often if specified by local policy.

**How?**
There are two methods that can be used to calibrate thermometers.

**Ice Water Method**
1. Fill a 2-quart measure with ice.
2. Add water to within 1 inch of top of container.
3. Stir mixture well.
4. Let sit for one minute.
5. Place thermometer in container so that the sensing area of stem or probe is completely submerged over the dimple.
6. Keep the thermometer from touching sides or bottom of container.
7. Let thermometer stay in ice water for 30 seconds or until the dial stops moving.
8. Place the calibration tool on the hex adjusting nut and rotate until the dial reads 32 °F, while in ice water.

9. Some digital stemmed thermometers (thermistors) and thermocouples have a reset button that should be pushed.

10. Repeat process with each thermometer.

**Boiling Water Method**

1. Fill a saucepan or stockpot with water.

2. Bring water to a rolling boil.

3. Place thermometer in the container so that the sensing area of the stem or probe is completely submerged over the dimple.

4. Do NOT let the thermometer stem/probe touch sides or bottom of container.

5. Let thermometer stay in the boiling water for 30 seconds or until the dial stops moving.

6. Place the calibration tool on the hex adjusting nut and rotate until the thermometer dial reads 212°F while in boiling water.

7. Some digital thermometers (thermistors) and thermocouples have a reset button that should be pushed.

8. Repeat process with each thermometer.

**NOTE:** The boiling point of water is about 1°F lower for every 550 feet above sea level. If you are in high altitude areas, the temperature for calibration should be adjusted. For example, if you were at 1100 feet above sea level, the boiling point of water would be 210°F.

**Documenting Calibration**

Each time thermometers are calibrated, the process should be documented. The food safety program should include a form for documenting the calibration process of each thermometer.

**Remember, follow state or local health department requirements.**
Recommended Minimum Internal Cooking Temperatures

FDA Food Code (2013) recommends cooking food items to these temperatures and holding for at least 15 seconds. Check with your state and local health department regulations, as temperatures may vary.

<table>
<thead>
<tr>
<th>Food</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seafood</td>
<td>145˚F</td>
</tr>
<tr>
<td>Beef, roasts (hold 3 minutes*)</td>
<td>145˚F</td>
</tr>
<tr>
<td>Eggs</td>
<td>160˚F</td>
</tr>
<tr>
<td>Pork</td>
<td>160˚F</td>
</tr>
<tr>
<td>Ground pork</td>
<td>160˚F</td>
</tr>
<tr>
<td>Ground beef</td>
<td>160˚F</td>
</tr>
<tr>
<td>Poultry</td>
<td>165˚F</td>
</tr>
<tr>
<td>Ground poultry</td>
<td>165˚F</td>
</tr>
<tr>
<td>Mixed dishes, stuffed pasta, stuffed meats</td>
<td>165˚F</td>
</tr>
</tbody>
</table>

*Some foods need 3 minutes of rest time after cooking to make sure that harmful germs are killed.
## Storage Times for the Refrigerator and Freezer

