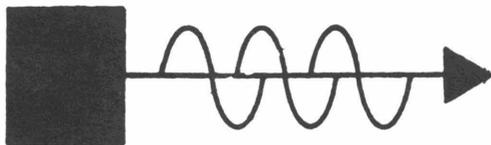


## LESSON 4

### USING YOUR MICROWAVE OVEN

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## MICROWAVING MEATS, POULTRY, AND FISH

Cooking meat in the microwave oven varies from super easy to a moderate challenge. The type of meat, its form, and the results you want determine what you have to do to get the best results.

Defrosting Meats, Poultry, and Fish: As frozen meat defrosts, water drippings form. Elevate the meat on a roasting rack or inverted saucer so that the drippings which collect in the dish cannot cause surface cooking. Shield areas that become warm before defrosting is completed, using small pieces of foil. Microwave-thawed meats should be cooked promptly after they are thawed. Note: Defrosting in the microwave oven is a matter of convenience. It is more energy efficient to defrost foods in the refrigerator.

### LEARNING ACTIVITY

Defrost a package of frozen meat, following the directions in your microwave oven cookbook.

#### Beef

Tender Roasts: The first key to success in microwaving beef roasts is choosing a good quality piece of meat and storing it properly. Size and shape of

roasts are also important. An irregular shaped roast cooks in an uneven pattern. Choose a roast that has a symmetrical shape for best results. Small roasts cook best, but if too small, the roast cooks before browning develops.

The roast also should be compact as possible. If a roast is thinner in one area than another, the thin part will be done before the thick part, just as in conventional cooking. Expect a long, thin roast to cook faster than a short, squatty roast. Bony roasts, such as standing ribs of beef, generally cook best if bones are left attached to the roast as it cooks.

Most roasts will keep their shape if tied with heavy string before cooking. Adding small amounts of foil to shield areas that cook first is helpful in obtaining the best results in roasting. Foil prevents overcooking on outside areas while the interior of the roast gets to the doneness desired. Do not add salt to meat before cooking. Salt tends to toughen outer layer of meat if added before cooking. However, garlic powder and other non-salty seasonings such as pepper may be added before cooking, if desired.

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Meats should be placed on a trivet or roasting rack so that they are up and out of juices which form in the bottom of the dish as the meat cooks. An inverted saucer may be used as a trivet.

Fat on a roast tends to "pop" loudly from time to time during cooking. This is a common occurrence. Covering meat with waxed paper helps reduce the spattering.

Drippings should be removed from the dish to shorten cooking time.

Carry-over cooking time is important in microwaving meats. After the meat is taken from the oven, the molecules continue to vibrate and create heat. When the meat has been cooked at high power, the internal temperature may rise as much as 15 to 20 degrees within 20 minutes. Temperature rises less with the lower power settings. Be sure to remember this when checking the temperature at the end of the cooking time. Meat can easily be overcooked.

The National Live Stock and Meat Board makes the following recommendations for cooking boneless beef rib eye, top round, top loin, rump, and cross rib roasts:

1. Place 3 to 4-pound roast, fat side down, on rack in microwave-safe dish. Do not add liquid.

2. Place waxed paper over top of roast; microwave at medium low (200 watts or

about 30% power). To estimate cooking time, allow 18 to 22 minutes per pound for rare to medium. Specific time varies with weight, shape, and composition of roast.

3. Rotate dish 1/4 turn every 20 minutes during cooking. Invert roast to fat side up at midpoint of cooking time.

4. Shield edges that appear to be over-cooking with small pieces of foil during cooking.

5. When roast is 5 degrees below doneness desired, remove from oven, tent with foil, and allow to stand 15 to 20 minutes. To determine doneness, use a microwave thermometer or sensor probe during cooking or a quick recovery or regular meat thermometer after roast has been removed from the microwave oven.

6. Cook roasts from beef round and chuck only to rare or medium rare. (If well-done beef is desired, cook as a pot roast.) More tender roasts from the rib and loin can be cooked to rare, medium, or well done.

Less Tender Cuts: Less tender cuts such as chuck roasts and flank steak can be braised in the microwave oven. However, there is likely to be little time advantage in comparison to conventional cooking.

Ground Meat: Thickness and type of ground meat determine cooking time. Fatty ground meat may take less time to cook than very lean meat.

