



LESSON 6

USING YOUR MICROWAVE OVEN

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MICROWAVE OVEN MANAGEMENT

Now that you've had a chance to microwave cook some foods on an individual dish basis, let's consider the topic of microwave oven management.

ENERGY-SAVING

Research at Virginia Tech has found that energy consumption could be decreased about a third by using a microwave oven along with a conventional electric range to cook a week's meals for a family of four. However, use of the microwave oven does not always result in reduced energy consumption. To maximize the energy-saving feature of microwave ovens, the following choices of foods are recommended for microwave oven cooking: a) items ordinarily prepared by heating in the range oven such as baked custard or casseroles; b) items that will cook faster in the microwave oven than on surface units of the electric range.

SUITING YOUR FAMILY'S NEEDS

As a cooking appliance, the microwave oven, like a conventional range, can accommodate your family's needs in terms of your food budget, desire for gourmet meals, and special diet needs. Keep your family's needs in mind as you decide what foods to cook. Learn to screen recipes that encourage your objectives. You will also find some microwave cookbooks which have separate chapters on topics such as low calorie meals, and cooking for one or two persons.

PLANNING MICROWAVE OVEN MENUS

You can, of course, cook just one dish in the microwave oven and conventionally cook all the rest of the foods for a meal. However, you can also use the microwave oven for more than one dish per meal.

When you are planning a menu for microwaving, consider the following points, just as you do when cooking conventionally:

Think through the entire meal.

Carefully read each recipe and become familiar with the instructions.

Assemble all utensils and ingredients required by the recipe.

Consider the nutritional aspect of foods.

Strive for contrast in the color and texture of foods.

Think about food flavors. Do they blend well?

Unless you have a microwave oven which is designed for cooking several kinds of foods at a time, foods must be cooked one at a time, either in segments or sequence.

Segmenting

This is one approach to microwaving which means partially cooking some foods

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and allowing them to stand while the temperature equalizes and the flavors blend. This leaves the oven free to cook another item.

A segmented schedule might look like this:

Menu

Rolled rib roast
Baked sweet potatoes
Creamy cabbage
Fruit delight

Schedule

Early in day, make fruit delight.

About 1 hour before the meal:

- a) Cook roast through 1/2 time required.
- b) Cook sweet potatoes (wrap in foil after removing from oven).
- c) Complete roast.
- d) Cook cabbage.

At dessert time, reheat fruit delight, if desired.

Sequencing

With this technique, one food is prepared after another in a preplanned sequence. To determine in what order you should prepare foods consider the following:

1. Would it be preferable to prepare any food the day before or earlier in the day?
2. How long a cooking time does each food require?

Plan to set the table before starting to prepare the food. Then cook the food having the longest cooking time first. Usually, foods that require a longer cooking time retain or hold heat well. Some dishes, such as casseroles, will actually improve in flavor when they are allowed to stand for a few minutes. Remember that some foods require a "carryover" cooking time during which the food will finish its cooking.

While one food is cooking, prepare the other foods so they will be ready for their turn in the oven with no delay. Have some food inside the microwave oven at all times so no cooking time is wasted. To help foods stay moist and hot, cover them after they are removed from the oven. If foods cool before serv-

ing they can be reheated in the microwave oven.

The following will review previous lessons and give you some ideas as to the order in which specific foods might best be prepared:

Meats and casseroles: As a general rule, start cooking the meat or meat casseroles first.

Vegetables: Usually there is a short standing time (2 to 3 minutes) for frozen vegetables to allow them to completely soften for best eating. This is also true of most fresh vegetables. While they are standing, you have plenty of time to heat rolls or beverages in your microwave oven.

Meat and vegetable combination casseroles: The versatility of most casseroles allows them to be cooked well in the microwave oven. They may either be served immediately or allowed to stand a few minutes while vegetables and rolls are cooking.

Desserts: These can be handled in one of two ways. Cook them several hours ahead of time (example: puddings, cookies, pies) or you can cook them just before eating while dishes from the main course are being cleared (example: baked apples,

glazed grapefruit, frozen cakes, or pastries).

Bread and rolls: These heat in seconds. Because they easily overcook they should be popped into the microwave oven just before you sit down at the table.

