

Nutrition: An Applied Approach, 3e, My Plate Edition (Thompson/Manore)
Chapter 1 The Role of Nutrition in Our Health

Multiple-Choice Questions

1) Which statement is FALSE concerning the field of nutrition?

- A) Nutrition is the study of how food nourishes the body.
- B) Nutrition encompasses how we consume, digest, metabolize, and store food.
- C) Nutrition is an ancient science that dates back to the 14th century.
- D) Nutrition involves studying the factors that influence eating patterns.

Answer: C

Page Ref: 4

Skill: Factual

2) Which of the following chronic diseases is NOT strongly associated with dietary choices?

- A) Alzheimer's disease
- B) cancer
- C) heart disease
- D) type 2 diabetes

Answer: A

Page Ref: 4

Skill: Factual

3) All nutrients are divided into how many classes?

- A) two
- B) four
- C) six
- D) eight

Answer: C

Page Ref: 8

Skill: Factual

4) To a scientist describing nutrients, the term "organic" means nutrients that

- A) contain both carbon and hydrogen.
- B) contain hydrogen and nitrogen.
- C) are natural, not synthetic.
- D) are synthetic, not natural.

Answer: A

Page Ref: 8

Skill: Factual

5) What is the primary source of fuel for the brain?

- A) proteins
- B) fats
- C) carbohydrates
- D) vitamins

Answer: C

Page Ref: 9

Skill: Factual

6) Of the following nutrients, which contains nitrogen?

- A) carbohydrates
- B) proteins
- C) lipids
- D) water

Answer: B

Page Ref: 11

Skill: Factual

7) Which of the following is an example of an inorganic nutrient?

- A) vitamin A (vitamin)
- B) stearic acid (fat)
- C) dietary fiber (carbohydrate)
- D) calcium (mineral)

Answer: D

Page Ref: 12

Skill: Conceptual

8) Jane consumed a breakfast that contained 85 grams of carbohydrate, 20 grams of protein, and 18 grams of fat. How many kilocalories did Jane eat at breakfast?

- A) 123 kilocalories
- B) 152 kilocalories
- C) 582 kilocalories
- D) 1,007 kilocalories

Answer: C

Page Ref: 9

Skill: Applied

9) For dinner, Carol consumes 250 grams of carbohydrate, 50 grams of protein, and 30 grams of fat. In addition, Carol decides that she wants a glass of wine with her meal. If she drinks one glass of wine containing 10 grams of alcohol, how many total kilocalories does she consume in this meal?

- A) 340 kilocalories
- B) 1,540 kilocalories
- C) 1,806 kilocalories
- D) 2,820 kilocalories

Answer: B

Page Ref: 9

Skill: Applied

10) Which of the following are examples of carbohydrate-rich foods?

- A) butter and corn oil
- B) beef and pork
- C) wheat and lentils
- D) bacon and eggs

Answer: C

Page Ref: 9-10

Skill: Conceptual

11) Which dietary standard, expressed as percentages of total energy, defines the recommended intake range for the macronutrients?

- A) Tolerable Upper Intake Level (UL)
- B) Recommended Dietary Allowance (RDA)
- C) Estimated Average Requirement (EAR)
- D) Acceptable Macronutrient Distribution Range (AMDR)

Answer: D

Page Ref: 15

Skill: Factual

12) Which of the following nutrients is NOT organic?

- A) vitamins
- B) carbohydrates
- C) proteins
- D) water

Answer: D

Page Ref: 8

Skill: Factual

13) Lauren's friend has recommended that she take a vitamin C supplement before undergoing oral surgery. Lauren is concerned about consuming too much of the supplement. Which of the following nutrient standards would assist Lauren in determining the highest amount of the supplement that would be safe for her to consume?

- A) Tolerable Upper Intake Level (UL)
- B) Recommended Dietary Allowance (RDA)
- C) Estimated Average Requirement (EAR)
- D) Acceptable Macronutrient Distribution Range (AMDR)

Answer: A

Page Ref: 15

Skill: Applied

14) Which of the following nutrients is the MOST energy dense?

