

Presto Meals

Level D



Microwave Project Youth Activity Guide

Name _____ County _____

Purdue University Cooperative Extension Service • West Lafayette, Indiana



REVIEWED & RECOMMENDED
National 4-H Curriculum

Note to Project Helper

Congratulations, a young person has asked you to be his or her helper. Your role as a helper is very important to the total educational experience of the young person. Not only will you be providing encouragement and recognition, you will also be the key person with whom the young person shares each of the experiences outlined in this activity guide.

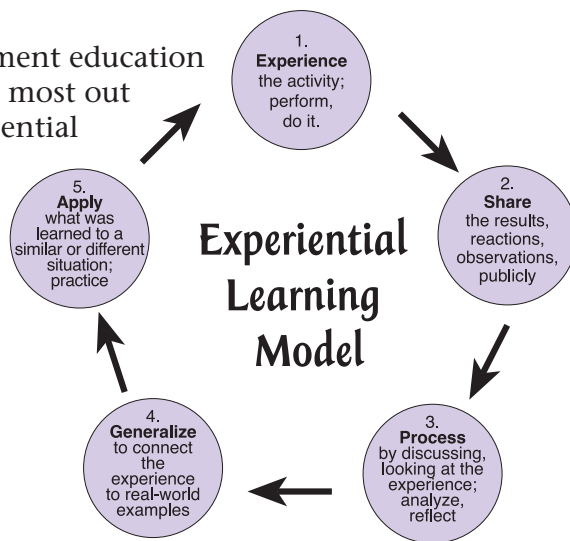
The “Microwave Magic” curriculum series is full of exciting hands-on activities that focus on using the microwave to prepare everything from simple snacks to complete meals. The curriculum is designed around four major categories: techniques and equipment, healthy food selection, food preparation, and meal time magic.

A total of five pieces are available in the “Microwave Magic” curriculum series. The four activity guides – *Bag of Tricks*, *Micro Magicians*, *Amazing Rays*, and *Presto Meals* – have been designed to be developmentally appropriate for grades 3-4, 5-6, 7-9, 10-12 respectively, but may be used by youth in any grade based on their project skills and expertise. The fifth piece, the *Project Helper Guide*, has been designed to provide you with some additional background information and some tips on helping youth through the activities in their guide.

The Experiential Learning Model

Experiential learning distinguishes 4-H youth-development education from many formal educational methods. Youth get the most out of each experience and activity by following the experiential model's five steps.

1. Youth “learn by doing” an activity. (Experience)
2. They share their experience and reactions. (Share)
3. They discuss or reflect on what they did. (Process)
4. Youth relate skills they practiced to everyday situations. (Generalize)
5. They apply their experience to other real-world situations. (Apply)



Project helpers guide youth as they explore an activity. Questions at the end of each activity help students reflect on the experience.

Pfeiffer, J.W., & Jones, J.E., “Reference Guide to Handbooks and Annuals” © 1983 John Wiley & Sons, Inc. Reprinted with permission of John Wiley & Sons, Inc.

Acknowledgments:

“Presto Meals” was written by Susan Barkman and Meredith Page, Purdue University, along with a curriculum design team comprised of Foods and Nutrition specialists Bill Evers and Charles Santerre and Extension Educators Nancy King, Anne Wilcox, Joanne Lytton, Peg Ehlers, Dianne Roell Paris, and Barbara Bowman, and volunteers Cara Gibson, Lyneen Burrow, Ruth Palmer, Linda Jones, and Deanna Engleking. Subject matter editor, Virginia Services.

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Important

Microwave oven cooking times vary based on the output wattage of the microwave oven. You should always check the item(s) being cooked when the recommended minimum cooking time has been reached. You can add additional cooking time, if needed.

When a word that is listed in the Glossary first appears in the text, the word is in *italic* type and is underlined.

Having Fun with Microwave Magic!

Are you ready?

Are you ready to do hands-on activities and use the microwave oven to prepare simple snacks and complete meals? That's what "Microwave Magic" is all about. You'll have fun learning about the microwave and using it to make lots of foods.

