

TIME CHART

For cooking in a conventional oven

DRY HEAT-TENDER CUTS

BROILING *						ROASTING (300° F. -325° F. Oven Temperature)					
Primal Cut	Retail Cut	Approx. Thickness	Weight in lbs.	Approx. Total Cooking Time (Min.)		Primal Cut	Retail Cut	Approx. Weight (Pounds)	Meat Thermometer Reading	Approx. Cooking Time ¹ (Min. per lb.)	
				Rare	Medium						
Chuck	Chuck Blade	¾ in.	1¼ to 1¾	14	20	Rib	Rib Roast ²	4 to 6	140° F. (rare)	26-32	
	Steak (high quality)	1 in.	1½ to 2½	20	25				160° F. (med.)	34-38	
		1½ in.	2 to 4	35	40				170° F. (well)	40-42	
Rib	Rib Eye Steak	1 in.	8 to 10 ozs.	15	20	Rib Eye Roast ³	4 to 6	140° F. (rare)	160° F. (med.)	23-25	
		1½ in.	12 to 14 ozs.	25	30				170° F. (well)	27-30	
		2 in.	16 to 20 ozs.	35	45				170° F. (well)	32-35	
Short Loin	Porterhouse Steak	1 in.	1¼ to 2 ozs.	20	25	Short Loin	Tenderloin ⁴	2 to 3 (half)	140° F. (rare)	45-50 (Total)	
		1½ in.	2 to 3 ozs.	30	35				4 to 6 (whole)	140° F. (rare)	45-60 (Total)
		2 in.	2½ to 3½ ozs.	40	45						
Sirloin	Sirloin Steak	1 in.	1½ to 3 ozs.	20	25	Round	Rump, Boneless (high quality)	4 to 6	140° F.-170° F.	25-30	
		1½ in.	2¼ to 4 ozs.	30	35				3½ to 4	140° F.-170° F.	35-40
		2 in.	3 to 5 ozs.	40	45					6 to 8	140° F.-170° F.
Round	Top Round Steak	1 in.	1¼ to 1¾ ozs.	20	30	Other	Ground Beef Loaf (9"x5")	1½ to 2½	160° F.-170° F.	1-1½ hours (Total)	
		1½ in.	1½ to 2 ozs.	30	35						
		2 in.	2 to 2½ ozs.	35	45						
Flank	Flank Steak	—	1 to 1½ lbs.	12	14	¹ Based on beef taken directly from the refrigerator. ² Ribs which measure 6 to 7 inches from chine bone to tip of rib. ³ Roast at 350° F. oven temperature. ⁴ Roast at 425° F. oven temperature. Because a tenderloin roast is a small piece of meat, it only needs a short cooking period. A higher oven temperature is recommended in order to develop sufficient browning during the short cooking time. ⁵ Serve, carved in thin slices.					
Other	Ground Beef Patties	1 x 3 in.	4 ozs.	15	25						

MOIST HEAT-LESS TENDER CUTS

OTHER

BRAISING				BEEF VARIETY MEATS			
Primal Cut	Retail Cut	Approx. Weight or Thickness	Approx. Total Cooking Time (Hrs.)	Cut	Broiled or Fried	Braised	Cooked in Liquid
Chuck	Blade Roast	3 to 5 pounds	2 to 2½	Liver Beef	3 to 4 pounds Sliced	2 to 2½ hours	20 to 25 minutes
	Arm Pot-roast	3 to 5 pounds	2½ to 3½				
	Chuck Eye and Shoulder Roasts, Boneless	3 to 5 pounds	2½ to 3½				
	Short Ribs	Pieces (2"x2"x4")	1½ to 2½				
Round	Round Steak	¾ to 1 inch	1 to 1¾	Calf	Sliced	6 minutes	
Other	Cubes	1 to 1½ inches	1½ to 2½	Kidney	10 minutes	1 hour	1 hour
COOKING IN LIQUID				Heart	Whole	3 to 3½ hours	3 to 3½ hours
Brisket	Fresh or Corned Beef	4 to 6 pounds	40 to 50 min. per pound	Sliced		1½ to 2 hours	
Shank	Shank Cross Cuts	¾ to 1¼ pounds	2½ to 3 hours (Total)	Tongue			3 to 4 hours
Chuck, Short Plate, Flank or Round	Beef for Stew	1 in. to 1½ in. cubes	1½ to 2½ hours (Total)				

