

## CHAPTER 4 BASIC COOKING PRINCIPLES

*Name the cooking procedures described.*

1. To cook quickly in a small amount of fat.
2. To cook foods by surrounding them with hot, dry air in an oven or on a spit over an open fire.
3. To cook with radiant heat from above.
4. To cook submerged in hot fat.
5. To cook partially and very briefly in boiling water or in hot fat.
6. To cook by simmering or boiling until the quantity of liquid is decreased.
7. To cook uncovered in a skillet or sauté pan without fat.
8. To cook on an open grid over a heat source.
9. To cook in a moderate amount of hot fat in a pan.
10. To cook in water or other liquid that is bubbling gently, about 185-205°F (85-96°C).
11. To cook covered in a small amount of liquid, usually after preliminary browning.
12. To cook in a liquid, usually a small amount, that is hot but not actually bubbling.
13. To cook in hot fat.
14. To cook by direct contact with steam.
15. To cook in water or other liquid that is bubbling rapidly.

*True/False*

16. As proteins are heated, they coagulate. This means they become firmer and absorb moisture.
17. Fruit and vegetable fiber becomes softer when cooked.
18. The transfer of heat from the outside to the inside of a piece of roasting meat is an example of convection.
19. In a microwave oven, the microwaves penetrate to the center of a large roast and cook the item rapidly.
20. Overcooking is a common problem in microwave cooking because of the high energy levels.
21. If the fat in a deep-fryer starts to smoke, it means that the fat is breaking down and may have to be discarded.
22. Steam is a better conductor of heat than air is.
23. The air in an oven transfers heat energy from the gas or electric element to the food being cooked by means of convection.
24. Thick steaks should be broiled at higher heat than thin ones so that the heat will penetrate the meat.
25. A griddle cooks at a lower temperature than a grill or broiler.
26. Salt, detergent, moisture, excessively low cooking temperatures, and exposure to air all shorten the life of frying fat.
27. Foods to be sautéed should be started in a cold pan.
28. A pot roast is a large cut of meat cooked in a covered pan by the roasting method.

29. Most foods cooked in liquid are simmered rather than boiled, because the high heat of boiling can damage many foods.
30. Sautéing requires high heat.
31. Cayenne and paprika are two spices that are closely related, although cayenne is much hotter.
32. Mint, parsley, celery seed, and oregano are examples of herbs.
33. It is important to be able to distinguish the tastes of the spices in a finished dish.
34. Only the colored part of lemon peel should be used for flavoring.
35. Most dried spices should not be added until near the end of cooking.
36. So that they can be easily removed, whole herbs and spices for flavoring a liquid are tied in a piece of cheesecloth called a zest.
37. Spices must be stored so that they are protected from heat, light, and moisture.
38. Prepared mustard is one of the few flavoring ingredients that can be added at the end of cooking.
39. Lemon juice is used as a seasoning for some sauces.
40. White and black pepper come from the same plant.
41. In general, moist foods heat more quickly in a microwave oven than dry foods do.
42. When you are cooking large items in a microwave oven, it is important to cook them until completely done without disturbing them.
43. Microwaves do not go through metal, such as aluminum foil.
44. When smoke-roasting in a hotel pan on a range top, it is important to leave the food smoking at high heat for at least 30 minutes, so that the food will absorb the smoke flavor.

*Multiple Choice*

45. A cook's judgment is based on his or her \_\_\_\_\_.
  - (a) experience
  - (b) knowledge of basic cooking principles
  - (c) understanding of the raw materials available
  - (d) all of the above
46. Adding an acid to meat during the cooking process \_\_\_\_\_.
  - (a) speeds up the gelatinization process
  - (b) tends to slow the coagulation of its protein
  - (c) helps to dissolve some of its connective tissue
  - (d) all of the above
47. Which pair of words makes the following sentence true when inserted in the blanks?  
Caramelization occurs when \_\_\_\_\_ browns, and gelatinization occurs when \_\_\_\_\_ absorbs water and swells.
  - (a) sugar, starch
  - (b) starch, sugar
  - (c) protein, carbohydrate
  - (d) carbohydrate, protein

48. Which of the following types of edible compounds has a smoke point?
- (a) fat
  - (b) sugar
  - (c) starch
  - (d) protein
49. Heat can be transferred by \_\_\_\_\_.
- (a) radiation
  - (b) convection
  - (c) conduction
  - (d) all of the above
50. Conduction occurs when heat is transferred \_\_\_\_\_.
- (a) by means of air, steam, or liquid
  - (b) directly from one item to something touching it
  - (c) from one part of an item to an adjacent part of the same item
  - (d) both b and c
51. Chef Marie stirs her sauce while it is cooking so that it does not burn on the bottom of the saucepan. This is an example of \_\_\_\_\_ convection.
- (a) natural
  - (b) thermal
  - (c) conductive
  - (d) mechanical
52. Which of the following heating methods will fail to heat a material that has no moisture content?
- (a) infrared
  - (b) microwave
  - (c) conduction
  - (d) convection
53. Dried beans cannot be successfully cooked in a microwave because they \_\_\_\_\_.
- (a) are too small
  - (b) contain almost no water
  - (c) explode before they finish cooking
  - (d) consist of all carbohydrates and no proteins
54. Which of the following is the correct descending order (from highest temperature to lowest) of the three methods to cook food in water or a seasoned and flavored liquid?
- (a) boil → simmer → poach
  - (b) simmer → poach → boil
  - (c) poach → boil → simmer
  - (d) none of the above

