

# Keep Food Safe: Control Food Temperature

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**CACFP iTrain  
Simple Lesson Plan**

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# Keep Foods Safe: Control Food Temperature

## CACFP iTrain Simple Lesson Plan

**EXECUTIVE DIRECTOR**  
Aleshia Hall-Campbell, PhD. MPH



**Intended Audience:** CACFP personnel and other child care staff

**Description:** This lesson explains the importance of handling foods safely by keeping them out of the temperature danger zone.

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## Institute of Child Nutrition The University of Mississippi

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## Contributing Content Specialists

Danielle Barrett, EdD, RD  
ICN ET Specialist

Lutina Cochran, MS, PDS  
Assistant Director of Education

L. Janae Owens, MS, CHES  
ICN ET Specialist

## Lesson-at-a-Glance

Time	Topic	Activity	Materials
<b>Introduction</b>			
5 minutes	▶ Introduction and Overview		▶ PowerPoint Presentation ▶ Computer ▶ Projector (if available) ▶ Pens or Pencils
<b>Objective:</b> Define the temperature danger zone.			
15 minutes	▶ Temperature Danger Zone ▶ Flow of Food ▶ Buying Groceries ▶ Cooking	▶ Temperature Danger Zone: "Keep Foods Out"	▶ Fact Sheet: Temperature Danger Zone ▶ Poster: Temperature Danger Zone ▶ Worksheet: Temperature Danger Zone: "Keep Foods Out" ▶ Answer Key: Temperature Danger Zone: "Keep Foods Out"
<b>Conclusion</b>			
10 minutes	▶ Lesson Summary ▶ Training Evaluation	▶ Speed Action Planning ▶ Training Evaluation (Optional)	▶ Worksheet: Speed Action Planning ▶ Optional: Training Evaluation & Training Certificate
<b>Total Time: 30 minutes</b>			

## References

Institute of Child Nutrition. (2015). *Food safety in schools*. University, MS: Author.

Institute of Child Nutrition. (2016). *HACCP-based standard operating procedures*. <https://theicn.org/icn-resources-a-z/standard-operating-procedures/>

Institute of Child Nutrition. (2019). *Food safety in child care*. <https://theicn.org/icn-resources-a-z/food-safety-in-child-care/>

National Restaurant Association Educational Foundation. (2012). *ServSafe receiving criteria (7th ed)*. [http://elearning.servsafe.com/Content/SSMCT6/assets/en/pdf/Receiving\\_Criteria.pdf](http://elearning.servsafe.com/Content/SSMCT6/assets/en/pdf/Receiving_Criteria.pdf)

U.S. Department of Agriculture, Food Safety and Inspection Service. (2015, March). *Kitchen companion: Your safe food handbook*. [https://www.fsis.usda.gov/sites/default/files/media\\_file/2020-12/Kitchen-Companion.pdf](https://www.fsis.usda.gov/sites/default/files/media_file/2020-12/Kitchen-Companion.pdf)

U.S. Department of Agriculture, Food Safety and Inspection Service. (2013). *Fighting BAC!® by chilling out*. [https://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/safe-food-handling/fighting-bac-by-chilling-out/ct\\_index](https://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/safe-food-handling/fighting-bac-by-chilling-out/ct_index)

U.S. Department of Health & Human Services. Foodsafety.gov. (2014) *Safe minimum cooking temperatures*. <http://www.foodsafety.gov/keep/charts/mintemp.html>

## Internet Resources

► Institute of Child Nutrition: [www.theicn.org](http://www.theicn.org)

► USDA's Team Nutrition: [www.fns.usda.gov/tn](http://www.fns.usda.gov/tn)

## Preparation Checklist

**Instructions:** Use the Preparation Checklist to prepare for the training session. Keep track of your progress by checking off tasks as they are completed.

