

Chapter 1 - Food Choices and Human Health

True / False

1. Malnutrition includes deficiencies, imbalances, and excesses of nutrients, alone or in combination, any of which can take a toll on health over time.

a. True

b. False

ANSWER: True

2. Good food choices can reduce the chance of developing chronic diseases.

a. True

b. False

ANSWER: True

3. One of the objectives included in the publication Healthy People 2020 is to increase the proportion of breastfed infants.

a. True

b. False

ANSWER: True

4. The human genome is 99.9% the same in all people.

a. True

b. False

ANSWER: True

5. Elemental diets help patients recover from nutrient deficiencies, infections, and wounds.

a. True

b. False

ANSWER: True

6. A whole, basic food becomes less nutritious when it is enriched or fortified.

a. True

b. False

ANSWER: False

7. Functional foods contain bioactive food components believed to provide health benefits beyond the benefits conferred by their nutrient content.

a. True

b. False

ANSWER: True

8. Foods that are associated with particular cultural subgroups within a population are called ethnic foods.

- a. True
- b. False

ANSWER: True

9. For a new finding to be confirmed, it has to pass through rigorous testing in several kinds of experiments performed by different researchers.

- a. True
- b. False

ANSWER: True

10. Physical activity is not considered a factor that supports health.

- a. True
- b. False

ANSWER: False

11. "Healthy People 2020, a publication of the U.S. Department of Health and Human Services, envisions a society in which all people are wealthy and prosperous."

- a. True
- b. False

ANSWER: False

12. The chemical energy stored in food can be converted to mechanical, electrical, thermal, or other forms of energy in the body.

- a. True
- b. False

ANSWER: True

13. Government agencies and volunteer associations provide consumers with reliable health and nutrition information.

- a. True
- b. False

ANSWER: True

Multiple Choice

14. Which of the following conditions is easily treated because it is responsive to dietary changes?

- a. Down syndrome
- b. Hemophilia
- c. Iron-deficiency anemia
- d. Sickle-cell anemia
- e. Cancer

ANSWER: c

15. Which of the following diseases is responsible for the highest percentage of deaths in the United States?

- a. Cancer
- b. Kidney disease
- c. Heart disease
- d. Chronic lung disease
- e. Alzheimer's disease

ANSWER: c

16. The development of chronic diseases has a connection to poor diet and:

- a. can be completely prevented by following a good diet
- b. is not affected by lifestyle choices
- c. is not affected by genetics
- d. can be completely prevented by altering genes
- e. can be prevented by food choices along with lifestyle choices

ANSWER: e

17. Which of the following nutrition and weight-related objectives is not included in the publication Healthy People 2020?

- a. Reduce outbreaks of certain infections transmitted through food.
- b. Reduce the death rate from cancer.
- c. Reduce the number of schools offering breakfast.
- d. Reduce the death rate from heart disease.
- e. Increase the proportion of schools that require daily physical education for all students.

ANSWER: c

18. The effects of physical activity on the body include all of the following except:

- a. decreased bone density
- b. reduced risk of cardiovascular diseases
- c. faster wound healing
- d. increased lean body tissue
- e. improved mental functioning

ANSWER: a

19. Nutrition and weight-related objectives for the nation have been published by the:

- a. U.S. Department of Agriculture
- b. U.S. Food and Drug Administration
- c. U.S. Department of Health and Human Services
- d. U.S. Centers for Disease Control and Prevention
- e. U.S. Association for Nutrition and Dietetics

ANSWER: c

20. Which of the following nutrients contains cobalt?

- a. Carbohydrate
- b. Fat
- c. Vitamin B12
- d. Vitamin C
- e. Protein

ANSWER: c

21. All of the following nutrients are organic except:

- a. minerals.
- b. fats.
- c. vitamins.
- d. carbohydrates.
- e. proteins.

ANSWER: a

22. Energy-yielding nutrients are referred to as ____.

- a. vitamins
- b. phytochemicals
- c. minerals
- d. macronutrients
- e. micronutrients

ANSWER: d

23. Which of the following nutrients can yield energy and provide materials for forming the structures and working parts of body tissues?

