

***The Science of Nutrition, 3e* (Thompson)**

Chapter 1 The Science of Nutrition: Linking Food, Function, and Health

1) Which of the following BEST describes nutrition?

- A) Nutrition is not a science.
- B) Nutrition is the science that studies food and how food nourishes our bodies and influences our health.
- C) Nutrition is an ancient science that dates back to the fourteenth century.
- D) Nutrition is the science of food.

Answer: B

Page Ref: 4

Skill: Understanding

Learning Obj.: 1.1

2) Which BEST defines chronic disease?

- A) A disease that comes on slowly and can persist for years.
- B) A condition that has a rapid onset and is easily cured.
- C) A disease caused by a microorganism.
- D) A disease that affects only elderly people.

Answer: A

Page Ref: 5

Skill: Understanding

Learning Obj.: 1.2

3) Three chronic diseases in the U.S.— heart disease, stroke and _____ — are strongly associated with poor nutrition.

- A) osteoporosis
- B) kidney disease
- C) diabetes
- D) pneumonia

Answer: C

Page Ref: 7

Skill: Remembering

Learning Obj.: 1.2

4) The health promotion and disease prevention plan for the U.S. is called:

- A) The Dietary Reference Intakes (DRIs).
- B) The U.S. Department of Agriculture (USDA).
- C) *Healthy People 2020*.
- D) MyPlate.

Answer: C

Page Ref: 8, 9

Skill: Understanding

Learning Obj.: 1.2

5) Which class of nutrients provides the primary source of energy for our body?

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

Answer: A

Page Ref: 10

Skill: Remembering

Learning Obj.: 1.3

6) Which element makes protein different from carbohydrate and fat?

- A) carbon
- B) hydrogen
- C) nitrogen
- D) oxygen

Answer: C

Page Ref: 13

Skill: Remembering

Learning Obj.: 1.3

7) Which of the following is classified as a micronutrient?

- A) carbohydrates
- B) vitamins
- C) lipids
- D) alcohol

Answer: B

Page Ref: 14

Skill: Remembering

Learning Obj.: 1.3

8) Which of the following are examples of inorganic nutrients?

- A) vitamins
- B) lipids
- C) carbohydrates
- D) minerals

Answer: D

Page Ref: 15

Skill: Remembering

Learning Obj.: 1.3

9) Which of the following nutrients is organic?

- A) minerals
- B) water
- C) protein
- D) iron

Answer: C

Page Ref: 10

Skill: Remembering

Learning Obj.: 1.3

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

- A) 492
- B) 582
- C) 917
- D) 1,107

Answer: B

Page Ref: 10

Skill: Applying

Learning Obj.: 1.3

11) For dinner, Marcus consumes 255 grams of carbohydrate, 70 grams of protein, and 50 grams of fat. In addition, Marcus decides that he wants a glass of wine with his meal. If he drinks one glass of wine containing 8 grams of alcohol, how many total kilocalories (kcal) does he consume in this meal?

- A) 56
- B) 540
- C) 1,675
- D) 1,806

Answer: D

Page Ref: 10

Skill: Applying

Learning Obj.: 1.3

12) Christopher's lunch contains 121 grams of carbohydrate, 40 grams of protein, and 25 grams of fat. What percent of kilocalories (kcal) in this meal come from fat?

- A) 19%
- B) 26%
- C) 34%
- D) 42%

Answer: B

Page Ref: 10

Skill: Applying

Learning Obj.: 1.3

13) 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: 12

Skill: Remembering

Learning Obj.: 1.3

14) Which of the following is NOT classified as a lipid?

- A) triglyceride
- B) sterol
- C) glycine
- D) phospholipid

Answer: C

Page Ref: 12

Skill: Remembering

Learning Obj.: 1.3

15) Which of the following nutrients contains the element nitrogen?

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

Answer: D

Page Ref: 13

Skill: Remembering

Learning Obj.: 1.3

16) Which of the following nutrients yields the most energy per gram?

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

Answer: B

Page Ref: 10

Skill: Applying

Learning Obj.: 1.3

- 17) Which of the following BEST describes minerals?
- A) Micronutrients are broken down easily during digestion.
 - B) Micronutrients are easily destroyed by heat and light.
 - C) Inorganic micronutrients are found in a variety of foods.
 - D) Nutrients are needed in large amounts by the body.