Done	Lesson Tasks
<input checked="" type="checkbox"/>	
<b>Gather Materials</b>	
<input type="checkbox"/>	► Training Script
<input type="checkbox"/>	► Computer and Projector Screen
<input type="checkbox"/>	► Worksheets and Handouts: <ul style="list-style-type: none"> <li>• Temperature Danger Zone Fact Sheet</li> <li>• Temperature Danger Zone poster</li> <li>• Temperature Danger Zone: "Keep Foods Out" worksheet</li> <li>• Temperature Danger Zone: "Keep Foods Out" Answer Key</li> </ul>
<input type="checkbox"/>	► Pens or pencils (one per participant)
<input type="checkbox"/>	► Optional: Training Certificate/Evaluation/Feedback Form (one per participant)
<b>Prepare for Lesson</b>	
<input type="checkbox"/>	<b>Before the training day:</b>
<input type="checkbox"/>	► Review the training script and research any relevant State or local requirements. <ul style="list-style-type: none"> <li>• The content reflects the Federal regulations and/or national best practices or standards. However, it's essential to include any additional State or local requirements when presenting this training.</li> </ul>
<input type="checkbox"/>	► Make enough copies of the handouts for each participant.
<input type="checkbox"/>	► Test the PowerPoint on the computer and projector screen.
<input type="checkbox"/>	► Optional: Develop and print a session certificate/evaluation/feedback form (one per participant)
<input type="checkbox"/>	<b>On the training day:</b>
<input type="checkbox"/>	► Place pens or pencils on tables (one per participant).
<input type="checkbox"/>	► Distribute materials to each participant.
<input type="checkbox"/>	<b>On the instructor's table:</b>
<input type="checkbox"/>	► Training Script
<input type="checkbox"/>	► Instructor's copy of handouts and/or worksheets
<input type="checkbox"/>	► Optional: Session Evaluation/Feedback Forms

## Training Script

**Instructor's Note:** Each section below has an accompanying slide(s). Review and share the content for each PowerPoint slide.

<p><b>Introduction</b></p>
<p><b>Welcome!</b></p> <p>Complete the following tasks:</p> <ul style="list-style-type: none"> <li>▶ Distribute handouts to the participants.</li> <li>▶ Welcome the participants to the training.</li> <li>▶ Introduce yourself to the participants. Allow the participants to introduce themselves by sharing their name and one thing they would like to get from this training.</li> </ul>
<p><b>Temperature Danger Zone</b></p> <p><b>Ask posing question:</b> Within how many hours should food sitting at room temperature be cooled to prevent bacteria growth?</p> <p><b>Feedback:</b> Bacteria will multiply fast enough at room temperature to make someone ill within 4 hours.</p>
<p><b>Overview</b></p> <p><b>Share core content:</b> The purpose of the training is to define the temperature danger zone in handling food. Controlling temperature in storage, cooking, and service limits bacteria growth and prevents food spoilage and foodborne illness. Now, let's explore temperatures that keep food safe.</p>
<p><b>Objective:</b> Define the temperature danger zone.</p>
<p><b>Temperature Danger Zone</b></p> <p><b>Handouts:</b></p> <ul style="list-style-type: none"> <li>▶ Temperature Danger Zone Fact Sheet</li> <li>▶ Temperature Danger Zone poster</li> </ul> <p><b>Share core content:</b> One of the important ways to control microorganisms' growth is by controlling temperature. The temperature danger zone is the temperature range of 40 °F – 140 °F in which bacteria grow rapidly. The Temperature Danger Zone poster is a helpful reminder to use in your kitchens.</p> <p>The USDA Food Safety and Inspection Service (FSIS) has a campaign titled Be Food Safe that uses a temperature danger zone of 40 °F – 140 °F for consumers and family child care homes. The same temperature danger zone is used for the highly susceptible population of young children (birth to five years old).</p> <p>It is important for child care centers and homes to keep food out of the temperature danger zone as much as possible. When it is impossible to keep food out of the temperature danger zone, limit the time food is in the danger zone.</p>

### Flow of Food

**Share core content:** Think about the time food sits out in your kitchen.

- ▶ Is your food delivered on a refrigerated truck, or do you go to the store?
- ▶ Do you drive straight home with your groceries, or do you have other errands?
- ▶ Are groceries put away right away, or do they sit while completing other tasks?
- ▶ Does food sit out while you make food for the entire center, or do you refrigerate part of the hamburgers while cooking the others?