- A) carbohydrate
- B) fat
- C) protein
- D) vitamins

Answer: B

Page Ref: 9

Skill: Conceptual

15) Which of the following BEST describes minerals?

- A) micronutrients that are broken down easily during digestion
- B) micronutrients that are easily destroyed by heat and light
- C) inorganic micronutrients found in a variety of foods
- D) nutrients that are needed in large amounts by the body

Answer: C

Page Ref: 12

Skill: Conceptual

16) An important source of energy for muscles during times of rest and low-intensity exercise is

- A) protein.
- B) vitamins.
- C) fat.
- D) water.

Answer: C

Page Ref: 10

Skill: Factual

17) The building blocks of proteins are called

- A) fatty acids.
- B) amino acids.
- C) saccharides.
- D) nitrogen fragments.

Answer: B

Page Ref: 11

Skill: Factual

18) Which of the following is NOT a primary function of dietary protein?

- A) building new cells and tissues
- B) repairing damaged structures
- C) regulating metabolism and fluid balance
- D) serving as a primary source of energy for the body

Answer: D

Page Ref: 11

Skill: Factual

19) Proteins are NOT found in

- A) meats, fish, and poultry.
- B) dairy products.
- C) seeds, nuts, and legumes.
- D) water.

Answer: D

Page Ref: 11

Skill: Conceptual

20) What are the two groups that vitamins are classified into?

- A) fat soluble and water soluble
- B) macrosoluble and microsoluble
- C) nonnutritive and nutritive
- D) trace and major

Answer: A

Page Ref: 12

Skill: Factual

21) Vitamin C and the B vitamins are termed

- A) nonessential vitamins.
- B) water-soluble vitamins.
- C) fat-soluble vitamins.
- D) trace vitamins.

Answer: B

Page Ref: 12

Skill: Conceptual

22) Which of the following is FALSE?

- A) Fats are soluble in water.
- B) Fats are an important energy source for our bodies at rest and during low-intensity exercise.
- C) Fats are composed of carbon, hydrogen, and oxygen.
- D) Fats yield more calories per gram than carbohydrate or protein.

Answer: A

Page Ref: 10

Skill: Conceptual

23) Which of the following describes the vitamins A, D, E, and K?

- A) excreted via the urine
- B) potentially toxic
- C) soluble in water
- D) not stored to any extent in the body

Answer: B

Page Ref: 12

Skill: Factual

24) Inorganic nutrients that are NOT broken down by the human body or destroyed by heat or light are called

- A) vitamins.
- B) minerals.
- C) proteins.
- D) fats.

Answer: B

Page Ref: 12

Skill: Factual

25) Overconsumption of which nutrient has the greatest potential for toxicity?

- A) vitamin D
- B) vitamin C
- C) thiamin
- D) niacin

Answer: A

Page Ref: 12

Skill: Conceptual

26) What is the standard used to estimate the daily nutrient needs of half of all healthy individuals?

- A) Estimated Average Requirement (EAR)
- B) Adequate Intake (AI)
- C) Recommended Dietary Allowance (RDA)
- D) Tolerable Upper Intake Level (UI)

Answer: A

Page Ref: 14

Skill: Factual

27) Which of the following is NOT a function of water in the body?

- A) helps to regulate nervous impulses and muscle contraction
- B) helps to transport nutrients and oxygen
- C) helps to excrete waste products
- D) provides a source of energy to work and play

Answer: D

Page Ref: 13

Skill: Factual

28) According to the Acceptable Macronutrient Distribution Range (AMDR), up to what percentage of your daily calories should be provided by carbohydrate?

- A) 35%
- B) 65%
- C) 70%
- D) 75%

Answer: B

Page Ref: 15

Skill: Factual

29) The highest average amount of a nutrient that can be consumed without a risk of adverse health effects to almost all individuals in a particular age and gender group is called the

- A) Acceptable Macronutrient Distribution Range (AMDR).
- B) Recommended Daily Allowance (RDA).
- C) Adequate Intake (AI).
- D) Tolerable Upper Intake Level (UL).