<table>
<thead>
<tr>
<th>Category</th>
<th>Food</th>
<th>Refrigerator (40°F or below)</th>
<th>Freezer (0°F or below)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salads</td>
<td>Egg, chicken, ham, tuna &amp; macaroni salads</td>
<td>3 to 5 days</td>
<td>Does not freeze well</td>
</tr>
<tr>
<td>Hot dogs</td>
<td>opened package</td>
<td>1 week</td>
<td>1 to 2 months</td>
</tr>
<tr>
<td></td>
<td>unopened package</td>
<td>2 weeks</td>
<td>1 to 2 months</td>
</tr>
<tr>
<td>Luncheon meat</td>
<td>opened package or deli sliced</td>
<td>3 to 5 days</td>
<td>1 to 2 months</td>
</tr>
<tr>
<td></td>
<td>unopened package</td>
<td>2 weeks</td>
<td>1 to 2 months</td>
</tr>
<tr>
<td>Bacon &amp; Sausage</td>
<td>Bacon</td>
<td>7 days</td>
<td>1 month</td>
</tr>
<tr>
<td></td>
<td>Sausage, raw — from chicken, turkey,</td>
<td></td>
<td>1 to 2 months</td>
</tr>
<tr>
<td></td>
<td>pork, beef</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hamburger &amp; Other Ground Meats</td>
<td>Hamburger, ground beef, turkey, veal,</td>
<td>1 to 2 days</td>
<td>3 to 4 months</td>
</tr>
<tr>
<td></td>
<td>pork, lamb, &amp; mixtures of them</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresh Beef, Veal, Lamb &amp; Pork</td>
<td>Steaks</td>
<td>3 to 5 days</td>
<td>6 to 12 months</td>
</tr>
<tr>
<td></td>
<td>Chops</td>
<td>3 to 5 days</td>
<td>4 to 6 months</td>
</tr>
<tr>
<td></td>
<td>Roasts</td>
<td>3 to 5 days</td>
<td>4 to 12 months</td>
</tr>
<tr>
<td>Fresh Poultry</td>
<td>Chicken or turkey, whole</td>
<td>1 to 2 days</td>
<td>1 year</td>
</tr>
<tr>
<td></td>
<td>Chicken or turkey, pieces</td>
<td>1 to 2 days</td>
<td>9 months</td>
</tr>
<tr>
<td>Soups &amp; Stews</td>
<td>Vegetable or meat added</td>
<td>3 to 4 days</td>
<td>2 to 3 months</td>
</tr>
<tr>
<td>Leftovers</td>
<td>Cooked meat or poultry</td>
<td>3 to 4 days</td>
<td>2 to 6 months</td>
</tr>
<tr>
<td></td>
<td>Chicken nuggets or patties</td>
<td>3 to 4 days</td>
<td>1 to 3 months</td>
</tr>
<tr>
<td></td>
<td>Pizza</td>
<td>3 to 4 days</td>
<td>1 to 2 months</td>
</tr>
<tr>
<td>Dairy</td>
<td>Milk</td>
<td>7 days</td>
<td>3 months</td>
</tr>
<tr>
<td></td>
<td>Cheese, hard</td>
<td>3 to 4 weeks</td>
<td>6 months</td>
</tr>
<tr>
<td>Eggs</td>
<td></td>
<td>3 to 5 weeks</td>
<td></td>
</tr>
<tr>
<td>Vegetables</td>
<td>Blanched or cooked</td>
<td></td>
<td>8 to 10 months</td>
</tr>
<tr>
<td>Infant Formula</td>
<td>Prepared from powder or ready to use</td>
<td>48 hours</td>
<td>Not recommended</td>
</tr>
<tr>
<td>Breast milk</td>
<td>Provided by mother</td>
<td>24 hours</td>
<td>3 to 6 months</td>
</tr>
</tbody>
</table>
### How Long Is Too Long?

**INSTRUCTIONS:** Listed below are foods that are stored at the ABC Family Child Care. Read through the description of each item and the time in storage. Then decide if you think the product would be safe to use, be potentially unsafe, or has spent too long in storage. Write your answer in the last column.

<table>
<thead>
<tr>
<th>Item*</th>
<th>Packaging</th>
<th>Time in Storage</th>
<th>Safe, Potentially Unsafe, or Too Long in Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cold Storage</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk*</td>
<td>Intact</td>
<td>2 days</td>
<td></td>
</tr>
<tr>
<td>Eggs, shell</td>
<td>Intact</td>
<td>7 weeks</td>
<td></td>
</tr>
<tr>
<td>Frankfurters*</td>
<td>Opened package</td>
<td>10 days</td>
<td></td>
</tr>
<tr>
<td><strong>Frozen Storage</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chicken nuggets*</td>
<td>Opened package</td>
<td>1 week</td>
<td></td>
</tr>
<tr>
<td>Green beans*</td>
<td>Intact</td>
<td>6 months</td>
<td></td>
</tr>
<tr>
<td>Waffles*</td>
<td>Opened package, freezer burned</td>
<td>4 months</td>
<td></td>
</tr>
</tbody>
</table>

* Assume that food has not passed the expiration date.
How Long Is Too Long? Answer Key

INSTRUCTIONS: Listed below are foods that are stored at the ABC Family Child Care. Read through the description of each item and the time in storage. Then decide if you think the product would be safe to use, be potentially unsafe, or has spent too long in storage. Write your answer in the last column.