When food is in the temperature danger zone, bacteria multiply at a rapid rate each minute. Remember, the key point is to keep food out of the temperature danger zone as much as possible.

### Buying Groceries

**Share core content:** If groceries are delivered, check that cold foods are cold (below 40 °F) and frozen foods are frozen.

#### Tips Before Buying Groceries:

- ▶ Take along coolers and ice packs to keep food cold while driving home.
- ▶ Clean and organize your refrigerators and freezers before receiving groceries. You want to have enough space in the refrigerator for the cold air to circulate the food.
- ▶ Check the refrigerator temperature as you put food away. It needs to be around 38 °F to keep your food at 40 °F. Freezers should be 0 °F.

### Cooking

**Share core content:** Keep food out of the temperature danger zone during food preparation by only taking foods out of the refrigerator as needed when preparing for a meal. If you are making something cold like tuna sandwiches, chill all your ingredients the night before. If you are making something hot like chicken nuggets, keep them frozen before cooking.

Cook food to the appropriate internal temperature. For example:

- ▶ Hamburgers need to be cooked to 160 °F.
- ▶ Chicken needs to be cooked to 165 °F.

Always check and record the food temperature at the end of cooking. If it is not hot enough, allow all food to cook until it has reached the appropriate temperature.

### Holding and Serving

**Share core content:** If food is not served right away, keep hot food at 140 °F or above and cold food at 40 °F or less. Food transported to a classroom or eating area should be kept below 40 °F or above 140 °F.

**Cooling and Reheating**

**Share core content:** The possibility of bacterial growth is the greatest when food cools because the temperature drop allows bacteria to thrive. Be sure to cool foods as quickly as possible. Breaking food into small batches, using shallow pans, or ice bathing are tips for cooling food quickly.

Reheat leftover foods to 165 °F within 2 hours.

Limit the overall time food is between 40 °F and 140 °F. Food should not be in the danger zone for more than 4 hours: each minute at each step of food handling allows bacteria to multiply.

**Activity: Temperature Danger Zone: “Keep Foods Out”****Time: 10 minutes**

- ▶ **Purpose:** This activity reviews the temperature danger zone and applies the knowledge learned by listing how to keep cold foods cold and hot foods hot.
- ▶ **Materials Needed:** Temperature Danger Zone worksheet, Temperature Danger Zone poster
- ▶ **Instructions:** Review and discuss the Temperature Danger Zone poster with the participants. Instruct participants to list ideas to keep cold food below 40 °F and hot food above 140 °F on the Temperature Danger Zone worksheet.

**Discussion Activity:** Discuss the importance of the temperature danger zone.

- ▶ Bacteria multiply in the temperature danger zone.
- ▶ Minimize the time that food is in the temperature danger zone.

**Ask posing question:** What are some ways to keep food out of the temperature danger zone?

**Feedback:** Reference answers from the Temperature Danger Zone Activity Answer Key.

**Conclusion****Lesson Conclusion**

**Share core content:** Bacteria multiply quickly at room temperature and can give children food poisoning! Keeping food below 40 °F or above 140 °F slows the growth of the bacteria. Throughout every step of handling food, keep food temperatures out of the temperature danger zone.

**Ask posing question:** Are there any questions about keeping food out of the temperature danger zone?

**Activity: Speed Action Planning****Time: 5 minutes**

- ▶ **Purpose:** This purpose of this activity is to establish future steps for applying the information in their workplace.
- ▶ **Materials Needed:** Speed Action Planning worksheet, Planner or Cell Phone Calendar App, and Pencil/Pen
- ▶ **Instructions:** Distribute the Speed Action worksheet. Inform participants that it is important to develop a plan for using the training’s information. Ask them to take 1–2 minutes to answer the following three questions to establish an action plan.
  - What did you learn in this training?
  - How will you apply this information in your current or future role?
  - When will you apply this information?

Once participants have finished, encourage them to save this goal to a planner, calendar app, or other sources to ensure they follow through with their plan. Following this activity, dismiss participants from the training.

**Thank You!**

Complete the following tasks:

- ▶ Conclude the training.
- ▶ Refer participants to the Institute of Child Nutrition for additional information at [helpdesk@theicn.org](mailto:helpdesk@theicn.org) or 800-321-3054.
- ▶ Distribute any certificates or evaluations.