Answer: D

Page Ref: 15

Skill: Factual

30) What is the leading federal agency in the United States that protects human health and safety?

- A) United States Department of Agriculture (USDA)
- B) American Dietetic Association (ADA)
- C) Centers for Disease Control and Prevention (CDC)
- D) National Institutes of Health (NIH)

Answer: C

Page Ref: 23

Skill: Factual

31) Your grandmother has recently been diagnosed with type 2 diabetes. Which of the following professionals is MOST likely to be qualified to offer your grandmother assistance in planning her diabetic diet?

- A) registered dietitian (RD)
- B) PhD in exercise science
- C) medical doctor (MD)
- D) nutritionist

Answer: A

Page Ref: 22

Skill: Applied

32) The BRFSS is the government

- A) survey that tracks lifestyle habits that increase risks for developing chronic diseases.
- B) survey that tracks nutrition education programs in the United States.
- C) agency that protects the health and safety of the American people.
- D) agency that conducts medical research in the United States.

Answer: A

Page Ref: 23

Skill: Factual

33) Which of the following professional titles has NO definition or laws regulating it?

- A) registered dietitian
- B) medical doctor
- C) nutritionist
- D) licensed nutritionist

Answer: C

Page Ref: 22

Skill: Factual

34) The type of study that compares a group of individuals with a disease to another similar but healthy group is called a(n)

- A) double-blind study.
- B) clinical trial.
- C) intervention study.
- D) case control study.

Answer: D

Page Ref: 19-20

Skill: Factual

35) The group given a specific treatment or intervention during an experiment is called what?

- A) the experimental group
- B) the control group
- C) the double-blind group
- D) the blind group

Answer: A

Page Ref: 20

Skill: Factual

36) Dr. Sullivan is conducting a clinical trial to determine if vitamin Z can improve test performance of students in an introductory college nutrition course. Dr. Sullivan puts all the students' names in a hat and draws names to determine if they will be placed in the control or the experimental group. The experimental group receives a capsule of vitamin Z and the control group a "sugar pill" that tastes and looks identical to the vitamin Z capsule. Neither Dr. Sullivan nor the participants knows who is receiving which treatment. This experiment is BEST described as

- A) single-blind, random selection.
- B) double-blind, placebo-controlled.
- C) single-blind, random selection, placebo-controlled.
- D) double-blind, random selection, placebo-controlled.

Answer: D

Page Ref: 20

Skill: Applied

37) What is the first step of the scientific method?

- A) Formulate a hypothesis.
- B) Design and conduct an experiment.
- C) Collect and analyze data.
- D) Observe a phenomenon.

Answer: D

Page Ref: 16

Skill: Factual

38) National Health and Nutrition Examination Survey (NHANES) collects dietary information of Americans by using a

- A) website where individuals can self-report their dietary intake online.
- B) personal interview that collects information from a 24-hour diet recall.
- C) telephone survey that collects information using a food frequency questionnaire.
- D) written survey that collects information using a food likes and dislikes questionnaire.

Answer: B

Page Ref: 23

Skill: Factual

39) The chemicals found in foods that are critical to human growth and function are called

- A) antibodies.
- B) bacteria.
- C) nutrients.
- D) carcinogens.

Answer: C

Page Ref: 8

Skill: Conceptual

40) What term is commonly used to describe foods that are grown without the use of synthetic pesticides?

- A) organic
- B) inorganic
- C) genetically modified organism (GMO)
- D) vegetarian

Answer: A

Page Ref: 8

Skill: Factual

41) The primary source of fuel for the body is

- A) carbohydrates.
- B) fats and oils.
- C) proteins.
- D) vitamins and minerals.