- a. Carbohydrates
- b. Proteins
- c. Fats
- d. Vitamins
- e. Minerals

ANSWER: b

24. One gram of alcohol provides ____ calories.

- a. two
- b. four
- c. seven
- d. nine
- e. three

ANSWER: c

25. Essential nutrients are:

- a. nutrients that do not cause deficiency diseases if they are omitted from the diet
- b. necessary nutrients that can be obtained only from the diet
- c. nutrients that the body can manufacture from raw materials

- d. nutrients that pass through the body unabsorbed
- e. necessary nutrients that cannot be obtained from the diet

ANSWER: b

26. The most energy-rich nutrient is:

- a. carbohydrate
- b. fat
- c. protein
- d. water
- e. fiber

ANSWER: b

27. Which of the following units is used by food scientists to measure food energy?

- a. Degrees
- b. Kilograms
- c. Grams
- d. Moles
- e. Kilocalories

ANSWER: e

28. Identify characteristic of alcohol.

- a. It is an essential nutrient.
- b. It provides water but not calories.
- c. It enhances the repair of body tissues.
- d. It is a key ingredient in dietary supplements.
- e. It provides calories.

ANSWER: e

29. Which of the following statements is true of an elemental diet?

- a. It supports life.
- b. It supports optimal growth.
- c. It supports long-term health.
- d. It enables people to thrive over long periods.
- e. It is better than real food.

ANSWER: a

30. Carbohydrate and protein each provide ____ calories per gram.

- a. 2
- b. 4
- c. 7
- d. 6
- e. 9

ANSWER: b

31. The major role of all vitamins and minerals in the human body is:

- a. to act as regulators in all body processes
- b. to dissolve the other nutrients
- c. to provide energy for body processes
- d. to confer color and taste to food
- e. to capture the sun's energy

ANSWER: a

32. Compounds that give color and taste to foods are called ____.

- a. toxins
- b. proteins
- c. fibers
- d. phytochemicals
- e. lipids

ANSWER: d

33. Which of the following is an example of an ultra-processed food?

- a. A cake
- b. An apple
- c. A bowl of salad
- d. A bowl of rice
- e. A boiled egg

ANSWER: a

34. The term “____ foods” has no legal definition but is often used to imply wholesomeness.

- a. medical
- b. natural
- c. processed
- d. enriched
- e. functional

ANSWER: b

35. Foods that have been subjected to the addition of additives, milling, or cooking are called ____ foods.

- a. processed
- b. medical
- c. natural
- d. organic
- e. whole

ANSWER: a

36. Steamed rice is an integral part of meals in Southeast Asia. Thus, steamed rice is an example of a(n) ____ food of Southeast Asia.

- a. supplementary

- b. medical
- c. staple
- d. exotic
- e. ultra-processed

ANSWER: c

37. In a nutritious diet, the foods provide sufficient quantities of essential nutrients, fiber, and energy to maintain health and body weight. This principle of diet planning is called ____.

- a. variety
- b. balance
- c. moderation
- d. calorie control
- e. adequacy

ANSWER: e

38. A certain amount of fiber in foods contributes to the health of the digestive system. However, eating too much fiber leads to nutrient losses. The characteristic of diet planning illustrated by this statement is called ____.

- a. adequacy
- b. calorie control
- c. balance
- d. moderation
- e. variety

ANSWER: d

39. Omnivorous people eat:

- a. foods of only plant origin
- b. foods of both plant and animal origin
- c. foods of only animal origin
- d. foods consisting of only purified ingredients
- e. foods manufactured for use by people with medical disorders

ANSWER: b

40. The source of valid nutrition information is:

- a. newspaper articles
- b. TV programs
- c. scientific research
- d. health magazines
- e. infomercials

ANSWER: c

41. Which type of research studies populations and is often used to search for correlations between dietary habits and disease incidence?

- a. An intervention study

- b. A laboratory study
- c. A case study
- d. An epidemiological study
- e. A placebo-controlled study

ANSWER: d

42. In a research study, one set of subjects received a treatment and another set of subjects received a placebo. This research study is an example of a(n):

- a. case study
- b. epidemiological study
- c. laboratory study
- d. meta-analysis
- e. intervention study

ANSWER: e

43. In the precontemplation stage of behavior change, the best action to take is to:

- a. collect information and learn about your current behaviors
- b. write out a plan for change with specific actions to take
- c. commit to making a change and set a date to start
- d. persevere through any lapses that may occur
- e. perform the new behavior to determine whether you want to adopt it or not

ANSWER: a

44. Which of the following characteristics applies to the maintenance stage of behavior change?

- a. Admitting that change is needed and weighing the pros and cons of changing
- b. Striving to integrate the new behavior into daily life and striving to make it permanent
- c. Concentrating mainly on the strengths of the current eating pattern
- d. Avoiding changes in daily routine and specific behavior
- e. Committing time and energy to make changes in behavior

ANSWER: b

45. Which of the following diseases is not influenced by diet?

- a. Iron-deficiency anemia
- b. Hemophilia
- c. Diabetes
- d. Vitamin deficiencies
- e. Hypertension

ANSWER: a

46. Which of the following statements is true about the effect of genetics and nutrition on chronic diseases?

- a. Individuals with the same hair color are more likely to develop the same chronic disease.
- b. Good dietary choices are sufficient to prevent the onset of all chronic diseases.