## Temperature Danger Zone

### Introduction

The temperature danger zone is the temperature range in which microorganisms grow quickly and sometimes reach levels that can make people ill. Child care employees must maintain appropriate temperatures throughout the food process, from receiving until the food is served to children. Temperature control is a key component of a child care food safety program.

### Here Are the Facts

Food Safety Inspection Service (FSIS) identifies the temperature danger zone as 40 °F – 140 °F. The saying “Keep hot foods hot and cold foods cold” is based on the importance of keeping food out of the temperature danger zone. In other words, cold foods must be kept at 40 °F or below, and hot foods must be kept at 140 °F or above. It is important to limit the amount of time that foods served cold or hot are in the range of 40 °F – 140 °F.

### Application

- ▶ Cook, hold, serve, and chill foods at proper temperatures.
- ▶ Use a clean, sanitized, and calibrated thermometer to take food temperatures.
- ▶ Record temperatures.
- ▶ Maintain temperature logs.

### Maintain temperatures at each operational step in the flow of food from receiving to storing.

**Receiving:** Receive refrigerated foods at 40 °F or below and frozen foods at 32 °F or below.

**Storing:** Store refrigerated foods at 40 °F or below and store frozen foods at 0 °F or below.

**Preparing:** Limit the time that food is in the temperature danger zone during preparation. Batch cooking is the best way to limit time.

**Cooking:** Cook food to the appropriate internal temperature for that item.

**Holding:** Hold cold foods at 40 °F or below and hot foods at 140 °F or above.

**Serving:** Serve cold food cold and hot food hot. Keep cold food below 40 °F and hot food above 140 °F.

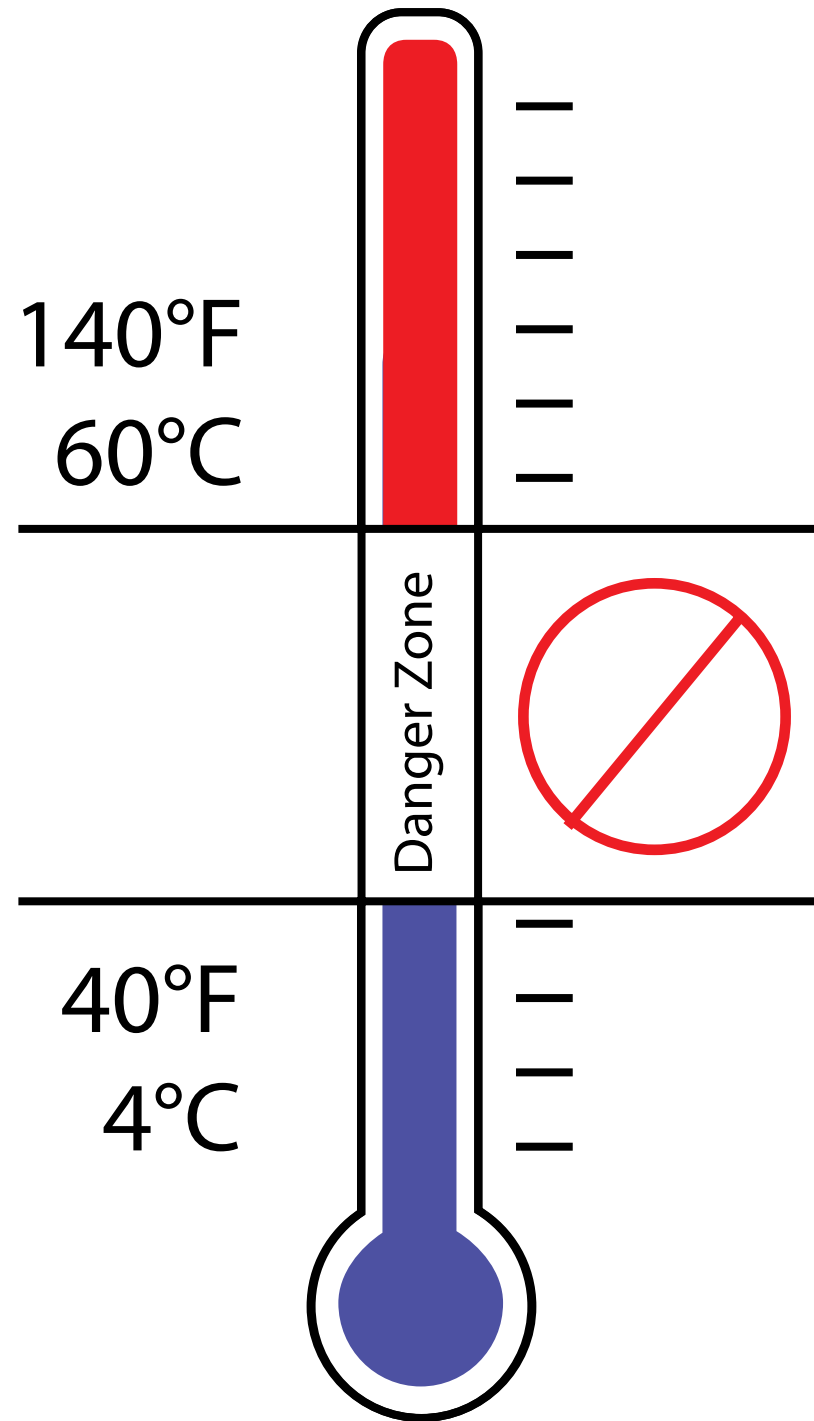
**Cooling:** Cool foods as quickly as possible. FSIS guidelines require that foods are cooled from 140 °F – 70 °F within 2 hours and from 70 °F – 40 °F within an additional 4 hours. This is a total of 6 hours. If food is not cooled from 140 °F – 70 °F within 2 hours, the food must be reheated to 165 °F for 15 seconds, and the cooling process started over. Take actions to speed the cooling process such as dividing food into smaller portions, using ice water baths, using an ice paddle, and stirring.