Appetizers: If appetizers are to be served hot, heat them when needed, even if it means removing another food from the microwave oven for a few minutes. Most appetizers, even frozen ones, take such a short time to prepare that no harm is done to the food which has been set aside while appetizers heat.

REHEATING

Another common use of the microwave oven in family meals is for reheating foods which have been cooked conventionally. Most foods reheat in the microwave oven without loss of quality or

texture. They taste freshly cooked, not warmed over, which may mean you will discard fewer leftovers. Main dishes reheat especially well; some even improve in flavor if they are made in advance. Take care to avoid additional cooking which might overcook foods.

Caution: Food may not be safe to eat if held for more than 2 or 3 hours at temperatures between 60 degrees and 125 degrees F, the zone where bacteria grow rapidly.

Reheating Plates of Food

Arrange thick or dense foods to the outside of a microwave-safe plate. Place delicate foods to the center of the plate. Spread out main dishes or foods such as mashed potatoes in a shallow layer for quick, even heating. Cover the plate with wax paper or plastic wrap to hold in heat and moisture. Test warmth by feeling the bottom of the plate. When food is hot enough to transfer heat to the plate, the food is ready to serve.

RECIPE CONVERSION

This topic is covered in the fact sheet accompanying this lesson. Here is an example of a conventional recipe which has been changed for microwaving:

Ground Beef and Rice

Conventional

1. In large skillet, brown one pound ground beef with one chopped onion.
2. Cook over medium heat until
3. meat loses color
4. Add 1 cup water and 1 No. 2 can tomatoes
5. with 2/3 cup long grain rice and
6. 1 tablespoon minced onion

Microwave

1. Use 3-quart casserole.
2. Microwave on HIGH 6 minutes.
3. Stir once at 3 minutes.
4. Omit water
5. Use 1-1/3 cups precooked rice.
6. Use smaller amount.

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ADAPTING CONVENTIONAL RECIPES TO MICROWAVE COOKING

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It is possible to save significant amounts of energy and time when cooking with a microwave oven. Researchers at Virginia Polytechnic Institute and State University found they could decrease energy consumption about a third, and decrease time almost one-half by using a microwave oven along with a conventional electric range to cook a week's meals for a family of four. Additional savings would have been possible if recipes for some menu items had been adapted to the microwave oven.

Recipes designed for microwave cooking are becoming more common, but microwave cooking does not necessarily mean the end of your favorite recipes. As you develop skill in using your microwave oven you can learn to adapt many recipes, at least in part, to microwave cooking. With experience, you'll create your own special microwave recipes that suit your family's tastes.

RECIPES WHICH CAN BE ADAPTED

Recipes which call for moist cooking, including steaming or cooking in a liquid or sauce, usually can be adapted to microwave cooking. Recipes for six servings or less offer more opportunity for saving energy and time with the microwave oven than do larger quantities.

RECIPES WHICH SHOULD NOT BE ADAPTED

Fried foods and foods with a dry crust such as biscuits, pancakes, and pizza have better results when conventionally cooked. Yeast breads require special recipes for microwave cooking.

GUIDELINES FOR ADAPTING RECIPES

*Use a recipe in your microwave cookbook similar to your conventional recipe as a guide for techniques, cooking power level, and timing. You can use most ingredients called for in your conventional recipe but you may need to adjust the amounts. The amount of the main solid ingredient should be the same as indicated in the microwave oven recipe. Pieces of meat and vegetables cook more evenly when cut uniformly. Combine ingredients in the usual order. You may find that you can skip some steps such as pre-browning of meats.

