

# Microwave Magic

# Helper's 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 mealtime 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 they may be used by youth in any grade based on their project skills and expertise. The fifth piece, the *Project Helper’s Guide*, has been designed to provide you with some additional background and some tips on helping youth through the activities in their guide.

## Acknowledgments:

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## Important

Microwave oven cooking times vary based on the wattage of the microwave oven. You should always check the item(s) being cooked at minimum times recommended and add additional cooking time if needed.

# Experiential Learning

“Learning by doing” is one of the main reasons 4-H has been so widely recognized and respected in the field of informal education. It engages the learner, encouraging him/her to think more, work hard, and ultimately learn more thoroughly than with traditional teaching methods. The “Microwave Magic” curriculum follows a model known as the experiential learning process. Experiential learning is more than just doing activities. It involves discussing the activity, drawing conclusions from the activity, and applying them to the real world.

Activities in the youth manuals are designed to help the 4-H'er work through the entire experiential learning process as they do the activity and record their answers.

## How It Works

### Do

1. *Experience*—Begin with a concrete experience. This can be an individual or group activity that involves “doing something.”

### Reflect

2. *Share*—Next, get the group or individual to talk about what they experienced when they were doing the activity. Share reactions and observations. Talk freely.

### Sharing questions:

- What did you do?
- What happened?
- How did you feel to....?
- What was the most difficult? Easiest?

3. *Process*—Discuss how questions are created by the activity.

Processing questions (use information generated from sharing questions):

- What problems or issues seemed to occur again and again?
- What similar experience(s) have you had?

### Apply

4. *Generalize*—Find general trends or common lessons in the experience. Identify the important points that apply to the “real world.”

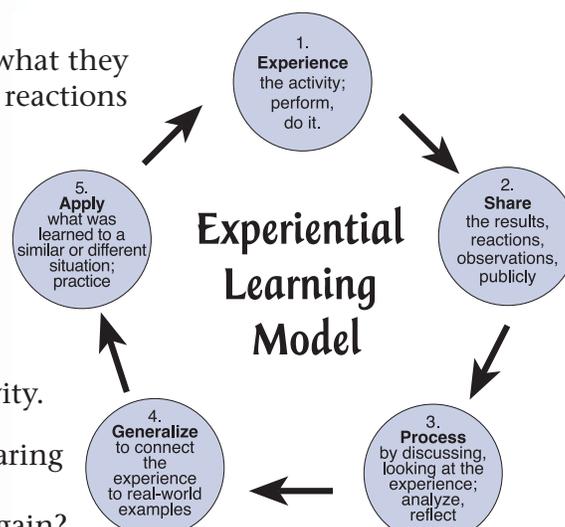
### Generalizing questions:

- What did you learn about yourself through this activity?
- What did you learn about making decisions (or other life skills)?
- How do the major themes or ideas relate to real life and not just the activity?
- How did you go about making your decisions?

5. *Apply*—Talk about how the new information can be applied to everyday life or at some time in the future.

### Applying questions:

- How can you apply what you learned to a new situation?
- How will the issues raised by this activity be useful in the future?
- How will you act differently in the future as a result of this activity?



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.

# Youth Learning Characteristics

Below you will find a list of characteristics that are common to children in four age levels. Please remember, however, that children develop at their own pace, and all characteristics will not be observed in all children at the same age. You should find this outline helpful as you work with youth of different ages. (Adapted from **Ages and Stages of Child and Youth Development** [NCR-292] by Judith Myers-Walls, associate professor, Child Development and Family Studies, Purdue University.)

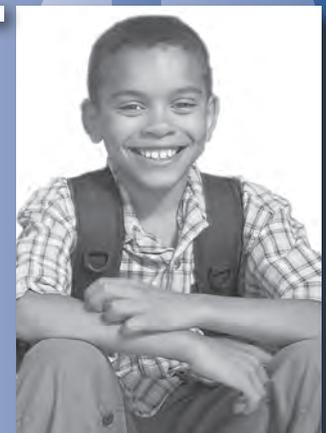
## 9-11 Years Old

- Are active, full of energy, and anything but quiet. Activities should encourage physical involvement.
- May often change interests, jumping from one thing to another. Activities divided into small pieces or steps work best.
- Are fairly concrete thinkers and tend to be more attentive if they have an opportunity for hands-on learning (seeing and doing, rather than just listening).
- Are just beginning to think logically and symbolically and are beginning to understand abstract ideas. As they consider an idea, they think it is either right or wrong, fun or boring (there is very little middle ground).
- Look for adult approval and have a strong need to feel accepted and worthwhile. Adults should provide lots of encouragement and recognize even small successes.
- Prefer individual evaluation to group competition. Instead of comparing success with others, youngsters prefer to know how much they have improved and what they should do to be better next time. They are easily embarrassed about doing either better or worse than their friend.
- Are beginning to move out of the stage in which the satisfaction of completing a project often comes from pleasing the leader or parent rather than from the value of the activity itself.