- ▶ **Reheating:** Reheat all leftover foods to 165 °F for 15 seconds within 2 hours.
- ▶ **Transporting:** Transport cold foods cold at 40 °F or below, and hot foods hot at 140 °F or above.

**Remember, follow State or local health department requirements.**



### Activity: Temperature Danger Zone "Keep Foods Out"



### Activity: Temperature Danger Zone "Keep Foods Out"

**Instructions:** Using the columns below, list ideas to keep cold food below 40 °F and hot food above 140 °F.

40 °F or below	140 °F or above
<p>▶ Receive refrigerated foods at 40 °F or below</p>	<p>▶ Cook food to appropriate temperatures</p>

## Activity: Temperature Danger Zone “Keep Foods Out” Answer Key

<b>Instructions:</b> Using the columns below, list ideas to keep cold food below 40 °F and hot food above 140 °F.	
<b>40 °F or below</b>	<b>140 °F or above</b>
<ul style="list-style-type: none"> <li>▶ Receive refrigerated foods at 40 °F or below</li> <li>▶ Maintain refrigerator temperatures at 40 °F or below</li> <li>▶ Maintain milk coolers at 40 °F or below</li> <li>▶ Prepare salads, deli sandwiches, and other foods in batches</li> <li>▶ Serve cold food at 40 °F or below</li> <li>▶ Store cold foods appropriately for service:                             <ul style="list-style-type: none"> <li>• Refrigerators</li> <li>• Milk coolers</li> <li>• Ice around food</li> <li>• Ice packs</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▶ Cook food to appropriate temperatures</li> <li>▶ Cook food in batches near serving time</li> <li>▶ Hold food in holding cabinets or insulated containers at 140 °F or above</li> <li>▶ Serve food from heated serving lines, and maintain the proper internal temperature throughout the serving time</li> </ul>

## Speed Action Planning

**Instructions:** Today’s training featured key information on keeping foods out of the temperature danger zone. Answer the following three questions to establish a plan for using the information.

**1. What did you learn in this training?**

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**2. How will you apply this information in your current or future roles?**

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**3. When will you apply this information (e.g., one week, one month, six months, etc.)?**

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School of Applied Sciences  
800-321-3054  
[www.theicn.org](http://www.theicn.org)