<table>
<thead>
<tr>
<th>Item*</th>
<th>Packaging</th>
<th>Time in Storage</th>
<th>Safe, Potentially Unsafe, or Too Long in Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cold Storage</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk*</td>
<td>Intact</td>
<td>2 days</td>
<td>Safe</td>
</tr>
<tr>
<td>Eggs, shell</td>
<td>Intact</td>
<td>7 weeks</td>
<td>Potentially unsafe</td>
</tr>
<tr>
<td>Frankfurters*</td>
<td>Opened package</td>
<td>10 days</td>
<td>Potentially unsafe</td>
</tr>
<tr>
<td><strong>Frozen Storage</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chicken nuggets*</td>
<td>Opened package</td>
<td>1 week</td>
<td>Safe</td>
</tr>
<tr>
<td>Green beans*</td>
<td>Intact</td>
<td>6 months</td>
<td>Safe</td>
</tr>
<tr>
<td>Waffles*</td>
<td>Opened package, freezer burned</td>
<td>4 months</td>
<td>Too long in storage</td>
</tr>
</tbody>
</table>

* Assume that food has not passed the expiration date.
## Grocery Store Safety

**INSTRUCTIONS:** Read through the following strategies for food safety while shopping and storing food. While reading each strategy, think about which food safety principle the strategy follows: clean, separate, chill, or other. Then write “CL” if it follows the “clean” principle, “S” for “separate”, “CH” for “chill” and “O” for other. As an example, the answer to the first item appears below.

<table>
<thead>
<tr>
<th>Strategies</th>
<th>CL, S, CH, O</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preparing to shop for groceries</strong></td>
<td>CH</td>
</tr>
<tr>
<td>• Bring a cooler with ice packs to the grocery store</td>
<td></td>
</tr>
<tr>
<td>• Know the store layout and map out the best route for keeping perishable items in the “Temperature Danger Zone” for the shortest amount of time</td>
<td></td>
</tr>
<tr>
<td><strong>Load the shopping cart</strong></td>
<td>CL, S, CH, O</td>
</tr>
<tr>
<td>• Place heavier items on the bottom</td>
<td></td>
</tr>
<tr>
<td>• Place raw meat on the bottom of cart</td>
<td></td>
</tr>
<tr>
<td>• Keep raw meat separate from ready-to-eat foods</td>
<td></td>
</tr>
<tr>
<td>• Place raw meat separate from ready-to-eat foods</td>
<td></td>
</tr>
<tr>
<td>• Place produce in plastic bags</td>
<td></td>
</tr>
<tr>
<td>• Keep cleaning supplies separate from foods</td>
<td></td>
</tr>
<tr>
<td>• Check expiration dates</td>
<td></td>
</tr>
<tr>
<td>• Avoid damaged packages</td>
<td></td>
</tr>
<tr>
<td><strong>Think about sources of contamination</strong></td>
<td>CL, S, CH, O</td>
</tr>
<tr>
<td>• Ask the cashier to clean the check-out belt if it appears dirty</td>
<td></td>
</tr>
<tr>
<td>• Clean re-usable grocery sacks</td>
<td></td>
</tr>
<tr>
<td><strong>Keep food safe in your car</strong></td>
<td>CL, S, CH, O</td>
</tr>
<tr>
<td>• Use a cooler for meat</td>
<td></td>
</tr>
<tr>
<td>• Use a cooler for dairy/produce</td>
<td></td>
</tr>
<tr>
<td>• Load heavier items on the bottom</td>
<td></td>
</tr>
<tr>
<td>• Keep cleaning supplies separate from food</td>
<td></td>
</tr>
<tr>
<td><strong>Store food properly when you arrive home</strong></td>
<td>CL, S, CH, O</td>
</tr>
<tr>
<td>• Label and date all products so that the items can be used first in, first out (FIFO)</td>
<td></td>
</tr>
<tr>
<td>• Put away items that go in the refrigerator and freezer first</td>
<td></td>
</tr>
<tr>
<td>• Store food off of the floor</td>
<td></td>
</tr>
<tr>
<td>• Store food and chemical separately</td>
<td></td>
</tr>
</tbody>
</table>
# Grocery Store Safety Answer Key

**INSTRUCTIONS:** Read through the following strategies for food safety while shopping and storing food. While reading each strategy, think about which food safety principle the strategy follows: clean, separate, chill, or other. Then write “CL” if it follows the “clean” principle, “S” for “separate”, “CH” for “chill” and “O” for other. As an example, the answer to the first item appears below.