55. If a very delicate food is cooked in water or a seasoned and flavored liquid, it should be \_\_\_\_\_ so that it does not fall apart.
- (a) boiled
  - (b) poached
  - (c) blanched
  - (d) simmered
56. I am a blanched green bean. This means that I have been \_\_\_\_\_.
- (a) partially cooked
  - (b) cooked at a altitude above sea level
  - (c) cooked until my natural color has disappeared
  - (d) cooked for a long period of time at a low temperature
57. Which of the following is a combination of both moist and dry heat cooking?
- (a) braising
  - (b) roasting
  - (c) blanching
  - (d) en papillote
58. Which of the following sets of words completes this sentence correctly? To \_\_\_\_\_ means to cook with heat from \_\_\_\_\_.
- (a) grill, above
  - (b) broil, below
  - (c) both of the above
  - (d) none of the above
59. Barbecuing is a roasting or grilling technique that requires \_\_\_\_\_.
- (a) a wood fire
  - (b) outdoor cooking
  - (c) a special basting sauce
  - (d) all of the above
60. Which of the following statements about roasting is correct?
- (a) It is essential that you never cover the meat while it is roasting.
  - (b) Roasting and baking are two entirely different cooking processes.
  - (c) Never change the position of the roast in the oven once it has started cooking.
  - (d) Roasts cooked in the back of the oven cook more slowly because the back of the oven is not as hot as the front.
61. Which of the following terms is associated with broiling?
- (a) slow
  - (b) low heat
  - (c) tender food items
  - (d) all of the above

62. A salamander is a special type of \_\_\_\_\_.
- (a) grill
  - (b) griddle
  - (c) broiler
  - (d) sauté pan
63. When food is sautéed, it is important \_\_\_\_\_.
- (a) to sear the food quickly
  - (b) not to overcrowd the pan
  - (c) to preheat the pan before sautéing
  - (d) all of the above
64. Deglazing takes place after \_\_\_\_\_.
- (a) grilling
  - (b) broiling
  - (c) deep-frying
  - (d) sautéing
65. Which of the following is not a guideline for deep-frying?
- (a) Don't overload the baskets.
  - (b) Fry as close to service as possible.
  - (c) Most foods are fried at 350 to 375°F.
  - (d) Fry both strong and mild flavored items in the same fat.
66. Which of the following items would be least suitable for microwave cooking?
- (a) a fillet of sole
  - (b) an acorn squash
  - (c) a bowl of chicken broth
  - (d) a thin slice of rare steak
67. To sweat means to cook \_\_\_\_\_.
- (a) slowly
  - (b) without browning
  - (c) in a small amount of fat
  - (d) all of the above
68. Although spices, herbs, and seasonings are important parts of a cook's job, it is crucial to remember that \_\_\_\_\_.
- (a) most customers prefer their foods without additives
  - (b) your main ingredients are your main sources of flavor
  - (c) even the most subtle use of these ingredients can diminish the flavor of foods
  - (d) all of the above

69. \_\_\_\_\_ act(s) on the taste buds rather than changing the actual flavor of the food to which it has been added.
- (a) Salt
  - (b) MSG
  - (c) Pepper
  - (d) Wine and brandy
70. In order to assemble a sachet, you must have \_\_\_\_\_.
- (a) string
  - (b) cheesecloth
  - (c) herbs and spices
  - (d) all of the above
71. Which of the following combinations is incorrect?
- (a) clove → bud
  - (b) cumin → seed
  - (c) marjoram → root
  - (d) cinnamon → bark

## Answers to Test Questions

1. sauté	16. F	31. T	46. c	61. c
2. roast	17. T	32. F	47. a	62. c
3. broil	18. F	33. F	48. a	63. d
4. deep-fry	19. F	34. T	49. d	64. d
5. blanch	20. T	35. F	50. d	65. d
6. reduce	21. T	36. F	51. d	66. d
7. pan-broil	22. T	37. T	52. b	67. d
8. grill	23. T	38. T	53. b	68. b
9. pan-fry	24. F	39. T	54. a	69. b
10. simmer	25. T	40. T	55. b	70. d
11. braise	26. F	41. T	56. a	71. c
12. poach	27. F	42. F	57. a	
13. fry	28. F	43. T	58. d	
14. steam	29. T	44. F	59. a	
15. boil	30. T	45. d	60. a	

## Answers to Questions for Discussion

1. Cooking too long and/or at too high heat has coagulated the proteins excessively, making them shrunken, tough, and dry. In other words, the fish is overcooked. (52)
2. The acids in the tomato help dissolve connective tissue. (52)
3. The forced movement of air in the convection oven transfers heat more rapidly. Therefore, foods cook faster. (53,54)
4. Moist-heat methods: braising, poaching, steaming, simmering. Dry-heat methods without fat: roasting, broiling, grilling. Dry-heat methods with fat: deep-frying, sautéing, pressure frying. (55-60)
5. More uniform slow cooking, less attention required, range space free for other purposes. (56-57)
6. Covering traps in steam, changing the cooking method from dry heat to moist heat. (57-58)
7. The pan was not hot enough to start, or the pan was crowded, lowering the temperature. (59)
8. The frying fat was probably not hot enough. Check the thermostat setting and, if necessary, measure the temperature of the fat with a thermometer. Also, if the French fries are held too long after cooking, they can become soggy. (60)
9. Taste the product, evaluate the flavor, and then if necessary add salt or other seasoning to correct the flavor. (63)
10. Whole spices need time and heat to release their flavor and should be cooked with the product. (63-64)