Your project manual is divided into four "bites": *Tricks of the trade*, *Once you swallow*, *Kitchen magic*, and *Magnificent meals*. Use the achievement sheet to plan your activities. After completing an activity, write the date completed and have your project helper initial it.

Your project helper

Your project helper is an important part of your experience in the Microwave project. This person may be your project leader or advisor, a neighbor, a family member, a friend, or anyone who has the interest to work with you to complete your activities. You need to involve your helper as you work with each activity and answer the questions. They are there to give you support and help you be successful. Write the name and phone number of your project helper here:

My project helper _____

Phone _____ E-mail _____

Action demonstrations

An action demonstration is a fun way to share what you have learned with others. The key is getting your audience involved in doing what you are doing, not just showing them. An action demo can be given anywhere there are a lot of people, like a county or state fair or a shopping mall.

An action demo can be on almost any topic. Here are some questions to ask yourself when choosing a topic.





- Is it something that can be done in 3 to 5 minutes?
- Is it something that would interest the general public?
- Is there something "hands-on" for the audience to do?
- Can the supplies for the "hands-on" activity be used over and over again or will they have to be replaced every time? (Note: If they have to be replaced, this will add to the cost.)

Your demonstration should last about 3 to 5 minutes and you need to be able to do it over and over again with many different people. There is no prepared speech in an action demo, it is a two-way conversation. Your goal is to involve the audience, and you can do this by having them:

- Do what you are doing
- Play a game.
- Answer questions.
- Do a hands-on activity.

"Presto Meals" Achievement Sheet

Each year, you should complete a minimum of three activities, each from a different "bite" category. Within the three-year project period, you should have completed at least nine activities and at least one activity from each of the four "bite" categories. Write the month, day, and year beside each of the activities you completed. Get your project helper to initial that you have discussed the activity with them. In addition, you may choose to do an action demonstration at the club/school or county level.

	Date Completed Month/Day/Year	Helper Initial		Date Completed Month/Day/Year	Helper Initial
 Tricks of the trade 1a Large and in charge ___/___/___ ____ 1b Cooking a whole chicken ___/___/___ ____ 1c Comparison shopping ___/___/___ ____			 Kitchen magic 3a Microwavable cake ___/___/___ ____ 3b Jellies and jams ___/___/___ ____ 3c Making a cherry pie ___/___/___ ____		
 Once you swallow 2a Chocolate cake ___/___/___ ____ 2b Sugarless carrot cake ___/___/___ ____ 2c Make it your own ___/___/___ ____			 Magnificent meals 4a Breakfast time ___/___/___ ____ 4b Lunch time ___/___/___ ____ 4c Dinner is served ___/___/___ ____		

Did you do an action demonstration? ☐ Yes ☐ No Location _____

Title of action demonstration given _____

Name _____ Grade _____

Club/School _____

I certify that this youth has completed all requirements for Level D of the "Microwave Magic" project.

Project helper's signature _____ Date _____

Tricks of the trade

Introduction

When is it done?

While some microwaved foods may look different than they would if they were conventionally cooked, many of the tests for doneness are similar.

- Cakes – Sides will pull away from the pan but the top will not be brown. The top may also have moist spots on the surface that will dry during standing time. When inserting a toothpick to test for doneness, avoid the moist spots.
- Meat – It is done when it is fork tender. Use a meat probe or thermometer to test the temperature.
- Poultry – The legs should move freely and juices should run clear. Test with a meat probe or thermometer.

Probes and microwave thermometers

Both probes and microwave thermometers will measure the internal temperature of food. Insert them as you would a conventional meat thermometer.

- Meat – Insert into the center of the thickest part of meat. Do not allow it to touch bone, fat, or gristle.
- Poultry – Insert into the thickest part of the breast and the thigh area. Do not allow it to touch bone, fat, or gristle.

A probe shuts the oven off automatically when it reaches a pre-set temperature. Because of the fat pockets in poultry, you may not get an accurate reading with a probe and the probe may shut the oven off before the poultry is cooked.

