# *Nutrition Science and Applications 4th edition Smolin Test Bank*

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# Chapter 1
# Nutrition: Everyday Choices

**Multiple – Choice Questions**

1. Nutrients are classified as macronutrients and micronutrients. Which of the following is NOT considered a macronutrient?
   a. Carbohydrate
   b. Fat
   c. Protein
   d. Vitamins

2. Metabolic processes take place in the body to keep the body temperature, heart rate, and blood sugar relatively constant. This stable state is called:
   a. anabolic processes
   b. catabolic processes
   c. homeostasis
   d. metabolism

3. Which of the following is <u>not</u> associated with overnutrition?
   a. diabetes
   b. failure to thrive
   c. heart disease
   d. high blood pressure

4. Which of the following statements about the typical American diet is true?
   a. The intake of grains is above the recommended level and more energy is consumed than expended.
   b. Intake of whole grains is less than recommended and more energy is consumed than expended.
   c. Intake of fiber is about right and intake of fruits and vegetables is less than recommended.
   d. Intake of fiber is low and fruits and vegetables intake is about right.

5. Where do most people in the U.S. get their nutrition information?
   a. dietitians
   b. mass media, i.e., television, magazines and newspapers
   c. physicians
   d. talk radio

6. The correct sequence of events in the scientific method is:
   a. conduct the experiment, develop a hypothesis, form a theory, and make an observation
   b. develop a hypothesis, conduct the experiment, make an observation, and form a theory
   c. form a theory, conduct the experiment, develop a hypothesis, and make an observation
   d. make an observation, develop a hypothesis, conduct the experiment, and form a theory

7. Which of the following is NOT considered quantifiable data?
   a. The amount of milk consumed in a household in a week
   b. The level of iron in blood
   c. How the number of hours they sleep affects their performance as reported by marathon runners
   d. Percentage of body fat in a group of swimmers

8. When subjects do not know which treatment they are receiving in a clinical trial, but the researchers do, the study is called:
   a. anecdotal
   b. collaboration
   c. double blind
   d. single blind

9. Approximately 1000 high school students were asked to keep a record of what supplemental vitamins they took and how many colds they had over the course of a year. The amount of vitamin C consumed was compared with the students' incidences of colds. This type of study is called:
   a. clinical trial
   b. epidemiological study
   c. intervention study
   d. laboratory study

10. Researchers interview the same individuals every year for twelve years to obtain data about their dietary habits. The type of data obtained is called:
   a. cross-sectional data
   b. correlated data
   c. longitudinal data
   d. population-based data

11. One group of individuals is asked to eat a diet high in fruits, vegetables and dairy foods while a second group of individuals is asked to eat a diet with lower amounts of fruits, vegetables and dairy foods. The two groups' blood pressure readings are monitored and compared. This is an example of:
    a. clinical trial
    b. epidemiological study
    c. intervention study
    d. laboratory study

12. Comparison of the amount of a particular nutrient consumed with the amount of the nutrient excreted is characteristic of which type of study?
    a. balance study
    b. collection study
    c. depletion-repletion study
    d. epidemiological study

13. Which is NOT a true statement about nutritional studies using animals?
    a. Animal studies can be more easily controlled than human studies
    b. The digestive system of some animals is quite different from humans, making these animals inappropriate choices for some studies.
    c. The choice of the animal studied may influence the outcome of the study.
    d. Results from animal studies can be readily extrapolated to the human population.

14. In a controlled experiment, the group that is NOT subject to treatment is called:
    a. the control group
    b. the double-blind group
    c. the experimental group
    d. the placebo effect

15. When judging nutrition information, which is the least important factor?
    a. the design of the study
    b. how many people conducted the study
    c. how the study was funded
    d. where the study was published

16. Over a period of ten years, the amount of fat and protein in the diets of a selected group of office workers was periodically recorded. This is an example of:
    a. a study of macronutrients using longitudinal data
    b. a study of macronutrients using cross-sectional data
    c. a study of micronutrients using longitudinal data
    d. a study of micronutrients using cross-sectional data

17. Which of the following is a common source of anecdotal evidence?
    a. Double-blind studies
    b. Results from a minimum of three experiments
    c. Single-blind studies
    d. Testimony of individuals

18. Advantages of using computer models over animal or human studies include all EXCEPT:
    a. ethical considerations are alleviated
    b. more easily controlled than humans or animals
    c. no need for review by a board to ensure humane treatment of animals
    d. universal application of results

19. Which of the following would be the least reliable source of information about herbal supplements?
    a. a government publication
    b. a dietitian
    c. a pamphlet published by the health food store
    d. a peer-reviewed article available on the Internet

20. A substance in food which cannot be made by the body and is not necessary to sustain life, but has healthful benefits, is
    a. an herbal supplement
    b. a phytochemical
    c. protein
    d. sodium

21. Which of the following yields energy but is not considered a nutrient?
    a. alcohol
    b. carbohydrate
    c. fat
    d. protein

22. The energy needed for all life processes is measured in
    a. BTUs
    b. kilocalories
    c. thermal requirements
    d. watts

23. Which of the following does not contribute to undernutrition?
    a. deficit intake of energy or nutrients
    b. inability to absorb nutrients
    c. increased requirements for energy or nutrients
    d. toxic reaction

24. Recommendations for a healthy diet suggest which of the following energy distributions?

| | Protein | Fat | Carbohydrate |
|---|---|---|---|
| a. | 5 – 10% | < 10% | 70 – 80% |
| b. | 10 – 15% | < 30% | 55 – 60 % |
| c. | 20 – 30% | < 30% | 40 – 50 % |
| d. | 30 – 40% | <40% | 20 – 30% |