MICROWAVE COOKING

ROASTING

The most successful roasts for microwave cooking are tender cuts that are compact and uniform in shape. Boneless roasts such as rib eye, top round, tip or rump (rolled and tied) are good choices as are small end rib roasts. Roasts that are uneven in shape cook more unevenly.

Cook roasts on a rack and cover with wax paper. If a roast is irregular in shape and a smaller portion is cooking too quickly, cover this portion with foil to retard cooking. The amount of foil must be much smaller than the amount of meat exposed. (Caution: NEVER allow foil to come in contact with the inside of a microwave oven.)

As with roasts prepared conventionally, a meat thermometer or sensory probe is the most accurate way to determine doneness. Special microwave meat thermometers must be used inside these ovens. A regular roast meat thermometer can be used to check the internal temperature after the meat has been removed from the oven.

Roasts are most uniform in doneness throughout when cooked at a low power setting (approximately 200 watts), although this requires a longer cooking time. Some roasts are also acceptable when cooked at a medium setting (approximately 325 watts) but a high setting is not recommended.

BRAISING

It's necessary to cook less tender meat cuts slowly to increase their tenderness. Therefore, it is more difficult to develop tenderness by means of the rapid cooking of the microwave oven. To enhance tenderness, try one of the following:

- Cover beef with plastic wrap or place in cooking bag and extend cooking time. (Avoid overcooking.)
- Use one of the simmering pots designed for microwave ovens.
- Cook other foods such as rice or vegetables with the beef.
- Marinate the beef in a liquid containing a food acid such as vinegar or lemon juice before cooking.
- Pound or cut beef into thin strips.

TIPS

- To enhance appearance of beef cooked by microwave, try one of the following:
 - Brush the surface with a dark liquid such as soy sauce, Worcestershire sauce or browning sauce.
 - Sprinkle the surface with a gravy or soup mix or seasoned salt.
 - Brush surface with oil, then coat the outside with fine bread, cracker or other crumbs.
 - Add a sauce or glaze. Those high in sugar will brown more readily.
 - Pre-brown the beef in a frying pan before cooking or follow manufacturer's directions for use of browning dish.
- To assure even cooking, turn meat and/or rotate the pan or dish $\frac{1}{4}$ or $\frac{1}{2}$ turn at intervals during the cooking period.

COOKING TIME

Because only a minute or two in the microwave oven can result in overcooked or undercooked beef, it is important to know factors which can affect cooking time.

- Colder food takes longer to cook.
- Outside edges cook more quickly, as do flat, thin shapes.
- High moisture foods cook more slowly. Foods high in fat and sugar cook more quickly.
- More food requires longer cooking time.
- Large pieces of food continue to cook when removed from the oven. (Slightly undercook foods and allow for standing time.)

Answers to Games and Activities

Page 1: Crossword Puzzle

Across

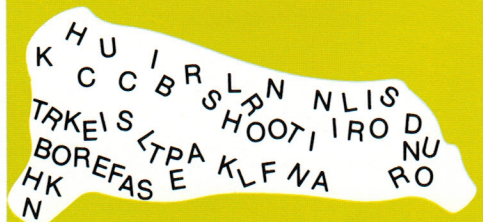
1 pressure cooking, 5 marinade, 7 four, 9 fifteen, 11 brisket, 12 defrosted, 14 labeling, 16 meat thermometer, 18 browning, 19 amino acids, 22 purple, 28 proteins, 29 prime, 30 braising, 32 choice, 34 ground beef, 36 iron, 39 dry, 40 marbling, 41 primal, 43 two, 45 broiling, 46 smoked, 47 lean, 48 serving, 49 stirfry