Answer: A

Page Ref: 9

Skill: Conceptual

42) Amino acids are the smallest unit of a

- A) carbohydrate.
- B) lipid.
- C) protein.
- D) vitamin.

Answer: C

Page Ref: 11

Skill: Conceptual

43) In the United States and Canada, what set of standards defines the recommended intake values for various nutrients for healthy people?

- A) Estimated Average Requirement (EAR)
- B) Tolerable Upper Intake Level (UL)
- C) Dietary Reference Intakes (DRIs)
- D) Acceptable Macronutrient Distribution Range (AMDR)

Answer: C

Page Ref: 13

Skill: Factual

44) What is the term for an imitation treatment that has no known physical effect or therapeutic value on the subjects in a research study?

- A) theory
- B) placebo
- C) single-blind trial
- D) double-blind trial

Answer: B

Page Ref: 20

Skill: Factual

45) What is another name for an epidemiological study?

- A) a single-blind study
- B) a double-blind study
- C) a model study
- D) an observational study

Answer: D

Page Ref: 19

Skill: Factual

46) A hypothesis or group of related hypotheses that have been confirmed through repeated scientific experiments is known as a(n)

- A) phenomenon.
- B) experiment.
- C) theory.
- D) fact.

Answer: C

Page Ref: 18

Skill: Conceptual

True/False Questions

1) Nutrition is a relatively new scientific discipline.

Answer: TRUE

Page Ref: 4

Skill: Factual

2) The earliest discoveries in the field of nutrition focused on nutritional deficiencies and illness.

Answer: TRUE

Page Ref: 4

Skill: Factual

3) "Wellness" is a multidimensional process that includes one's physical, emotional, social, occupational, and spiritual health.

Answer: TRUE

Page Ref: 5

Skill: Factual

4) Cryogenics is a new area of research that seeks to uncover the links between our genes, our environment, and our diet.

Answer: FALSE

Page Ref: 4

Skill: Factual

5) Macronutrients are nutrients that contain inorganic components.

Answer: FALSE

Page Ref: 9

Skill: Factual

6) Protein is the primary source of fuel for our brain.

Answer: FALSE

Page Ref: 11

Skill: Factual

7) Vitamins provide 4 kilocalories per gram.

Answer: FALSE

Page Ref: 11

Skill: Factual

8) Because water does not provide any calories to the body, scientists do not consider it a nutrient.

Answer: FALSE

Page Ref: 13

Skill: Conceptual

9) A beverage that contains 20 grams of alcohol mixed with a diet soda has approximately 140 kilocalories.

Answer: TRUE

Page Ref: 9

Skill: Applied

10) The macronutrients include carbohydrates, lipids, and proteins.

Answer: TRUE

Page Ref: 9

Skill: Factual

11) Fat is an important energy source for our bodies during low-intensity exercise.

Answer: TRUE

Page Ref: 10

Skill: Factual

12) Protein's primary role is to provide energy for the body.

Answer: FALSE

Page Ref: 11

Skill: Factual

13) Protein is the only macronutrient that contains the element nitrogen.

Answer: TRUE

Page Ref: 11

Skill: Factual

14) Poor nutrition is strongly associated with three chronic diseases that are among the top ten causes of death in the United States.

Answer: TRUE

Page Ref: 6

Skill: Factual

15) Minerals maintain their chemical structure and are not broken down during digestion.

Answer: TRUE

Page Ref: 12

Skill: Conceptual

16) Because they are needed in relatively large quantities, vitamins and minerals are considered macronutrients.

Answer: FALSE

Page Ref: 11

Skill: Conceptual

17) The Dietary Reference Intakes (DRIs) are dietary standards that should be applied only to healthy individuals.

Answer: TRUE

Page Ref: 13

Skill: Conceptual

18) Rich sources of carbohydrate include legumes, milk, rice, wheat, fruits, and vegetables.

Answer: TRUE

Page Ref: 9-10

Skill: Conceptual

19) A double-blind experiment is one in which neither the researchers nor participants know which group is assigned to which treatment.