- *If a recipe includes regular rice which takes longer to microwave than the other ingredients, consider substituting pre-cooked or quick cooking rice. Or pre-cook the regular rice before adding to the rest of the ingredients. You can pre-cook rice, macaroni, noodles, and other pasta for casseroles either in the microwave oven or by conventional cooking. However, there may be little time advantage using microwave cooking and there may be some differences in the texture of the cooked food. Making your own comparison will help you decide which method you prefer.
- *Reduce the liquid in the recipe, especially for foods that thicken or evaporate moisture through cooking such as casseroles, spaghetti sauce, and chili. Less moisture evaporates in microwave cooking than in conventional cooking due to shorter cooking time. Try using 1/4 less liquid than in the conventional recipe, keeping in mind the desired texture of the finished product. Other ways to reduce liquid in a recipe include increasing the thickening in sauces and gravies, using tomato sauce or paste instead of canned tomatoes, or using condensed canned soups instead of unthickened broth.
- *Reduce slightly the amount of seasonings, especially those with strong flavors. Again, with shorter cooking, seasoning does not cook away as much as in conventional cooking. You can always add more seasoning, to taste, at the end of cooking. You can add your own flavor touches in microwave cooking just as you do in conventional cooking.
- *Adjust the amount of added fat normally used in casseroles and sauces. Too much fat not only adds calories but slows microwave cooking. If you use regular ground beef, pour off the excess fat during cooking or you can use lean ground beef rather than regular ground beef.
- *Adjust the cooking time. If you don't have a microwave recipe as a guide, start with about 1/4 of the conventional time. Occasionally check the food during cooking in case you overestimated the time needed. You can add cooking time if food isn't done enough. Remember to allow for standing or carry-over time as explained in your microwave recipe book. Check doneness with a toothpick or a fork. Relying on the conventional appearance of foods may produce overdone products, especially in baked goods. Conventional recipes for moist meatloafs, candies, and rich cakes probably will need changes in cooking time rather than ingredients.
- *Use a slightly larger cooking utensil when microwave cooking to prevent spills. Foods often bubble more vigorously, especially at full power, than in conventional cooking.
- *Follow the microwave recipe for directions as to when and how to cover the utensil and for rotating or stirring foods.
- *Make notes about the adjustments you make for microwave cooking. Note suggested changes for future use based on the results. Some recipes require more experimentation than others. It is doubtful that you will have a complete failure if you think through the cooking process and stop cooking before the food is overdone.
- *Remember, there are several ways to adapt recipes. You will find many specific suggestions in the increasing number of microwave cookbooks on the market. As oven features change, methods for adapting recipes may also continue to change.

LEARNING ACTIVITY

Write down your favorite recipe and rewrite it for microwaving.

MICROWAVE OVEN EXTRAS

The microwave oven is well known as a cooking device but it can also be used for a variety of other things. Here are some of them:

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| Drying fresh herbs | Arrange 10 herb sprigs (such as parsley, basil, mint, etc.) between 2 paper towels. Microwave on HIGH 3 to 4 minutes or until dry and brittle. When cool, crumble leaves off branches. Store in airtight jar or plastic bag.

Note: When handling lesser amounts of herbs, place a small container of water in one corner of your oven to prevent build-up of microwaves. |
| Softening hard brown sugar | Place sugar in a glass dish and heat one to two minutes on HIGH. |
| Plumping raisins | Sprinkle 1 or 2 teaspoons of water over the raisins. Cover tightly. Microwave 30 seconds to 1 minute on HIGH. |
| Toasting nuts | Spread about 1/4 cup nuts on a paper plate or in a glass pie plate. Microwave uncovered on HIGH about 3 minutes or until toasted, stirring frequently. |
| Melting chocolate | Heat chocolate in its paper wrapper or a plastic or glass cup. Use 50% power. |
| Soften dried fruits | Place 1 cup in a bowl, cover with water and heat 4-5 minutes on HIGH. |
| Warm honey, maple syrup | Place in microwave-safe glass pitcher for 30-45 seconds on HIGH. |

OTHER SOURCES OF MICROWAVE COOKING INFORMATION

Appliance Dealers

Many microwave oven dealers offer programs about microwave cooking. These programs can answer more specific questions about a particular model of microwave oven than is possible in these lessons.

Printed Material

In addition to the many, many cookbooks and magazines containing microwave recipes, there are at least four newsletters available on a subscription basis.

LET'S REVIEW

As you studied this lesson, you should have discovered the answers to the following questions:

1. What are two ways of cooking more than one type of food at a time in the microwave oven?
2. What are two adjustments which usually need to be made when adapting conventional recipes to microwave oven cooking?
3. How can you prevent a build-up of microwaves when you are microwaving small amounts of herbs?

REMINDER: SEND ANY UNANSWERED QUESTIONS ABOUT USING THE MICROWAVE OVEN TO YOUR LOCAL EXTENSION AGENT USING THE FORM PROVIDED IN LESSON I.

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