Answer: C

Page Ref: 15

Skill: Applying

Learning Obj.: 1.3

- 18) Alcohol is not considered a _____ because it does not support body regulation, or tissue repair or rebuilding.

- A) kilocalorie
- B) carbohydrate
- C) nutrient
- D) wellness factor

Answer: C

Page Ref: 10

Skill: Remembering

Learning Obj.: 1.3

- 19) The building blocks of proteins are called:

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

Answer: B

Page Ref: 13

Skill: Remembering

Learning Obj.: 1.3

- 20) Which of the following statements is NOT true?

- A) Lipids are soluble in water.
- B) Lipids include triglycerides, phospholipids, and sterols.
- C) Lipids are comprised of carbon, hydrogen, and oxygen.
- D) Lipids yield more Calories per gram than carbohydrate or protein.

Answer: A

Page Ref: 13

Skill: Remembering

Learning Obj.: 1.3

21) Which of the following is an example of an organic micronutrient?

- A) folate
- B) calcium
- C) fat
- D) iron

Answer: A

Page Ref: 15

Skill: Applying

Learning Obj.: 1.3

22) Vitamin C and the B-vitamins are examples of:

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

Answer: B

Page Ref: 14

Skill: Remembering

Learning Obj.: 1.3

23) Which of the following are inorganic nutrients that are NOT broken down by the human body or destroyed by heat?

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

Answer: B

Page Ref: 15

Skill: Remembering

Learning Obj.: 1.3

24) Which of the following is true about vitamins A, D, E, and K?

- A) excreted via the urine
- B) soluble in water
- C) produced naturally in the body
- D) soluble in fat

Answer: D

Page Ref: 15

Skill: Understanding

Learning Obj.: 1.3

25) The Recommended Dietary Allowances (RDAs) were originally adopted to prevent _____ diseases.

- A) nutrient-deficient
- B) chronic
- C) acute
- D) contagious

Answer: A

Page Ref: 16

Skill: Remembering

Learning Obj.: 1.4

26) Which of the following nutrients is classified as a major mineral?

- A) calcium
- B) iron
- C) iodine
- D) copper

Answer: A

Page Ref: 15

Skill: Remembering

Learning Obj.: 1.3

27) The standard used to estimate the daily nutrient needs of half of all healthy individuals is the:

- A) EAR.
- B) AI.
- C) RDA.
- D) UL.

Answer: A

Page Ref: 17

Skill: Understanding

Learning Obj.: 1.4

28) An RDA is established based on the:

- A) DRI.
- B) EAR.
- C) UL.
- D) AI.

Answer: B

Page Ref: 17

Skill: Understanding

Learning Obj.: 1.4

29) The Dietary Reference Intakes (DRIs) were established to refocus nutrient recommendations toward preventing and reducing the risk for:

- A) nutrient deficiencies.
- B) infectious diseases.
- C) poverty.
- D) chronic diseases.

Answer: D

Page Ref: 16

Skill: Applying

Learning Obj.: 1.4

30) The _____ represents the average daily nutrient intake level that meets the nutrient requirements of 97% to 98% of healthy individuals.

- A) EAR
- B) RDA
- C) UL
- D) AI

Answer: B

Page Ref: 17

Skill: Understanding

Learning Obj.: 1.4

31) The AMDR for fat is:

- A) 20-35%.
- B) less than 10%.
- C) 10-35%.
- D) 45-65%.

Answer: A

Page Ref: 19

Skill: Remembering

Learning Obj.: 1.4

32) The AMDR for protein is:

- A) 20-35%.
- B) less than 10%.
- C) 10-35%.
- D) 45-65%.

Answer: C

Page Ref: 19

Skill: Remembering

Learning Obj.: 1.4

- 33) What is a key limitation of most dietary assessment tools?
- A) They provide limited information on current nutrient intakes.
 - B) They are easy to administer.
 - C) Some foods cannot be assessed.
 - D) They rely on a person's ability to self-report.

Answer: D

Page Ref: 20

Skill: Understanding

Learning Obj.: 1.4

- 34) Which of the following dietary tools requires both training of the client as well as explicit take-home instructions to the client?

- A) diet history
- B) 24-hour recall
- C) food-frequency questionnaire
- D) diet records

Answer: D

Page Ref: 21

Skill: Applying

Learning Obj.: 1.4

- 35) In malnutrition, an individual's nutritional status is:

- A) out of balance.
- B) undetermined.
- C) in transition.
- D) static.