Some tips to remember:

- Always allow standing time, which completes the cooking, before checking the internal temperature with a food thermometer.
- Be sure to wash temperature probes and thermometers with hot soapy water before and after each use.
- Do not use conventional meat or candy thermometers in the microwave oven. They can be used to check temperatures outside of the microwave oven. Only microwave thermometers can be used during cooking in a microwave.

U.S. Department of Agriculture recommended internal temperatures:

- Beef and veal: steaks, roasts – 145°F for medium rare; 160°F for medium
- Pork chops, ribs, and roasts – 160°F
- Ground beef and pork – 160°F
- Ground turkey and chicken – 165°F
- Stuffing and casseroles – 165°F
- Leftovers – 165°F
- Chicken breasts – 170°F
- Chicken and turkey: whole, legs, thighs, wings – 180°F

Standing time

Standing time is a part of the cooking process. It completes the cooking, tenderizes the food, and allows for easier cutting and serving.

Many times foods are still cooking even after they are removed from the microwave. This happens because the molecules in the food continue to rub and vibrate. Recipes will instruct you to let your food stand for a certain time after removing from the microwave. Standing time prevents foods from overcooking and allows the heat to move to the center of the dish. This helps the food to be more evenly cooked.

When cooking foods such as eggs, meats, custards, bread, and any baked items, let them stand after removing them from the microwave. Standing time is not necessary for vegetables, fruits, soups, and sauces.

NOTE: Meat temperatures may rise 5°F to 10°F during standing time. Plus, roasts will be easier to carve after standing. Remember to check the internal temperature *after* the standing time and verify that it has reached the level in the USDA guidelines.

Holding Time

Holding time is the length of time that food will retain its heat after cooking time and standing time are completed.

- Wrap large, whole vegetables in plastic or foil.
- Cover meats loosely with a foil *tent*. Tightly wrapping meats will cause them to acquire a steamed taste.
- Meats that are cooked in a plastic bag or tightly covered dish should be left covered.

Holding times

Long Holding Time: 20 to 45 minutes

Baked beans, dish tightly wrapped
Cauliflower, whole, dish tightly wrapped
Corn on the cob, in husk, tightly wrapped individually
Ham, tented
Potatoes, baked, individually wrapped
Potatoes, scalloped, dish tightly wrapped
Roasts, beef, not well done, 4 pounds or more, tented
Sweet potatoes, whole, individually wrapped
Turkey, tented
Winter squash casserole, dish tightly wrapped

Medium Holding Time: 10 to 20 minutes

Broccoli, dish tightly wrapped
Carrots, whole, dish tightly wrapped
Casseroles, dish tightly wrapped
Cauliflowerettes, dish tightly wrapped
Chicken, tented
Corn on the cob, in husk or husked, loosely wrapped individually
Ham slice, 1 inch or thicker, dish tightly wrapped
Meatloaf, tightly wrapped
Potatoes, mashed, dish tightly wrapped
Rice, fluffed with fork, dish tightly wrapped
Roasts, 2 to 4 pounds, tented
Winter squash, individually wrapped

Short Holding Time: 5 to 10 minutes

Beans, green or wax, dish tightly wrapped
Carrots, sliced, dish tightly wrapped
Chops, dish tightly wrapped or stacked and wrapped
Corn, whole kernel, tightly wrapped
Fish fillets, dish tightly wrapped or stacked and wrapped
Hamburgers, dish tightly wrapped or stacked and wrapped
Mushrooms, dish tightly wrapped
Peas, dish tightly wrapped

1a. Large and in charge

Project skill
Cooking for large groups

Life skill
Completing a task

Pot roast ingredients

- 2- to 3½-lb. boneless chuck roast

Sauce

- ¼ cup tomato paste
- ½ cup water
- 1 Tablespoon instant beef bouillon granules
- ½ teaspoon thyme
- ½ teaspoon salt
- 1 bay leaf

Vegetables

- 4 medium carrots cut in 1" lengths (2 cups) [halve thick carrots lengthwise before slicing]
- 1 medium onion, cut in eighths
- 1 large potato, cut in half-inch cubes (1½ cups)

Supplies

- deep casserole dish
- cooking bag
- measuring cups & spoons
- spoon
- cutting board and knife

