

# Save Time Microwave It!

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## Lesson Goal:

Participants will learn how to use their microwave oven to safely prepare foods for their family and friends.

## Lesson Objectives:

As a result of this lesson, participants will be able to:

- Determine the wattage of their microwave oven.
- Determine hot spots in their microwave oven.
- Follow package instructions to safely cook food in their microwave oven.
- Select containers safe to use in their microwave oven.
- Properly clean their microwave oven.

## Program Materials:

Available at:

[www.extension.unl.edu/communityprograms](http://www.extension.unl.edu/communityprograms)

- Participant's Guide: *Microwave It!* (HEF611)
  - Microwavable Recipes handout
  - Program evaluation form

OR

- Interactive Participant's Guide

This is an online publication that contains all the materials needed for this lesson plus links to more information, videos, and other interactive features. You will need a computer and screen or projector, or each participant will need a computer on which to view it (<http://www.ianrpubs.unl.edu/sendIt/hef610.htm>).

## Before the Meeting:

Read the Leader's Guide and Participant's Guide with handouts. Decide which activities to use for the program, and gather supplies and equipment. You may want to have access to a microwave oven for your meeting.

## At the Meeting:

Need a quick meal? Most kitchens have a microwave oven that may be underutilized. When used properly, microwave ovens can help you prepare quick, easy, and *safe* meals.

Recently, several foodborne illness outbreaks occurred from improperly cooked commercial foods that were designed for microwaves. This lesson will include information on how to safely prepare foods in a microwave oven and safely use your microwave to avoid damaging it.



How does a microwave oven heat your food? Microwaves cook food by using a magnetron to convert electric power to very short radio waves of about 2,450 megahertz. At this frequency, water, fats, and sugars absorb the waves and vibrate very fast to create high temperatures that cook the food.

### Activity 1: Know the Wattage

#### Materials needed:

- 2-cup glass measuring cup
- Cold water and ice

To determine the wattage of a microwave oven, measure 1 cup of water into a 2-cup glass measuring cup. Make sure the water is cold; add ice if needed. Set the microwave on high for 4 minutes and watch the water through the window to see when it boils.

- If water boils in less than 2 minutes, it is a very high wattage oven — 1,000 watts or more.
- If water boils in 2½ minutes, it is a high wattage oven — about 800 watts or more.
- If water boils in 3 minutes, it is an average wattage oven — 650 to 700 watts or more
- If water boils in more than 3 minutes, it is a slow oven — 300 to 500 watts.

Discuss why it is important to know the wattage. If you know the wattage, you will be able to use the package and recipe directions appropriately. Your food will be cooked safely in the microwave oven.

### Activity 2: Find Your Microwave's Hot Spots

#### Materials needed:

- One glass plate that fits into the microwave oven
- Miniature marshmallows

To find hot spots in a microwave oven, place miniature marshmallows on a glass plate. Use a microwavable, flat plate or turn the turntable inside the microwave upside down so it won't rotate, and place marshmallows on it. (**Tip:** Line the plate with parchment or wax paper to make cleanup a breeze.) Line the plate with miniature marshmallows, and place the plate in the microwave oven. Set the timer for 1 minute, but **watch carefully and stop microwaving if the marshmallows begin to burn.** Watch through the glass window for the marshmallows to heat and expand. The marshmallows that expand first reveal the hot spots.

Discuss ways to prevent uneven heating in your microwave oven. (These are listed in the Participant Guide.)

### Activity 3: Follow Package Instructions

#### Materials needed:

- Collect package instructions from commercial food items that provide directions for use in a microwave oven.

Prior to the meeting, gather a variety of packages of commercial foods that can be prepared in a microwave oven. Have participants locate the following information on the labels:

- Different cooking instructions for different wattage microwave ovens
- Power level to use to cook the foods
- Time needed to cook foods
- Temperature foods need to reach to indicate they're safe to eat
- Standing time

Discuss the differences between the information found on packages and why these instructions are important to the safety of the food.

To learn more about thermometer use, refer to community lesson HEF587 "Bite When the Temperature is Right," [www.extension.unl.edu/communityprograms](http://www.extension.unl.edu/communityprograms).

### Activity 4: Which Container is Safe?

#### Materials needed:

- A variety of containers, both safe and unsafe, for use in a microwave oven.
- Sets of two index cards. Label one card "Safe" and the other card "Unsafe." Create one set for each participant.

Provide each participant two index cards, one labeled "safe" and the other labeled "unsafe". As you hold up each container, ask participants to hold up the appropriate index card. If there is disagreement, discuss why that item is safe or unsafe.

### Activity 5: Clean that Oven!

#### Materials needed:

- See Participant Guide

Demonstrate one of the techniques described in the Participant Guide that may be unfamiliar to participants.

### Activity 6:

View the related videos in the Microwave It! Zmag (<http://www.ianrpubs.unl.edu/sendIt/hef610.htm>).

### Activity 7:

Prepare and serve one of the recipes from the Microwaveable Recipes handout.

### After the Meeting/Evaluation

Before participants leave, ask each one to fill out the evaluation form. Mail it to the address found at the bottom of the form.