## 12-13 Years Old

- May begin growth spurts at this age, with girls maturing faster than boys. These rapid changes may make some teens uncomfortable with their changing body images.
- Approach of puberty sets off a roller coaster ride of hormones and emotions, presenting a major challenge to a young person's self-concept.
- Are faced with so many changes, they hardly know who they are. They begin to test values and identities and seek adults who are accepting and willing to talk about values and morals.
- Desire a sense of independence from parents, and are concerned about being liked by friends. Opinions of peers become more important than opinions of parents and other adults in the areas of dress, music, and activities.



- Are moving from concrete to more abstract thinking. Ready-made solutions from adults are often rejected in favor of finding their own solutions. Small groups provide an opportunity to test ideas.
- Are easily embarrassed by comparisons to other young people. They want to be part of something that is important and that provides an opportunity to develop responsibility.
- Place importance on justice and equality. Judging of projects is viewed in terms of what is fair. Ribbons are seen as reflections of the individual's self-worth instead of feedback on a specific project.

#### 14-16 Years Old



- Tend to be very concerned with themselves and their peer group. Relationship skills become a priority. Many begin dating, and acceptance by members of the opposite sex may become important.
- Are becoming aware of their own special abilities and talents, so this is a good time to introduce them to leadership roles.
- Are beginning to think about the future and make realistic plans, so their vocational goals often influence the activities they select.
- Are mastering abstract thinking, so they imagine new ways of doing things that sometimes challenge adults.
- Set their goals based on feelings of personal need and priorities. Any goals set by others are likely to be rejected.
- Can initiate and complete tasks without supervision. Leader's role should be that of adviser/coach.

#### 17-19 Years Old



- Place importance on future plans as they begin making the transition to adult life. Their goals for the future influence which activities they continue.
- Determine their own schedule, in most cases, and only general directions are needed when they are assigned familiar tasks.
- Develop close relationships as they become preoccupied with their need for intimacy.
- Make and carry out serious decisions, but still need adults for support and guidance. Adults no longer control activities, but should serve as resource people, helping to stimulate teens' thoughts.

# Action Demonstrations

An action demonstration is a fun way for a 4-H member to share with others what he or she has learned from the 4-H project. It is similar to the *show and tell* from school, but the 4-H member devotes more attention to getting the audience involved in a hands-on activity instead of just showing them. Action demonstrations can be given anywhere there is a group of people, such as a county or state fair, shopping mall, street fair, or 4-H event. The demonstrator's job is to interest people in the topic being presented so they will stop and try their hand at what is being done. The best way to attract attention is by having people around a table doing an activity. People love to do hands-on activities, so a few people at the table doing something will attract others. The audience may be involved by doing what the demonstrator is doing, judging the quality of various items, playing a game, or answering questions. Some suggestions for microwave action demonstrations:

- Demonstrate how you would arrange food in a microwave and explain why items must be arranged for microwave efficiency and safety.
- Talk about advantages of microwave baking over using a conventional oven. Have samples of a product cooked in the microwave and one done in the conventional oven so the audience can make comparisons in appearance, texture, flavor, etc.



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# Developing Activity/ Project and Life Skills

The “Microwave Magic” curriculum is designed to help youth develop both project and life skills. Activity/project skills are specific to the microwave subject matter, such as learning how to cook in a microwave or reheat leftovers. Life skills relate to the process a member undergoes when doing an activity. Life skills, such as making decisions or mastering technology, are useful long after the member has completed the project.

## Project skills

The content of the “Microwave Magic” curriculum has a much broader focus than skills related to food preparation. The curriculum is designed to help youth develop project skills in five major areas:

- healthy food selection
- smart food purchasing
- food safety and science
- food preparation
- food preservation

## Life skills

The youth development skills used in this curriculum are part of the Four-Fold Youth Development Model. The model encompasses 47 skills that help youth build character, be connected to the world around them, and develop into confident, caring, and contributing adults (Barkman, et al. 1999). Skills are grouped into the four H’s in the clover: Head, Heart, Hands, and Health. Below is a listing of the skills targeted in the four levels of the “Microwave Magic” curriculum.