Down

2 refrigerator, 3 chuck, 4 inspection, 5 moist, 6 aluminum, 8 air, 10 veal, 13 good, 15 boneless, 17 trim, 18 barbeque, 20 shank, 21 blade, 23 roasting, 24 niacin, 25 liver, 26 grading, 27 fat, 28 pounding, 31 pie, 33 well done, 34 grain, 35 freezing, 37 calorie, 38 sirloin, 41 panfry, 42 three, 44 year

COMPLETE THE DIAGRAM

Draw lines on this carcass to show how you would cut it into eight sections. Each section will spell out the name of one of the eight primal cuts, if you unscramble the letters correctly.



Answers to Games and Activities

Page 2: Fill in the Chart

Protein—50%, Riboflavin—10%, Niacin—25%, Vitamin B₁₂—20%, Iron—15%, Zinc—25%.

Page 3: Find the Answers

1. Quality
 2. Inspection
 3. Choice
- Symbol: Grade Mark Shield

Page 5: Unscramble the Statements

1. Always plan to make beef the last purchase before returning home.
2. Fresh meat can be stored in the refrigerator from two to four days.
3. Freezing wrap must seal out air and lock in moisture.
4. Defrosting meat at room temperature is not recommended.

Page 13: Discover the Reason

True: Numbers—1, 3, 4, 6, 7, 8.
False: Numbers—2, 5, 9, 10.

Page 14: Complete the Diagram

Chuck, Rib, Short Loin, Sirloin, Round, Brisket and Fore Shank, Plate, Flank.