<table>
<thead>
<tr>
<th>Strategies</th>
<th>CL, S, CH, O</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preparing to shop for groceries</strong></td>
<td></td>
</tr>
<tr>
<td>• Bring a cooler with ice packs to the grocery store</td>
<td>CH</td>
</tr>
<tr>
<td>• Know the store layout and map out the best route for keeping perishable items in the “Temperature Danger Zone” for the shortest amount of time</td>
<td>CH</td>
</tr>
<tr>
<td><strong>Load the shopping cart</strong></td>
<td>CL, S, CH, O</td>
</tr>
<tr>
<td>• Place heavier items on the bottom</td>
<td>O</td>
</tr>
<tr>
<td>• Place raw meat on the bottom of cart</td>
<td>S</td>
</tr>
<tr>
<td>• Keep raw meat separate from ready-to-eat foods</td>
<td>S</td>
</tr>
<tr>
<td>• Place produce in plastic bags</td>
<td>S</td>
</tr>
<tr>
<td>• Keep cleaning supplies separate from foods</td>
<td>S</td>
</tr>
<tr>
<td>• Check expiration dates</td>
<td>O</td>
</tr>
<tr>
<td>• Avoid damaged packages</td>
<td>O</td>
</tr>
<tr>
<td><strong>Think about sources of contamination</strong></td>
<td>CL, S, CH, O</td>
</tr>
<tr>
<td>• Ask the cashier to clean the check-out belt if it appears dirty</td>
<td>CL</td>
</tr>
<tr>
<td>• Clean re-usable grocery sacks</td>
<td>CL</td>
</tr>
<tr>
<td><strong>Keep food safe in your car</strong></td>
<td>CL, S, CH, O</td>
</tr>
<tr>
<td>• Use a cooler for meat</td>
<td>CH</td>
</tr>
<tr>
<td>• Use a cooler for dairy/produce</td>
<td>CH</td>
</tr>
<tr>
<td>• Load heavier items on the bottom</td>
<td>O</td>
</tr>
<tr>
<td>• Keep cleaning supplies separate from food</td>
<td>S</td>
</tr>
<tr>
<td><strong>Store food properly when you arrive home</strong></td>
<td>CL, S, CH, O</td>
</tr>
<tr>
<td>• Label and date all products so that the items can be used first in, first out (FIFO)</td>
<td>O</td>
</tr>
<tr>
<td>• Put away items that go in the refrigerator and freezer first</td>
<td>CH</td>
</tr>
<tr>
<td>• Store food off of the floor</td>
<td>CL</td>
</tr>
<tr>
<td>• Store food and chemical separately</td>
<td>CL</td>
</tr>
</tbody>
</table>
Find the Safety Mistake

INSTRUCTIONS: Read the following story. Think about whether the four steps to food safety were followed. Then, underline the food safety mistakes in the story.

Ms. Maria began preparing lunch for the children at ABC Child Care after putting on her hair net and then washing her hands. She begins to fry chicken in a pan; some raw chicken is on a cutting board waiting to be fried. She is happy the raw chicken defrosted fully overnight after she left the package on the kitchen counter. Ms. Maria then decided to make fruit salad. She transferred the raw chicken to a plate and used the same cutting board to slice a honeydew melon in half. She cut it into bite-sized pieces and placed the pieces in a bowl on the counter. She put the other half of the melon on a plate before putting it in the refrigerator. She noticed the refrigerator thermometer read 46°F.

By this time, the chicken in the pan was nicely browned. Ms. Maria cut a piece of chicken and saw that the inside was no longer pink. “Looks done to me,” she said, and placed the cooked chicken pieces on a tray. With her bare hands, she took the rest of the raw chicken from the plate, rinsed the chicken quickly in the sink, and put the chicken pieces in the warm pan. Then, she walked back to the refrigerator and took out a bag of red grapes. She ate a few grapes, and then put a few handfuls of grapes into the bowl with the melon. Ms. Maria took a can of peaches from the shelf, used a can opener to open the can, and put the peaches into the bowl of fruit. As she put the can opener back in the drawer, she said, “What a colorful fruit salad!”

