

MULTIPLE CHOICE

1. Which of the following describes anatomy?
- Using devices to investigate parameters such as heart rate and blood pressure
 - Investigating human structure via dissections and other methods
 - Studying the unusual manner in which an organism responds to painful stimuli
 - Examining the physiology of life

ANS: B DIF: Memorization REF: p. 5
TOP: Anatomy and Physiology

2. *Systemic anatomy* is a term that refers to:
- physiological investigation at a microscopic level.
 - anatomical investigation that begins in the head and neck and concludes at the feet.
 - anatomical investigation that uses an approach of studying the body by systems—groups of organs having a common function.
 - anatomical investigation at the molecular level.

ANS: C DIF: Memorization REF: p. 5
TOP: Anatomy and Physiology

3. Physiology can be subdivided according to the _____ studied.
- type of organism
 - organizational level
 - systemic function
 - All of the above are correct.

ANS: D DIF: Memorization REF: p. 5
TOP: Physiology

4. Physiology:
- recognizes the unchanging (as opposed to the dynamic) nature of things.
 - investigates the body's structure.
 - is concerned with organisms and does not deal with different levels of organization such as cells and systems.
 - is the science that examines the function of living organisms and their parts.

ANS: D DIF: Memorization REF: p. 5
TOP: Physiology

5. *Metabolism* refers to:
- the chemical basis of life.
 - the sum of all the physical and chemical reactions occurring in the body.
 - an organization of similar cells specialized to perform a certain function.
 - a subdivision of physiology.

ANS: B DIF: Application REF: p. 6 TOP: Characteristics of Life

6. From smallest to largest, the levels of organization of the body are:
- organism, chemical, tissue, cellular, organ, system, organelle.
 - chemical, microscopic, cellular, tissue, organ, system, organism.
 - organism, system, organ, tissue, cellular, organelle, chemical.
 - chemical, organelle, cellular, tissue, organ, system, organism.

ANS: D DIF: Memorization REF: p. 7
TOP: Levels of Organization

7. The smallest living units of structure and function in the body are:
- molecules.
 - cells.
 - organelles.
 - atoms.

ANS: B DIF: Memorization REF: p. 8
TOP: Levels of Organization

8. An organization of many similar cells that are specialized to perform a certain function is called a(n):
- tissue.
 - organism.
 - system.
 - organ.

ANS: A DIF: Memorization REF: p. 8
TOP: Tissue Level

9. An organ is one organizational step lower than a(n):

- a. system.
- b. cell.
- c. organelle.
- d. tissue.

ANS: A DIF: Memorization
TOP: Organ Level

REF: p. 8

10. The reproductive system includes all of the following except the:

- a. testes.
- b. ovaries.
- c. ureter.
- d. penis.

ANS: C DIF: Memorization
TOP: Body Systems

REF: p. 9

11. The lungs are located in the:

- a. thoracic cavity.
- b. mediastinum.
- c. abdominal cavity.
- d. cranial cavity.

ANS: A DIF: Memorization
TOP: Body Cavities

REF: p. 10

12. The mediastinum contains all of the following except the:

- a. trachea.
- b. venae cavae.
- c. right lung.
- d. esophagus.

ANS: C DIF: Memorization
TOP: Body Cavities

REF: p. 10

13. The gallbladder lies in the:

- a. abdominal cavity.
- b. pelvic cavity.
- c. dorsal cavity.
- d. mediastinum.

ANS: A DIF: Memorization
TOP: Body Cavities

REF: p. 11

14. The number of abdominal regions is:

- a. three.
- b. five.
- c. seven.
- d. nine.

ANS: D DIF: Memorization
TOP: Abdominal Regions

REF: p. 13

15. The abdominal region in which the urinary bladder is found is the:

- a. hypogastric.
- b. epigastric.
- c. right lumbar.
- d. left iliac.

ANS: A DIF: Memorization
TOP: Abdominal Regions

REF: p. 14

16. A surgeon removing a gallbladder should know to find it in the _____ region.

- a. right lumbar
- b. right hypochondriac
- c. hypogastric
- d. umbilical

ANS: B DIF: Memorization
TOP: Abdominal Regions

REF: p. 14

17. The abdominal region in which the appendix is found is the:

- a. hypogastric.
- b. right iliac.
- c. right lumbar.
- d. right hypochondriac.

ANS: A DIF: Memorization
TOP: Abdominal Regions

REF: p. 14

18. *Popliteal* refers to the:

- a. calf.
- b. ankle.
- c. cheek.
- d. area behind the knee.

ANS: D DIF: Memorization
TOP: Descriptive Terms for Body Regions

REF: p. 13

19. A plane through the body that divides the body into right and left sides is called:

- a. sagittal.
- b. frontal.
- c. coronal.
- d. transverse.

ANS: A DIF: Memorization
TOP: Body Planes and Sections

REF: p. 16

20. The abdominal quadrants are located with what structure as their midpoint?

- a. Umbilicus
- b. Pubic bone
- c. Xiphoid process
- d. Iliac crest

ANS: A DIF: Memorization
TOP: Abdominopelvic Quadrants

REF: p. 14

21. Humans have similar right and left sides of the body, at least superficially. This is an example of:

- a. anatomical position.
- b. anterior symmetry.
- c. ipsilateral position.
- d. bilateral symmetry.