Cooking by Cut

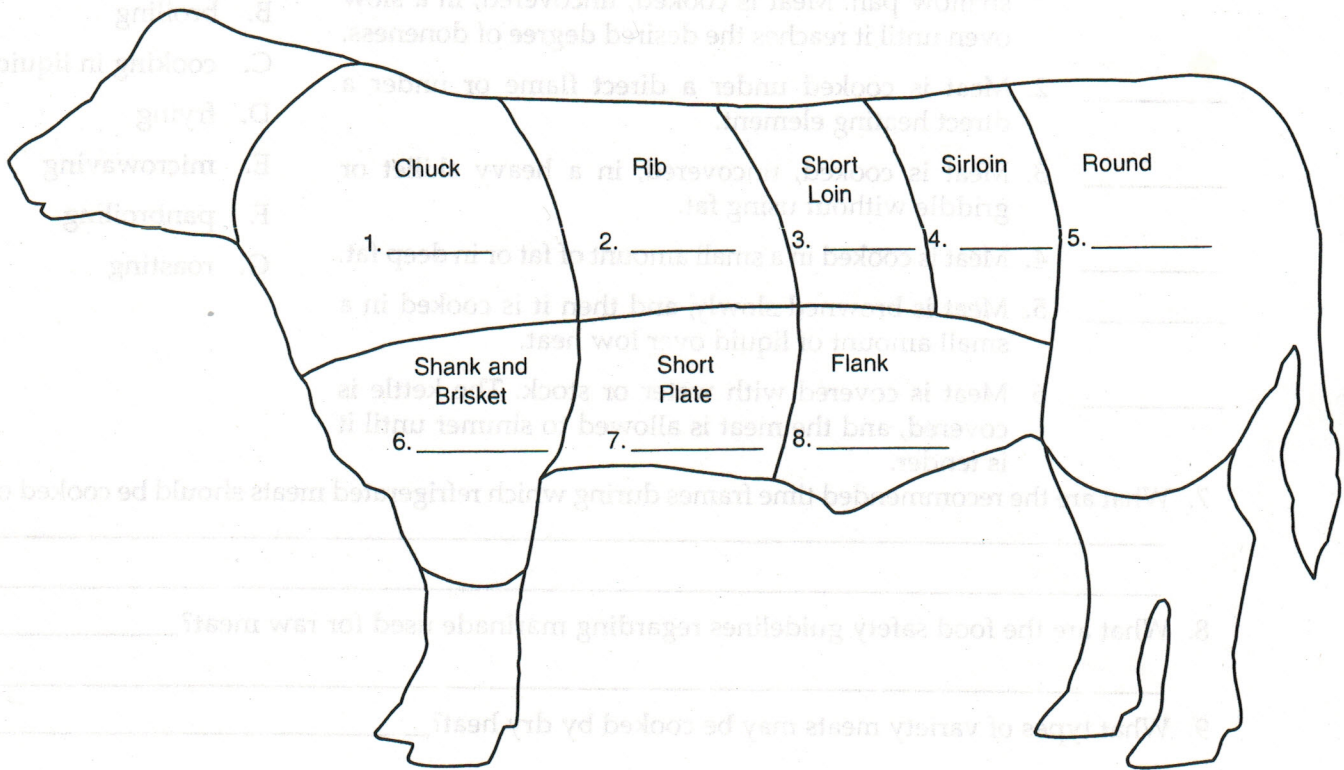
Activity C

Name _____

Chapter 13

Date _____ Period _____

Look at the location in the animal of the following beef wholesale cuts. Write *T* in the blank if the cut is tender. Write *LT* in the blank if the cut is less tender. (You may want to refer to Chart 13-1 on page 237 of the text.)



9. List the four dry cooking methods.

10. List the two moist cooking methods.

Read the following list of retail cuts of beef. Place a *D* in the blank if a cut should be cooked with dry heat. Place an *M* in the blank if a cut should be cooked with moist heat. Place an *E* in the blank if a cut can be cooked with either type of heat.

_____ 11. brisket

_____ 16. round steak

_____ 12. ground beef

_____ 17. T-bone steak

_____ 13. sirloin steak

_____ 18. rib roast

_____ 14. short ribs

_____ 19. rump roast

_____ 15. arm pot roast

_____ 20. flank steak

Meat Cookery Methods

Activity D

Name _____

Chapter 13

Date _____ Period _____

Match each of the following statements with the meat cooking method it describes by placing the correct letter in the space provided. Then answer the questions that follow.

- | | | |
|-------|--|----------------------|
| _____ | 1. Place meat with the fat side up on a rack in a large, shallow pan. Meat is cooked, uncovered, in a slow oven until it reaches the desired degree of doneness. | A. braising |
| _____ | 2. Meat is cooked under a direct flame or under a direct heating element. | B. broiling |
| _____ | 3. Meat is cooked, uncovered, in a heavy skillet or griddle without using fat. | C. cooking in liquid |
| _____ | 4. Meat is cooked in a small amount of fat or in deep fat. | D. frying |
| _____ | 5. Meat is browned slowly, and then it is cooked in a small amount of liquid over low heat. | E. microwaving |
| _____ | 6. Meat is covered with water or stock. The kettle is covered, and the meat is allowed to simmer until it is tender. | F. panbroiling |
| | 7. What are the recommended time frames during which refrigerated meats should be cooked or frozen? | G. roasting |
| | _____ | |
| | _____ | |
| | 8. What are the food safety guidelines regarding marinade used for raw meat? _____ | |
| | _____ | |
| | 9. What types of variety meats may be cooked by dry heat? _____ | |
| | _____ | |
| | 10. How should meat be thawed? _____ | |
| | _____ | |
| | 11. Why is it recommended that meat not be thawed on the kitchen counter? _____ | |
| | _____ | |
| | 12. A frozen roast would require approximately _____ percent more time to cook than a thawed roast. | |
| | 13. When broiling frozen meats, why should you place the meat farther away from the heat source than you would place thawed meats? _____ | |
| | _____ | |
| | 14. Why should meats be covered when they are cooked in a microwave oven? _____ | |
| | _____ | |
| | 15. What type of meat cuts work best for microwave cooking? _____ | |
| | _____ | |
| | 16. What type of meat cuts will brown naturally in a microwave oven? _____ | |
| | _____ | |