Answer: A

Page Ref: 19

Skill: Understanding

Learning Obj.: 1.5

- 36) Your friend would like some professional advice on a weight loss program. Which of the following professionals would be the best for nutritional advice?

- A) Registered Dietitian (RD)
- B) PhD in nutrition
- C) medical doctor (MD)
- D) nutritionist

Answer: A

Page Ref: 30

Skill: Understanding

Learning Obj.: 1.7

37) In malnutrition, a primary deficiency is one in which a person:

- A) does not have inadequate intake of a nutrient.
- B) cannot absorb enough of a nutrient.
- C) excretes too much of a nutrient.
- D) cannot efficiently utilize a nutrient.

Answer: A

Page Ref: 22

Skill: Understanding

Learning Obj.: 1.5

38) Which of the following is NOT considered to be a true anthropometric test factor?

- A) height
- B) body composition
- C) weight
- D) waist circumference

Answer: B

Page Ref: 22

Skill: Understanding

Learning Obj.: 1.5

39) Which federal agency conducts the Behavioral Risk Factor Surveillance System (BRFSS)?

- A) USDA (United States Department of Agriculture)
- B) CDC (Centers for Disease Control and Prevention)
- C) Academy of Nutrition and Dietetics
- D) NIH (National Institutes of Health)

Answer: B

Page Ref: 31

Skill: Remembering

Learning Obj.: 1.8

40) What percentage of deaths in the United States can be attributed to unhealthy lifestyle behaviors such as smoking, alcohol misuse, physical inactivity, and unbalanced diet?

- A) 10%
- B) 25%
- C) 40%
- D) 75%

Answer: C

Page Ref: 32

Skill: Remembering

Learning Obj.: 1.8

41) Which of the following is the largest organization of food and nutrition professionals in the United States and the world?

- A) NIH (National Institutes of Health)
- B) Academy of Nutrition and Dietetics
- C) CDC (Centers for Disease Control and Prevention)
- D) SNE (Society for Nutrition Education)

Answer: B

Page Ref: 32

Skill: Remembering

Learning Obj.: 1.8

42) The second step of the scientific method is:

- A) observation and description of a phenomenon.
- B) testing a research question or hypothesis.
- C) generating a hypothesis.
- D) collecting data.

Answer: C

Page Ref: 23, 24

Skill: Understanding

Learning Obj.: 1.6

43) A(n) _____ represents a scientific consensus as to why a particular phenomenon occurs.

- A) alternate hypothesis
- B) experiment
- C) hypothesis
- D) theory

Answer: D

Page Ref: 25

Skill: Understanding

Learning Obj.: 1.6

44) The type of study that is used in assessing nutritional habits, disease trends, and other health phenomena of large populations, and determining factors that influence those phenomena, is called a(n):

- A) case controlled study.
- B) clinical trial.
- C) observational study.
- D) animal study.

Answer: C

Page Ref: 26

Skill: Understanding

Learning Obj.: 1.6

45) Dr. Sullivan is conducting a clinical trial to determine if vitamin XX 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 XX and the control group a "sugar pill" that tastes and looks identical to the vitamin XX capsule. Neither Dr. Sullivan nor the participants know who is receiving which treatment. This experiment is best described as:

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

Answer: D

Page Ref: 27

Skill: Analyzing

Learning Obj.: 1.6

46) Which of the following terms describes a scientific consensus as to why a particular phenomenon occurs?

- A) a study
- B) a theory
- C) a placebo
- D) a hypothesis

Answer: B

Page Ref: 25

Skill: Understanding

Learning Obj.: 1.6

47) Which of the following is considered to be the leading federal agency that protects human health and safety?

- A) Centers for Disease Control and Prevention (CDC)
- B) Academy of Nutrition and Dietetics
- C) National Health and Nutrition Examination Survey (NHANES)
- D) National Institutes of Health (NIH)

Answer: A

Page Ref: 31

Skill: Understanding

Learning Obj.: 1.7

48) The measurement unit for the energy derived from food is called a(n) _____.

- A) kilocalorie
- B) enzyme
- C) protein
- D) gram

Answer: A

Page Ref: 12

Skill: Remembering

Learning Obj.: 1.3

49) Developed by the Department of Health and Human Services, the _____ agenda encompasses hundreds of nutrition-related objectives for the nation.