## Fresh Pork

New procedures have been developed by the National Live Stock and Meat Board Test Kitchens for cooking fresh pork in the microwave oven. These procedures were developed in answer to the concerns about the safety of cooking pork in the microwave oven as there was the possibility that Trichinella spiralis, if present, could survive in some portions because of uneven heating.

### Recommended new procedures:

Cook pork in a closed container, such as a loosely sealed cooking bag or a covered microwave-safe container.

Cook all fresh pork to 170 degrees F internal temperature. To guarantee that this temperature has been reached, use a meat thermometer or a microwave oven probe to check the internal temperature. Allow at least 20 minutes per pound for roasts. To get the exact time requirement for your oven, some experimentation may be required.

Use a reduced power level, such as MEDIUM LOW or MEDIUM, to allow the pork to cook evenly.

Rearrange pork and rotate the cooking dish halfway through cooking. This also allows the pork to cook more evenly. Rearranging is accomplished by inverting roasts, ribs, and chops or stirring cubes and ground pork crumbles.

While these procedures assure safety, cooking pork in the

microwave oven does not appear to offer major time savings.

## Poultry

Poultry parts should be arranged in a baking dish so that the thinner, quicker cooking parts are toward the center of the dish and the thicker, longer cooking parts are to the outside. Whole birds will need to be rotated and turned several times during the cooking process. Covering with wax paper makes clean-up easier and helps distribute the heat more evenly. Remove juices during cooking.

## Fish

Filletts and steaks may be microwaved successfully in several ways to produce a variety of dishes. Be careful not to overcook fish.

### Browning Meats and Poultry

In microwave cooking, large cuts of meat with a fat covering cooked longer than 10 minutes will develop some browning on the surface. However, small pieces and nonfatty cuts do not brown as do conventionally cooked foods because there is not enough time to produce a browning effect. One way to brown such cuts of meat is to sprinkle or spread a browning agent onto the meat. These browning agents include sauces such as soy, barbeque, brown bouquet, and Worcestershire; and powders such as paprika and special microwave browning products. Jelly, preserves, and glazes can also be used. Many of the browning agents have a high salt content which is a

limitation for those people on low-sodium diets.

Other techniques for browning include the use of conventional surface cooking or broiling; or microwave oven browning elements and browning utensils. Of course, there are recipes in which the lack of brownness is no limitation. For example, in making chicken salad it is not necessary to have a brown skin.

### LEARNING ACTIVITY

Prepare a meat, fish, or poultry dish using the microwave oven, following the directions in your microwave oven cookbook. Or try one of the following recipes:

#### Oven-Fried Chicken

2 to 2-1/2 pound chicken, cut up  
1 package seasoned coating mix  
1/2 teaspoon salt  
1/4 teaspoon pepper

1. Wash chicken and drain.
2. Combine remaining ingredients in a bag.
3. Coat chicken according to directions on coating mix package.
4. Arrange pieces in a 11-3/4 x 7-1/2-inch glass dish with large pieces at corners and near edge of dish, with small ones in the center.
5. Cover dish with wax paper.
6. Microwave on HIGH for 18 to 21 minutes or until chicken is done, rotating dish half-way through microwave time.

6 to 8 servings

#### Meatloaf

1-1/2 pounds ground beef  
1/4 cup bread crumbs  
1 small onion, chopped  
2 tablespoons Worcestershire sauce  
1 teaspoon salt  
1/2 teaspoon mustard  
1/4 teaspoon pepper

1. Mix ingredients together thoroughly. Spread mixture evenly in baking dish.
2. Spread over top if desired: 2 tablespoons catsup, steak, barbecue, or chili sauce.
3. Microwave on HIGH:

Loaf dish 12-18 minutes  
(rotate after half the cooking)

Ring-shaped dish 8-13 minutes

Round dish 12-18 minutes

6 individual containers 10-13 minutes

4. Let stand 5 to 10 minutes to complete cooking and become firm.

LET'S REVIEW

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

- | <u>True</u> | <u>False</u> | <u>Check the best response:</u>  |
|-------------|--------------|--|
| _____       | _____        | 1. Meats which are microwaved longer than 10 minutes are likely to brown.  |
| _____       | _____        | 2. A beef roast should be served immediately after being taken out of the microwave oven.                          |
| _____       | _____        | 3. When cooking chicken drumsticks and thighs, put the thicker parts of the chicken toward the center of the dish. |

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