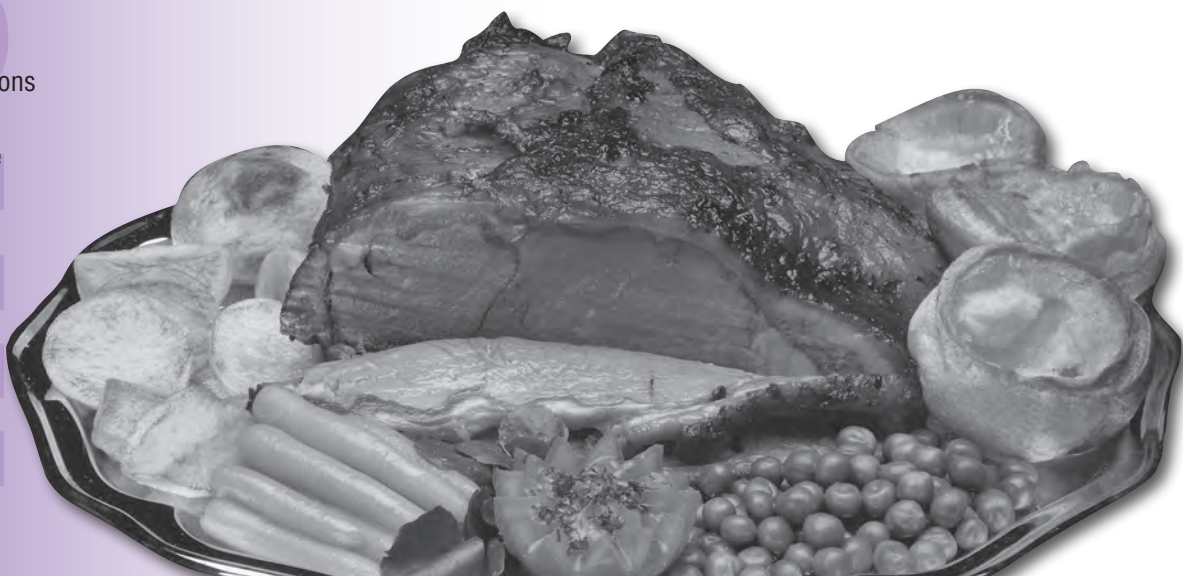
Cooking for a large group or family can be difficult and time-consuming. You can cook a pot roast with vegetables in the microwave, then use the standing time of 20 to 30 minutes to assemble the rest of the meal.

Pot roasts can be successfully tenderized during microwaving by using the following techniques:

- Liquid will provide additional moisture when cooking.
- A cooking bag will hold in the steam.
- Use a Medium power setting (50%) to allow the meat to cook slower and absorb the flavors. This also allows heat to reach the center without overcooking outer areas.
- Allow a standing time of 20 to 30 minutes to complete the tenderizing.

Let's get that pot roast in the oven!

1. Puncture the meat with a fork on all sides. This allows flavoring and moisture to reach the interior.
2. Place your roast in the cooking bag and then in a casserole dish.
3. Combine the sauce ingredients. Pour the sauce over the roast.
4. Close the cooking bag by gathering the ends together. Tie loosely with the tie that came with the cooking bag or a plastic strip cut from the cooking bag. Leave a small space for steam to escape. Tuck the end of the bag inside the dish.
5. Microwave on Medium (50%) for 13 to 15 minutes per pound.
6. Turn roast over. Open the bag carefully to avoid the steam.
7. Add vegetables to the bag and re-tie. Microwave for an additional 13 to 15 minutes per pound. Let stand in the closed bag for 20 to 25 minutes.



Micro Talk

1. Was your roast moist or tough?

2. What was the easiest part about using your microwave to make a roast?

3. List the similarities and differences between your microwaved roast and any other roast you have had before.

Similarities	Differences

4. Name other foods you might prepare in the microwave that would also require standing time to complete the cooking process.

Oven cooking bags

Oven cooking bags help to hold in flavors. Plus, since the juices circulate within the bag, there is no need to baste.