Ms. Anna came into the kitchen after playing with the children outside. She put on an apron and stirred the mashed potatoes in the bowl. She pulled the spoon out of the bowl and tasted the mashed potatoes. She said, “This tastes good,” and put the spoon back into the bowl. She called the children in for lunch and served the chicken, mashed potatoes, and fruit salad, along with a slice of wheat bread and a cup of milk.

After lunch, Ms. Maria wiped down the counters and tables with a damp sponge and wiped her hands on her apron. She used the same sponge to wash the cutting board with cold water. Then, she started to put away the leftovers before she went to the grocery store. Ms. Anna came into the kitchen as she was leaving for the day at 5:30 p.m. and found the fruit salad still sitting on the counter. She put the bowl in the refrigerator to use the next day. She didn’t want to waste any food.
Find the Safety Mistake Answer Key

Instructor’s Note: Food safety mistakes are numbered and underlined below. The next page includes a description of how to correct the errors.

INSTRUCTIONS: Read the following story. Think about whether the four steps to food safety were followed. Then, underline the food safety mistakes in the story.

Ms. Maria began preparing lunch for the children at ABC Child Care after putting on her hair net and then washing her hands. She begins to fry chicken in a pan; some raw chicken is on a cutting board waiting to be fried. She is happy (1) the raw chicken defrosted fully overnight after she left the package on the kitchen counter. Ms. Maria then decided to make fruit salad. She transferred the raw chicken to a plate and (2,3,4) used the same cutting board to slice a honeydew melon in half. She cut it into bite-sized pieces and placed the pieces in a bowl on the counter. (5) She put the other half of the melon on a plate before putting it in the refrigerator. She noticed (6) the refrigerator thermometer read 46°F.

By this time, the chicken in the pan was nicely browned. Ms. Maria (7) cut a piece of chicken and saw that the inside was no longer pink. “Looks done to me,” she said, and placed the cooked chicken pieces on a tray. (8) With her bare hands, she took the rest of the raw chicken from the plate, (9) rinsed the chicken quickly in the sink, and put the chicken pieces in the warm pan. Then, she walked back to the refrigerator and took out a bag of red grapes. (10,11) She ate a few grapes, and then put a few handfuls of grapes into the bowl with the melon. Ms. Maria (12,13) took a can of peaches from the shelf, used a can opener to open the can, and put the peaches into the bowl of fruit. As (14) she put the can opener back in the drawer, she said, “What a colorful fruit salad!”

Ms. Anna came into the kitchen after playing with the children outside. (15) She put on an apron and stirred the mashed potatoes in the bowl. She pulled the spoon out of the bowl and tasted the mashed potatoes. She said, “This tastes good,” and (16,17) put the spoon back into the bowl. She (18,19) called the children in for lunch and served the chicken, mashed potatoes, and fruit salad, along with a slice of wheat bread and a cup of milk.

After lunch, Ms. Maria (20) wiped down the counters and tables with a damp sponge and (21) wiped her hands on her apron. She (22) used the same sponge to (23) wash the cutting board with cold water. Then, she started to put away the leftovers before she went to the grocery store. Ms. Anna came into the kitchen as she was leaving for the day at (24) 5:30 p.m. and found the fruit salad still sitting on the counter. She put the bowl in the refrigerator to use the next day. She didn’t want to waste any food.
1. Ms. Maria should defrost the chicken on the bottom shelf of the refrigerator overnight, or use another food-safe method for thawing frozen foods. (Chill)

2. Ms. Maria and Ms. Anna should always prepare food with clean cutting boards, utensils, plates, trays, and counter tops. (Clean)

3. Ms. Maria should use separate cutting boards and knives when handling raw chicken and fruits. She should use one clean cutting board and knife for the raw chicken, and a separate cutting board and knife to cut the melon. She should also wash her hands between tasks. (Separate)