HEAD	HEART	HANDS	HEALTH
<ul style="list-style-type: none"> <li>• Using scientific methods</li> <li>• Processing information</li> <li>• Managing resources</li> <li>• Practicing creativity</li> <li>• Planning and organizing</li> </ul>	<ul style="list-style-type: none"> <li>• Valuing diversity</li> </ul>	<ul style="list-style-type: none"> <li>• Mastering technology</li> <li>• Completing a task</li> </ul>	<ul style="list-style-type: none"> <li>• Making healthy lifestyle choices</li> <li>• Preventing illness</li> </ul>

*1999 Barkman et al. Four-Fold Youth Development Model, 4-H Youth Development, Purdue University. All rights reserved.*

### NOTE:

A list of targeted life skills and project skills for each activity by curriculum level is summarized on pages 10-11.

# Curriculum Scope and Sequence

	Tricks of the trade	Once you swallow	Kitchen magic	Magnificent meals
<b>Level A Bag of Tricks</b>	a. Testing 1,2,3 b. Hot spots c. Keep it clean	a. Scrambled start b. Awesome apples c. Micro snacks	a. Popcorn treats b. Snacks in a snap c. Fabulous fudge	a. Breakfast bites b. Chili dip c. Add a dessert
<b>Level B Micro Magicians</b>	a. Power in watts b. Potato bake c. Cooking two or more	a. Vegetable parade b. Dairy discoveries c. Fondue fun	a. Bar cookies b. Crumbs and chunks of brownie c. Upside-down cake	a. Cheesy macaroni b. Super sloppy joes c. Chicken nuggets
<b>Level C Amazing Rays</b>	a. Full of beans b. Well done brown c. Pork chop	a. Chicken breast b. Mighty meatloaf c. Luscious lasagna	a. Coffee cake b. Microwave candy c. Fruit crisps	a. Vegetable feast b. Colorful health c. One-dish spaghetti
<b>Level D Presto Meals</b>	a. Large and in charge b. Cooking a whole chicken c. Comparison shopping	a. Chocolate cake b. Sugarless carrot cake c. Make it your own	a. Microwaveable cake b. Jellies and jams c. Making a cherry pie	a. Breakfast time b. Lunch time c. Dinner is served

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## Level A – Bag of Tricks

### Targeted Activity/Project and Life Skills

	Activity	Life skill	Activity/Project skill
<b>Tricks of the trade</b>	1a. Testing 1,2,3 1b. Hot spots 1c. Keep it clean	Mastering technology Processing information Completing a task	Testing to determine microwave-safe dishes Determining microwave hot spots Covering foods while cooking in microwave
<b>Once you swallow</b>	2a. Scrambled start 2b. Awesome apples 2c. Micro snacks	Making healthy lifestyle choices Using scientific methods Practicing creativity	Making scrambled eggs Understanding fruit oxidation Making microwave pizza snacks
<b>Kitchen magic</b>	3a. Popcorn treats 3b. Snacks in a snap 3c. Fabulous fudge	Completing a task Mastering technology Processing information	Making cheesy microwave popcorn Making granola mix Making fudge
<b>Magnificent meals</b>	4a. Breakfast bites 4b. Chili dip 4c. Add a dessert	Managing resources Completing a task Practicing creativity	Comparing breakfast meals Making chili dip Creating an ice cream serving table

## Level B – Micro Magicians

### Targeted Activity/Project and Life Skills

	Activity	Life skill	Activity/Project skill
<b>Tricks of the trade</b>	1a. Power in watts 1b. Potato bake 1c. Cooking two or more	Mastering technology Processing information Completing a task	Determining your microwave's wattage Making baked potatoes Determining cooking times for two or more food items
<b>Once you swallow</b>	2a. Vegetable parade 2b. Dairy discoveries 2c. Fondue fun	Making healthy lifestyle choices Making healthy lifestyle choices Valuing diversity	Micro-cooking fresh, frozen, or canned vegetables Making pudding Making chocolate fruit fondue
<b>Kitchen magic</b>	3a. Bar cookies 3b. Crumbs and chunks of brownie 3c. Upside-down cake	Planning and organizing Completing a task Managing resources	Making microwave cookie bars Making brownies in the microwave Making microwave upside-down cake
<b>Magnificent meals</b>	4a. Cheesy macaroni 4b. Super sloppy joes 4c. Chicken nuggets	Processing information Managing resources Completing a task	Making macaroni and cheese Making sloppy joes Making chicken nuggets