- A) 21st Century
- B) Dietary Reference Intakes
- C) *Healthy People 2020*
- D) scientific method

Answer: C

Page Ref: 9

Skill: Remembering

Learning Obj.: 1.2

50) The primary source of fuel for the body are _____.

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

Answer: B

Page Ref: 10

Skill: Remembering

Learning Obj.: 1.3

51) Which of the following is a classification of nutrients needed in relatively small amounts by the body to support normal health and functioning?

- A) micronutrients
- B) kilocalories
- C) compounds
- D) macronutrients

Answer: A

Page Ref: 14

Skill: Remembering

Learning Obj.: 1.4

52) In proteins, carbon, hydrogen, oxygen, and nitrogen assemble into small building blocks known as _____.

- A) grams
- B) enzymes
- C) lipoproteins
- D) amino acids

Answer: D

Page Ref: 13

Skill: Understanding

Learning Obj.: 1.4

53) The water-soluble vitamins include the family of B-vitamins and vitamin _____.

- A) K
- B) C
- C) D
- D) A

Answer: B

Page Ref: 14

Skill: Remembering

Learning Obj.: 1.4

54) Today, wellness is defined as:

- A) the absence of disease.
- B) achieving and maintaining physical health.
- C) a multidimensional process including physical, emotional, and spiritual health.
- D) an end point goal that exists along a continuum of health.

Answer: C

Page Ref: 5

Skill: Remembering

Learning Obj.: 1.1

55) Because they do NOT contain the element carbon, minerals and water are _____ nutrients.

- A) nonessential
- B) inorganic
- C) organic
- D) incomplete

Answer: B

Page Ref: 15

Skill: Understanding

Learning Obj.: 1.4

56) Trace minerals are those needed in amounts less than _____ mg per day.

- A) 100
- B) 50
- C) 200
- D) 90

Answer: A

Page Ref: 15

Skill: Remembering

Learning Obj.: 1.4

57) The AMDR for carbohydrate is between 45 and _____ percent.

- A) 55
- B) 75
- C) 65
- D) 80

Answer: C

Page Ref: 19

Skill: Remembering

Learning Obj.: 1.4

58) Which of the following refers to a nutritional status in which a person consumes more energy than is needed?

- A) malnutrition
- B) undernutrition
- C) starvation
- D) overnutrition

Answer: D

Page Ref: 21

Skill: Understanding

Learning Obj.: 1.5

59) One of the most important points to consider when assessing the reliability of a media report is the issue of:

- A) conflict of interest.
- B) availability.
- C) cost.
- D) how widely it is quoted.

Answer: A

Page Ref: 27, 28

Skill: Evaluating

Learning Obj.: 1.7

60) In the scientific method, the _____ is also called the research question.

- A) theory
- B) conclusion
- C) observation
- D) hypothesis

Answer: D

Page Ref: 24

Skill: Understanding

Learning Obj.: 1.6

61) The _____ is the occurrence in a treatment study of some people experiencing improved health or symptom reduction despite the fact that no actual treatment or effective ingredient was given.

- A) randomized trial
- B) placebo effect
- C) secondary deficiency
- D) data point

Answer: B

Page Ref: 27

Skill: Understanding

Learning Obj.: 1.6

62) Food and nutrition mean the same thing.

Answer: FALSE

Page Ref: 4

Skill: Remembering

Learning Obj.: 1.1

63) Wellness is defined as the absence of disease.

Answer: FALSE

Page Ref: 5

Skill: Remembering

Learning Obj.: 1.1

64) Currently, the leading cause of death in the United States is heart disease.

Answer: TRUE

Page Ref: 7

Skill: Remembering

Learning Obj.: 1.2

65) Nutrients are chemical substances.

Answer: TRUE

Page Ref: 9

Skill: Remembering

Learning Obj.: 1.3

66) An organic substance contains the elements carbon and hydrogen.

Answer: TRUE

Page Ref: 10

Skill: Remembering

Learning Obj.: 1.3

67) A kilocalorie is a measurement of effectiveness.

Answer: FALSE

Page Ref: 12

Skill: Understanding

Learning Obj.: 1.3

68) Carbohydrates, fats, and proteins are the only nutrients in foods that provide energy.