- c. The possibility of developing chronic diseases depends on genetics and lifestyle choices.
- d. Nutrition does not have any effect on the risk of developing chronic diseases.
- e. One's lifestyle does not have any effect on one's risk of developing chronic diseases.

ANSWER: c

47. If a person has inherited genetic code that is related to heart disease, what effect might dietary practices have on this person's health?

- a. They will remove the inherited genetic code that is related to heart disease.
- b. They will have different effects on individuals who differ genetically.
- c. They can completely reverse the genetic code that has been inherited.
- d. They will work the same way for everyone who has heart disease.
- e. They will alter the genetic code and reduce the risk of heart disease.

ANSWER: b

48. How many calories are provided by a food that contains 20 grams of carbohydrate, 8 grams of protein, and 5 grams of fat?

- a. 157
- b. 232
- c. 258
- d. 378
- e. 558

ANSWER: a

49. A food contains 8 grams of fat and provides 300 calories per gram. What is the percentage of calories obtained from fat in the food?

- a. 24%
- b. 30%
- c. 48%
- d. 52%
- e. 58%

ANSWER: a

50. What does an elemental diet consist of?

- a. A selection of nutrient-rich whole foods for improving lactation in new mothers
- b. Mineral-rich whole foods for improving athletic performance
- c. Life-saving liquid diets of precise chemical composition for those unable to eat
- d. A selection of whole foods and dietary supplements for people with mild nutrient deficiencies
- e. Pills, liquids, and powders for augmenting a normal, healthy diet

ANSWER: c

51. Phytochemicals found in foods are important because:

- a. they increase the risk of developing certain diseases
- b. they decrease the risk of developing certain diseases
- c. they are considered to be essential nutrients

- d. they are a new category of vitamins
- e. they confer texture and volume to foods

ANSWER: b

52. A compound in cranberries prevents urinary tract infections. Thus, a bowlful of whole, unmodified cranberries is an example of a(n) ____ food.

- a. staple
- b. functional
- c. fortified
- d. medical
- e. processed

ANSWER: b

53. Which of the following is not a characteristic of a nutritious diet?

- a. It ensures that the same kind of food is eaten every day.
- b. It supplies adequate amounts of all essential nutrients.
- c. It has various foods in different proportions.
- d. It ensures limited intake of saturated fats, added sugars, and salt.
- e. It ensures that energy intakes do not exceed or fall short of energy needs.

ANSWER: a

54. You purchased an enriched food product. This means that:

- a. the product is devoid of nutrients
- b. the product is low in calories and nutrients
- c. the product could be either nutritious or not nutritious
- d. the product is inferior to similar products
- e. the product is intended for people with medical disorders

ANSWER: c

55. When making food choices, the best types of foods to include in your diet are:

- a. medical foods because they cure diseases
- b. fast foods because they are the most readily available
- c. whole foods because they provide the basis of a nutritious diet
- d. processed foods because they require minimal cooking
- e. ultra-processed foods because they are the most palatable

ANSWER: c

56. Most foods that are high in calcium are poor sources of iron. This statement illustrates the characteristic of a nutritious diet known as ____.

- a. adequacy
- b. calorie control
- c. moderation
- d. balance
- e. variety

ANSWER: d

57. Identify an example of whole foods.

- a. Candies
- b. Ready-to-heat meals
- c. Dried beans
- d. Soft drinks
- e. Potato "tots"

ANSWER: c

58. You know that you should limit your salt intake for the sake of your health.. This doesn't mean that you should never indulge in salty food. This statement illustrates an important characteristic of a nutritious diet called ____.

- a. adequacy
- b. calorie control
- c. moderation
- d. variety
- e. balance

ANSWER: c

59. . You often cannot refuse food offered to you by your companions. Which food choice factor does this situation illustrate?

- a. Advertising
- b. Social norms
- c. Values or beliefs
- d. Personal preference
- e. Cost

ANSWER: b

60. Your family always has rice available at every meal, just as it has been for every generation. This is an example of food selection because of:

- a. cultural tradition
- b. emotional comfort
- c. availability
- d. social pressure
- e. economy

ANSWER: a

61. In a study conducted in several countries, it was found that a high intake of fish and a low intake of animal fat were correlated with a low breast cancer mortality rate. This study is an example of a(n):

- a. epidemiological study
- b. case study
- c. intervention study
- d. blind experiment
- e. laboratory study

ANSWER: a

62. Scientists have developed a new type of margarine that contains plant ingredients. They expect that the margarine will lower blood cholesterol levels. They want to test their hypothesis by comparing the blood cholesterol levels of people who will consume the new margarine with those who will consume regular margarine for a few days. Both groups of people will know which type of margarine they are to consume. Which type of research design will the scientists consider?