4. Ms. Maria should rinse the honeydew melon before cutting it. (Clean)

5. The cut half of the honeydew melon should be covered before placing it in the refrigerator. (Chill)

6. The refrigerator temperature should be below 40°F. (Chill)

7. Ms. Maria should properly insert a clean food thermometer into the chicken to check that the internal temperature has reached 165°F. (Cook)

8. Ms. Maria should wash her hands when switching between tasks, like after handling raw chicken and before touching the bag of grapes. (Clean)

9. Ms. Maria should put the chicken directly in the pan to cook it to the proper internal temperature. (Cook, Clean)

10. Ms. Maria should wash her hands after eating the grapes and before preparing the fruit salad. (Clean)

11. Ms. Maria should wash the grapes. (Clean)

12. Ms. Maria should wash and dry the top of the can of peaches before opening it. (Clean)

13. See answer for #2.

14. Ms. Maria should wash the can opener after using it. (Clean)

15. Ms. Anna should wash her hands after playing with the children, before coming into the kitchen to prepare food, and before serving food to the children. It is recommended that Ms. Anna wear a hair restraint (like a hat or hairnet) to keep her hair from falling into food, equipment, and utensils. (Clean)

16. Ms. Anna should use a separate, clean spoon to taste the mashed potatoes. The same spoon that is being used to mix the mashed potatoes should not be used for tasting. (Clean, Separate)

17. See answer for #2.

18. Ms. Maria and Ms. Anna should assist children with washing their hands before they sit down for lunch. (Clean)

19. See answer for #15.

20. The same sponge used to wipe countertops should not be used to wash the cutting board or dishes. Instead of using a sponge, Ms. Maria could use clean towels or single-use paper towels to wipe the counters and tables. If using a sponge to clean, she should sanitize it between uses to kill germs. Sponges should be sanitized often. (Clean)

21. Ms. Maria should wash her hands instead of wiping them on her apron. (Clean)

22. See answer for #20.

23. The cutting board should be washed in hot, soapy water, instead of in cold water. (Clean)

24. Ms. Anna should throw away the fruit salad. The fruit salad should have been put in the refrigerator promptly after lunch, within 2 hours of preparation. (Chill)
Pre/Post-Assessment

INSTRUCTIONS: Place an identifier, such as a letter or a number on the top right corner of the page. Read each question and all of the possible answers. Then circle the best answer.

1. People at higher risk of getting a foodborne illness include:
   a. young people.
   b. seniors.
   c. individuals with compromised immune systems.
   d. All of the above.

2. The food safety Danger Zone is:
   a. 40°F and 165°F.
   b. 32°F and 140°F.
   c. 50°F and 150°F.
   d. 40°F and 140°F.

3. Each year in the United States, _______ get sick from foodborne illness.
   a. 16 million
   b. 48 million
   c. 63 million
   d. 82 million

4. The four steps of food safety are:
   a. clean, separate, cook, and chill.
   b. clean, sanitize, store and refrigerate.
   c. wash, sanitize, store, and chill.
   d. separate, store, sanitize, and save.

5. Pathogens need all of the following to grow EXCEPT:
   a. food.
   b. temperature between 40°F and 140°F.
   c. high acidity.
   d. moisture
Answers to the Pre/Post-Assessment

**Instructor’s Note:** The correct answers are underlined below.

**INSTRUCTIONS:** Place an identifier, such as a letter or a number on the top right corner of the page. Read each question and all of the possible answers. Then circle the best answer.

1. People at higher risk of getting a foodborne illness include:
   a. young people.
   b. seniors.
   c. individuals with compromised immune systems.
   d. All of the above.

2. The food safety Danger Zone is:
   a. 40°F and 165°F.
   b. 32°F and 140°F.
   c. 50°F and 150°F.
   d. **40°F and 140°F.**

3. Each year in the United States, ______ get sick from foodborne illness.
   a. 16 million
   b. **48 million**
   c. 63 million
   d. 82 million

4. The four steps of food safety are:
   a. **clean, separate, cook, and chill.**
   b. clean, sanitize, store and refrigerate.
   c. wash, sanitize, store, and chill.
   d. separate, store, sanitize, and save.

5. Pathogens need all of the following to grow EXCEPT:
   a. food.
   b. temperature between 40°F and 140°F.
   c. **high acidity.**
   d. moisture