Answer: TRUE

Page Ref: 10

Skill: Remembering

Learning Obj.: 1.3

69) Alcohol is a nutrient that provides 7 kilocalories per gram.

Answer: FALSE

Page Ref: 10

Skill: Understanding

Learning Obj.: 1.3

70) If your total daily Caloric intake is 2,310 kcals and 88 grams come from fat, then your percent of kcal from fat meets the AMDR.

Answer: TRUE

Page Ref: 19

Skill: Analyzing

Learning Obj.: 1.4

71) Cholesterol is a form of lipid synthesized within the body.

Answer: TRUE

Page Ref: 13

Skill: Remembering

Learning Obj.: 1.3

72) The primary role of protein is to provide energy for the body.

Answer: FALSE

Page Ref: 13

Skill: Remembering

Learning Obj.: 1.3

73) Proteins are the only macronutrient that contains the element nitrogen.

Answer: TRUE

Page Ref: 13

Skill: Remembering

Learning Obj.: 1.3

74) Fat-soluble vitamins are considered nonessential because the human body needs them in relatively small amounts and can synthesize them in the liver.

Answer: FALSE

Page Ref: 14

Skill: Understanding

Learning Obj.: 1.3

75) Vitamin A, C, E, and K are classified as fat-soluble vitamins.

Answer: FALSE

Page Ref: 15

Skill: Remembering

Learning Obj.: 1.3

76) Vitamins contain 4 kilocalories per gram.

Answer: FALSE

Page Ref: 14

Skill: Understanding

Learning Obj.: 1.3

77) Minerals are not needed by the body.

Answer: FALSE

Page Ref: 15

Skill: Understanding

Learning Obj.: 1.3

78) The Dietary Reference Intakes (DRIs) are dietary standards that apply only to unhealthy individuals.

Answer: FALSE

Page Ref: 16

Skill: Remembering

Learning Obj.: 1.3

79) Water is an organic nutrient.

Answer: FALSE

Page Ref: 15

Skill: Remembering

Learning Obj.: 1.3

80) The UL is the level of nutrient intake we should attempt to consume daily.

Answer: FALSE

Page Ref: 18

Skill: Understanding

Learning Obj.: 1.4

81) The Estimated Energy Requirement (EER) is a nutrient standard used to approximate the energy needs of growing infants and children.

Answer: FALSE

Page Ref: 18

Skill: Understanding

Learning Obj.: 1.4

82) The AMDR for carbohydrate is 15-25%.

Answer: FALSE

Page Ref: 19

Skill: Remembering

Learning Obj.: 1.4

83) Starvation is an example of a secondary nutritional deficiency.

Answer: FALSE

Page Ref: 22

Skill: Understanding

Learning Obj.: 1.5

84) Compare and contrast the earliest nutritional discoveries to current trends in nutrition research and health promotion. What are some key reasons why the focus has shifted?

Answer: Answers will vary.

Page Ref: 4, 5

Skill: Analyzing

Learning Obj.: 1.1

85) Describe the various ways in which wellness is defined. Discuss how nutrition is related to wellness and overall health.

Answer: Answers will vary.

Page Ref: 5, 6

Skill: Analyzing

Learning Obj.: 1.2

86) What is the significance and what are the goals of the Healthy People 2010 initiative? Describe how the role of nutrition is underscored in them.

Answer: Answers will vary.

Page Ref: 8, 9

Skill: Analyzing

Learning Obj.: 1.3

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

Answer: Answers will vary.

Page Ref: 16, 17

Skill: Applying

Learning Obj.: 1.4

88) Compare and contrast the four primary types of dietary intake tools. What are the respective strengths and limitations of the different tools?

Answer: Answers will vary.

Page Ref: 20, 21

Skill: Evaluating

Learning Obj.: 1.5

89) List and describe the characteristics of a well-designed research study.

Answer: Answers will vary.

Page Ref: 23-26

Skill: Analyzing

Learning Obj.: 1.6

90) Describe the various approaches consumers can use to evaluate the truth and reliability of media reports and other sources of nutritional information.

Answer: Answers will vary.

Page Ref: 27-30

Skill: Understanding

Learning Obj.: 1.7

91) List at least four sources of reliable and accurate nutrition information and state why they are trustworthy.

Answer: Answers will vary.

Page Ref: 30-33

Skill: Analyzing

Learning Obj.: 1.8