25. What is true regarding the differences between a hypothesis and a theory?
    a. a hypothesis is an educated guess and a theory explains why something happens
    b. hypothesis are not tested, theories are tested
    c. theories are the foundations of hypothesis
    d. hypothesis are tested using quantifiable data; theories are tested used subjective data

26. Which of the following is most likely to limit availability of food?
    a. one's socioeconomic status
    b. one's health status
    c. where a person lives
    d. all of the above

27. Continued acceptance of a scientific theory depends on
    a. the ability of other scientists to duplicate the original research and results
    b. increased funding for the research
    c. number of years since the development of the theory
    d. how the hypothesis was formed

28. A radio advertisement features a woman who professes to have lost 10 pounds in three days with a new herbal supplement. This type of claim is
    a. material
    b. anecdotal
    c. substantiated
    d. objective

29. Researchers study whether caffeine has any effect on short-term memory. In the first part of the study, two groups of subjects are given capsules that look identical. Group A receives caffeine and Group B receives a harmless neutral substance. Group B is being given a _____ .
    a. catalyst
    b. placebo
    c. stimulant
    d. simulation factor

30. In a controlled study, if neither the subjects nor the investigators know which subjects are receiving treatment, the study is called a(n)
    a. double blind study
    b. single blind study
    c. variable study
    d. undirected study

31. As the number of variables in a research study increases, the number of subjects needed to prove an outcome generally _____ .
    a. increases
    b. decreases
    c. is not affected

32. A journal article is read, analyzed and evaluated by two or more researchers who were not involved in the research study. Before the article is published, they examine it to ensure that the experiment was not flawed and that the results were interpreted correctly. This system is called
    a. experimental consultation
    b. experimental design
    c. journal critique
    d. peer review

33. People in a city are randomly contacted and interviewed about their consumption of carbonated beverages. The results of the survey are called
    a. correlated data
    b. cosmopolitan data
    c. cross-sectional data
    d. longitudinal data

34. The study of processes and functions of DNA at the cellular level is called
    a. balanced study
    b. laboratory analysis
    c. molecular biology
    d. vitamin application

35. Which of the following is NOT a component of a valid nutrition experiment?
    a. opinions of the researchers
    b. controls suitable to the experiment
    c. the right type and number of subjects
    d. careful interpretation of experimental results

36. Which is an example of anecdotal information?
    a. blood glucose level in runners after they have run in a competition
    b. a runner reports having more energy after eating a certain type of power bar
    c. runners are timed before and after eating one power bar a day for a month
    d. people take a written test before and after eating power bars for a month; the results are scored

**Short Answer/Essay**

1. Nutrients are classified according to their chemical properties. What are the six classes of nutrients? Which are macronutrients? Which are micronutrients?

2. A serving of hot chocolate provides 5 grams of fat, 2 grams of protein and 28 grams of carbohydrate. How many kcalories are in the serving of hot chocolate?

3. What is the difference between metabolism and homeostasis?

4. Obesity, a form of overnutrition, increases the risk for which health problems?

5. Describe the typical American diet and explain how it could be improved. Is there anything you would like to change about the way you eat? Why or why not?

6. From which media source do most Americans get their nutrition information? What are the most reliable sources of nutrition information?

7. Describe the steps involved in conducting a valid experiment using the scientific method.

8. Compare and contrast the methods of study using cross-sectional data and one using longitudinal data. What determines which type of data is collected for a study?

9. What is the difference between a depletion-repletion study and a balance study? How is each used in the field of nutrition?

10. What is the difference between a single-blind and a double-blind study? Why are double-blind techniques used?

11. What are two advantages of using animals instead of humans in nutrition experiments? What are two disadvantages?

12. What are three controllable risk factors for obesity?

13. How does a person's genetic background affect the relationship between health and food?

**Case study**

1. Recently Trevor received an e-mail letter forwarded to him by a friend. The letter warns all recipients of the dangers of an artificial sweetener, which according to the original author, is responsible for several types of cancer, mental illness, and several other serious ailments. The author uses several anecdotal stories as the basis for her assertions. Curious, Trevor does a search on the Internet for the author but cannot find any information about her.

   What do you think of unsolicited e-mail as a source of nutrition advice?
   How likely is it that one product causes, or cures several different diseases?
   What else makes you wonder about the validity of the information?
   How might you use the Internet to get more information about the artificial sweetener in question?
   How can you tell if nutrition information in a letter, in an article, or on television is accurate?

2. Mrs. Sandoz' fourth grade class spent several class periods learning about nutrition. They learned about the food guide pyramid and how eating a healthy diet could benefit them. Mr. Danner's fourth grade class, in the same building, did not have a unit on nutrition. After the nutrition unit was finished in Mrs. Sandoz' class, researchers looked at the selections students made in the cafeteria and how much food was consumed and thrown away by each class to see if the nutrition education had an effect on the students' eating habits.

   What type of study was this?
   Which classroom was the control class room?
   Which classroom was the experimental group?
   What other factors affect students' choice of food, besides what they know about health and food?

**Answer Key (Multiple Choice)**

1. d
2. c
3. b
4. b
5. b
6. d
7. c
8. d
9. b
10. c
11. c
12. a
13. d
14. a
15. b
16. a
17. d
18. d
19. c
20. b
21. a
22. b
23. d
24. b
25. a
26. d
27. a
28. b
29. b
30. a
31. a
32. d
33. c
34. c
35. a
36. b