Tips for using cooking bags:

- Shake 1 tablespoon of flour in an oven bag before cooking. The flour will blend the fat and juices and help to protect against bursting. Add more than one tablespoon of flour for recipes with thickened sauces or gravies.
- Do not slash the cooking bag to vent. You will turn the cooking bag over during cooking, and juices may escape.
- Tie the cooking bag shut with the tie that came with the cooking bag or a half-inch strip cut from the open end of the bag. Do not use plastic trash bag ties – they will melt! Do not use plastic- or paper-covered wire ties – they can cause arcing and might even create a fire.



Try a roast with gravy. Use a 2½- to 3-lb. eye of round roast. Place a third of a can of undiluted cream of mushroom soup in the bottom of the cooking bag. Add the roast. Sprinkle 1 envelop of onion and mushroom soup mix on top of the roast. Cover with the remaining soup from the can. Cook per directions for the pot roast.

1b. Cooking a whole chicken

Project skill
Roasting a chicken

Life skill
Completing a project or task

Lemon herb chicken ingredients

- Whole chicken

Lemon herb marinade

- ¼ cup vegetable oil
- ¼ cup fresh lemon juice
- ½ teaspoon dried oregano leaves
- ¼ teaspoon paprika
- ¼ teaspoon pepper
- ¼ teaspoon salt

Supplies

- small mixing bowl
- measuring cups & spoons
- spoon
- microwavable roasting rack
- microwavable dish
- basting brush
- aluminum foil
- wax paper

Most Americans eat chicken at least once a week. It is an ideal food for microwaving. Chicken cooked in the microwave is tender and juicy. A whole chicken will turn a light golden brown during microwaving. For a richer or darker color, use a browning agent or sauce, such as teriyaki sauce or a barbecue sauce. In this activity, you will try a lemon herb marinade.

1. In a small mixing bowl, combine the ingredients for the lemon herb marinade.
2. Wash the chicken and remove any extra fat. Don't forget to remove the bag of extra pieces from the body cavity. Pat dry. Bend back the wings.
3. Brush marinade on the entire chicken. Place chicken, breast side down, on microwavable roasting rack in microwavable dish. (**NOTE:** The roasting rack raises the chicken so it doesn't sit in its own grease during cooking.) Use aluminum foil to shield the wing tips and leg ends. Cover with wax paper.
4. Microwave on High (100%) for 3 minutes.
5. Microwave on Medium-High (70%) for 4 to 5 minutes per pound.
6. Carefully remove shields. Turn the chicken over. Recover.
7. Cook on Medium-High for another 4 to 5 minutes per pound. **NOTE:** leg bone should move easily and juices should run clear.
8. Let stand for 10 minutes.
9. Check for doneness with a meat thermometer. Insert the thermometer into the thickest part of the breast and the thigh area. Do not allow it to touch bone, fat, or gristle. The chicken is done when the internal temperature of the thickest part of the breast area is 170°F. and the thickest part of the thigh area is 180°F. If it has not reached these temperatures, return to the microwave and cook on Medium-High for 4 or 5 more minutes.



Micro Talk

1. What power levels should be used to cook chicken in the microwave oven?

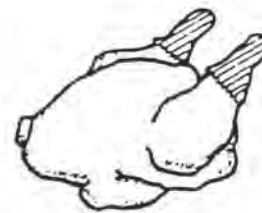
2. How can you check the doneness of poultry?

3. Why is it important to check the endpoint temperature of poultry in more than one location?

4. Shielding is important when cooking whole chicken. Describe other times when shielding would be beneficial.



For a breaded flavoring, combine 1 cup of seasoned dry bread crumbs with 1 teaspoon of paprika. Brush $\frac{1}{3}$ cup of milk onto the chicken skin. Then sprinkle on the breaded flavoring.



Shielding

Unevenly shaped foods, such as poultry, are difficult to cook uniformly in the microwave. To improve this situation, use aluminum foil to shield the thin areas to prevent overcooking. Place small pieces or strips of foil around the ends of roasts and delicate parts of poultry, such as chicken wings and legs. The foil prevents cooking until the bulky parts are nearly done. When foil is removed, all parts will finish cooking together. Foil should never touch the walls of the oven; it may cause damage to them.