- a. An epidemiological study
- b. A case study
- c. An intervention study
- d. A laboratory study
- e. A double-blind study

ANSWER: c

63. Which of the following steps comes after the hypothesis and prediction step in the scientific method?

- a. Observation
- b. Results and interpretations
- c. Analysis of data
- d. Experiment
- e. Publication

ANSWER: d

A person with a heart disease is told to make some diet and lifestyle changes. He states, "I know that I should make changes because my father and brother both died of heart attacks. But I really like to have my big steaks for dinner." Which stage of behavior change does this example represent

64. A person with a heart disease is told to make some diet and lifestyle changes. He states, "I know that I should make changes because my father and brother both died of heart attacks. But I really like to have my big steaks for dinner."

- a. Precontemplation
- b. Contemplation
- c. Action
- d. Maintenance
- e. Adoption

ANSWER: b

65. An individual has started to set small goals after writing an action plan for change. Which stage of behavior change does this example represent?

- a. Contemplation
- b. Preparation
- c. Action
- d. Adoption
- e. Precontemplation

ANSWER: b

66. Three ounces of beef stew contains about the same amount of iron as three ounces of water-packed tuna. However, the beef stew provides over 300 calories, while the tuna provides about 100 calories. With respect to iron, the tuna offers more:

- a. balance
- b. nutrient density
- c. dietary variety
- d. moderation
- e. variety

ANSWER: b

67. A false story has circulated for several years on the Internet about the chickens used by a popular national fried chicken chain. It claims that the chickens used by the company have been genetically modified to have no heads, beaks, or feet and are kept alive with feeding tubes. This is an example of:

- a. an advertorial.
- b. an urban legend.
- c. an infomercial.
- d. anecdotal evidence.
- e. a blind study.

ANSWER: b

68. A popular star has a half-hour television show describing a new dietary supplement that she claims has made her much healthier. During the show, she describes how she has seen improvement in her skin, hair, and eyesight without going to the doctor. This is an example of:

- a. an advertorial.
- b. an urban legend.
- c. an infomercial.
- d. valid nutrition information.
- e. a blind study.

ANSWER: c

69. Which of the following statements is true of advertorials?

- a. They promote products using feature-length television shows and are always inaccurate.
- b. They are short articles published in reputed scientific journals and are always accurate.
- c. They are feature-length advertisements in newspapers that may or may not be accurate.
- d. They are entertaining personal stories that are always accurate.
- e. They are false stories that gain the appearance of validity by rapidly traveling through the Internet.

ANSWER: c

70. You can tell that a claim about nutrition is unreliable if:
- a. it is being made by an advertiser who is paid to make claims
 - b. the evidence used to support the claim comes from a university laboratory
 - c. it appears in a peer-reviewed scientific journal
 - d. it is being made by a public health nutritionist
 - e. it is written in a blog on the Internet

ANSWER: a

71. Characteristics of a legitimate and qualified nutrition expert include:
- a. graduation from a university after completing a program of dietetics
 - b. completion of a medical degree
 - c. use of the term “nutritionist” after the individual's name
 - d. a Bachelor of Arts degree from a correspondence program
 - e. authoring/publication of a news article about nutrition

ANSWER: a

Essay

72. Describe the potential benefits of physical activity.

ANSWER: Some of the potential benefits of physical activity are as follows: Reduced risks of cardiovascular diseases, diabetes, certain cancers, hypertension, and other diseases. Increased endurance, strength, and flexibility. More cheerful outlook and less likelihood of depression. Improved mental functioning. Feeling of vigor. Feeling of belonging—the companionship of sports. Stronger self-image. Reduced body fat and increased lean tissue. A more youthful appearance, healthy skin, and improved muscle tone. Greater bone density and lessened risk of adult bone loss in later life. Increased independence in the elderly. Sound, beneficial sleep. Faster wound healing. Reduced menstrual symptoms. Improved resistance to infection.

73. Identify the functions of food, in addition to providing nutrients.

ANSWER: Foods are chemically complex. In addition to their nutrients, foods contain phytochemicals, compounds that confer color, taste, and other characteristics to foods. Some may be bioactive food components that interact with metabolic processes in the body and may affect disease risks. Even an ordinary baked potato contains hundreds of different compounds. Nutrients and other food components interact with each other in the body and operate best in harmony with one another.