Answer: TRUE

Page Ref: 20

Skill: Factual

20) The term nutritionist has no precise definition or laws regulating it.

Answer: TRUE

Page Ref: 22

Skill: Factual

21) In the second half of the 20th century, nutrition researchers failed to find a link between nutrition and the development of chronic diseases.

Answer: FALSE

Page Ref: 4, 6

Skill: Conceptual

22) Nutrigenomics is an ancient specialty area of nutritional research.

Answer: FALSE

Page Ref: 4

Skill: Factual

23) For an experiment to be consistent with the principles of the scientific method, it must be repeatable.

Answer: TRUE

Page Ref: 16

Skill: Factual

24) The energy derived from food is expressed in units called kilocalories.

Answer: TRUE

Page Ref: 9

Skill: Factual

25) A placebo is the misrepresentation of a product, program, or service for financial gain.

Answer: FALSE

Page Ref: 20

Skill: Factual

26) The National Institutes of Health (NIH) plays a limited role in researching nutrition-related issues.

Answer: FALSE

Page Ref: 23

Skill: Factual

27) A Registered Dietitian is a health professional who has earned a bachelor's degree, has completed extensive nutrition-related course work, and has successfully completed a national dietetics exam.

Answer: TRUE

Page Ref: 22

Skill: Factual

Essay Questions

1) The Dietary Reference Intakes (DRIs) for most nutrients consist of four separate values: Estimated Average Requirement (EAR), Recommended Dietary Allowance (RDA), Adequate Intake (AI), and Tolerable Upper Intake Level (UL). Explain what each of these values represents.

Answer: Answers will vary.

Page Ref: 13-15

Skill: Factual

2) List the six classes of nutrients. For each class of nutrients, note whether it is organic or inorganic and how many kilocalories per gram it provides, if any.

Answer: Answers will vary.

Page Ref: 8-9, 11

Skill: Factual

3) Describe why humans do not make very good experimental models.

Answer: Answers will vary.

Page Ref: 19-20

Skill: Conceptual

4) Describe how nutrition and physical activity influence wellness.

Answer: Answers will vary.

Page Ref: 4-7

Skill: Conceptual

Nutrition Debate Questions

1) Nutrigenomics is a scientific discipline that studies the genetic variations in plant and animal foods and the effect on nutrient composition.

Answer: FALSE

Page Ref: 25

Skill: Factual

2) Nutrition researchers studying agouti mice discovered a link between

A) vitamin C deficiency and scurvy.

B) level of physical activity and obesity.

C) diet and gene expression.

D) niacin deficiency and pellagra.

Answer: C

Page Ref: 25

Skill: Factual

3) What is the theory behind nutrigenomics? What evidence exists to support nutrigenomics?

Answer: Answers will vary.

Page Ref: 25

Skill: Factual

Questions from Chapter Boxes

1) Which of the following is an example of disease that is directly caused by a nutritional deficiency?

A) pellagra

B) cancer

C) type 2 diabetes

D) heart disease

Answer: A

Page Ref: 5

Skill: Factual

2) Prevalent among U.S. Southerners during the early 1900s, pellagra was first thought to be an infectious disease. Today we know that it is caused by a deficiency of

- A) vitamin A.
- B) vitamin C.
- C) protein.
- D) niacin.

Answer: D

Page Ref: 5

Skill: Factual

3) Joan's dinner contains 210 grams of carbohydrate, 60 grams of protein, and 52 grams of fat. What percent of kilocalories in this meal comes from carbohydrate?

- A) 22%
- B) 25%
- C) 35%
- D) 54%

Answer: D

Page Ref: 10

Skill: Applied

4) A slice of pumpkin bread contains 5 grams of fat, 40 grams of carbohydrate, and 5 grams of protein. What percent of the bread's calories are from fat?

- A) 10%
- B) 20%
- C) 40%
- D) 75%

Answer: B

Page Ref: 10

Skill: Applied