74. Is it possible to take dietary supplements in place of food? Why or why not?

ANSWER: Real food is superior to supplements. Most healthy people who eat a nutritious diet need no dietary supplements at all. Even if a person's basic nutrient needs are perfectly understood and met, a dietary supplement taken in place of food still lacks something that foods provide. Hospitalized clients who are fed nutrient mixtures through a vein often improve dramatically when they can finally eat food. Real food is important to health, and it offers something that cannot be provided through a supplement alone.

75. Why does the variety of foods available to us today make it more difficult, rather than easier, to plan a nutritious diet?

ANSWER: About 100 years ago there were relatively few food choices available, and the available foods were mostly whole foods. The number of foods supplied by the food industry today is astounding. Tens of thousands of foods now line market shelves—many are processed mixtures of basic food, and some are constructed entirely from highly processed ingredients. Ironically, this abundance often makes it more difficult, rather than easier, to plan a nutritious diet.

76. Identify and briefly describe the five characteristics of a nutritious diet.

ANSWER: A nutritious diet is an eating pattern that has five characteristics: adequacy, balance, calorie control, moderation, and variety. Adequacy is the dietary characteristic of providing all of the essential nutrients, fiber, and energy in amounts sufficient to maintain health and body weight. Balance is the dietary characteristic of providing foods of a number of types in proportion to each other, such that foods rich in some nutrients do not crowd out the diet. Calorie control is the dietary characteristic of controlling energy intake. Moderation is the dietary characteristic of providing constituents within set limits, not to excess. Variety is the dietary characteristic of providing a wide selection of foods.

77. Identify factors that drive food choices.

ANSWER: Many factors such as cultural, psychological, physical, social, and philosophical factors influence people's food choices. Some of these factors are as follows: Advertising: The media have persuaded you to consume these foods. Availability: They are present in the environment and accessible to you. Cost: They are within your financial means. Emotional comfort: They can make you feel better for a while. Habit: They are familiar; you always eat them. Personal preference and genetic inheritance: You like the way these foods taste. Positive associations: They are eaten by people you admire, or they indicate status, or they remind you of fun. Negative associations: They were forced on you, or you became ill while eating them. Region of the country: They are foods favored in your area. Social norms: Your companions are eating them, or they are offered and you feel you can't refuse them. Values or beliefs: They fit your religious tradition, square with your political views, or honor the environmental ethic. Weight: You think they will help to control body weight. Nutrition and health benefits: You think they are good for you.

78. Describe why people should not make changes in their diet based on the results of a single research study.

ANSWER: Nutrition science is an active, changing, and growing body of knowledge. One study does not "prove" or "disprove" anything. Only when a finding has stood up to rigorous repeated testing in several kinds of experiments performed by several different researchers is it finally considered confirmed. Even then, strictly speaking, science consists not of facts that are set in stone but of theories that can always be challenged and revised.

79. Explain the concept of nutrient density and give an example.

ANSWER: Nutrient density is determined by the amount of nutrients relative to the energy content of a food. A nutrient-dense food provides vitamins, minerals, and other

beneficial substances with relatively few calories. Consider calcium sources, for example. Ice cream and fat-free milk both supply calcium, but a cup of rich ice cream contributes more than 350 calories, whereas a cup of fat-free milk has only 85—and almost double the calcium. Fat-free milk has a high nutrient density, whereas ice cream has a low nutrient density. Among foods that often rank high in nutrient density are the vegetables, particularly the nonstarchy vegetables such as dark leafy greens (cooked and raw), red bell peppers, broccoli, carrots, mushrooms, and tomatoes.

80. Describe how you would determine whether an Internet site offers reliable nutrition information.

ANSWER: To determine whether an Internet site offers reliable nutrition information, ask some of the following questions: Who is responsible for the site? For example, “gov” and “edu” indicate government and university sites, which are usually reliable sources of information. Do the names and credentials of information providers appear? Many legitimate sources provide e-mail addresses or other ways to obtain more information about the site and the information providers behind it. Are links with other reliable information sites provided? Reputable organizations almost always provide links with other similar sites because they want you to know of other experts in their area of knowledge. Caution is needed when you evaluate a site by its links, however. Anyone, even a quack, can link a webpage to a reputable site without the organization's permission. Is the site selling a product or service? Commercial sites may provide accurate information, but they also may not, and their profit motive increases the risk of bias. Does the site charge a fee to gain access to it? Many academic and government sites offer the best information, usually for free. Some legitimate sites do charge fees, but before paying up, check the free sites. There's a good chance you'll find what you are looking for without paying.