ANS: D DIF: Memorization
TOP: Anatomical Position

REF: p. 9

22. Two major cavities of the human body are:

- a. ventral/dorsal.
- b. inferior/superior.
- c. visceral/parietal.
- d. axial/appendicular.

ANS: A DIF: Memorization
TOP: Body Cavities

REF: p. 10

23. The dorsal cavity contains all of the following except the:

- a. brain.
- b. spinal column.
- c. spinal cord.
- d. thyroid gland.

ANS: D DIF: Memorization
TOP: Body Cavities

REF: p. 11

24. A plane through the body that divides the body into anterior and posterior portions is:

- a. sagittal.
- b. median.
- c. coronal.
- d. transverse.

ANS: C DIF: Memorization
TOP: Body Planes and Sections

REF: p. 16

25. The plane that divides the body into upper and lower parts is the _____ plane.

- a. sagittal
- b. frontal
- c. transverse
- d. superficial

ANS: C DIF: Memorization
TOP: Body Planes and Sections

REF: p. 16

26. A somatotype characterized by having a muscular physique is called a(n):

- a. endomorph.
- b. mesomorph.
- c. ectomorph.
- d. None of the above is correct.

ANS: B DIF: Application REF: p. 18 TOP: Body Type and Disease

27. A somatotype characterized by a thin, fragile physique is a(n):
a. ectomorph.
b. mesomorph.
c. endomorph.
- ANS: A DIF: Memorization REF: p. 18
TOP: Body Type and Disease
28. The abdominopelvic cavity contains all of the following except the:
a. kidneys.
b. gallbladder.
c. right lung.
d. urinary bladder.
- ANS: C DIF: Memorization REF: p. 11
TOP: Body Cavities
29. Which of the following is not one of the characteristics of life?
a. Digestion
b. Balance
c. Conductivity
d. Circulation
e. Reproduction
- ANS: B DIF: Memorization REF: p. 6
TOP: Characteristics of Life
30. An idea that is supported by repeated experiments and observation is called a:
a. fact.
b. theory.
c. concept.
d. hypothesis.
- ANS: B DIF: Memorization REF: p. 4
TOP: Science and Society
31. *Molecules* are:
a. atoms combined to form larger chemical aggregates.
b. electrons orbiting nuclei.
c. a complex of electrons arranged in concentric shells.
d. composed of cellular organelles.
- ANS: A DIF: Memorization REF: p. 7
TOP: Chemical Level: Basis for Life
32. Mitochondria, Golgi apparatus, and endoplasmic reticulum are examples of:
a. molecules.
b. cytoplasm.
c. organelles.
d. plasma membranes.
- ANS: C DIF: Memorization REF: p. 8
TOP: Levels of Organization
33. When many similar cells specialize to perform a certain function, it is referred to as a(n):
a. tissue.
b. organelle.
c. organ system complex.
d. organism.
- ANS: A DIF: Memorization REF: p. 8
TOP: Tissue Level
34. Several kinds of tissues working together are termed a(n):
a. plasma membrane.
b. organ.
c. organism.
d. organ system.
- ANS: B DIF: Memorization REF: p. 8
TOP: Organ Level
35. Blood production is a function of which system?
a. Reproductive
b. Respiratory
c. Skeletal
d. Lymphatic
- ANS: C DIF: Memorization REF: p. 9
TOP: Support and Movement

36. The dorsal body cavity contains the:
- brain and spinal cord.
 - heart and lungs.
 - reproductive organs.
 - digestive organs.
- ANS: A DIF: Memorization REF: p. 11
TOP: Body Cavities
37. The ventral body cavity contains the:
- thoracic and abdominopelvic cavities.
 - heart and lungs only.
 - digestive and reproductive organs.
 - brain and spinal cord.
- ANS: A DIF: Memorization REF: p. 10
TOP: Body Cavities
38. The axial portion of the body consists of the:
- arms, neck, and legs.
 - neck, torso, and arms.
 - torso, arms, legs, and head.
 - head, neck, and torso.
- ANS: D DIF: Memorization REF: p. 12
TOP: Body Regions
39. The abdominopelvic cavity contains all of the following except the:
- stomach.
 - pancreas.
 - heart.
 - reproductive organs.
- ANS: C DIF: Memorization REF: p. 11
TOP: Body Cavities
40. Visceral peritoneum would cover which of the following organs?
- Heart
 - Intestines
 - Lungs
 - Spinal cord
- ANS: B DIF: Memorization REF: p. 11
TOP: Body Cavities
41. A sagittal section divides the body into _____ portions.
- upper and lower
 - right and left
 - front and back
 - proximal and distal
- ANS: B DIF: Memorization REF: p. 16
TOP: Body Planes and Sections
42. A frontal section divides the body into _____ portions.
- upper and lower
 - right and left
 - front and back
 - cortex and medullary
- ANS: C DIF: Memorization REF: p. 16
TOP: Body Planes and Sections
43. *Axilla* is a term referring to which body region?
- Anterior elbow
 - Armpit
 - Posterior knee
 - Groin
- ANS: B DIF: Memorization REF: p. 13
TOP: Descriptive Terms for Body Regions
44. The _____ tissue is not a major tissue of the body.
- cutaneous
 - epithelial
 - connective
 - nervous
- ANS: A DIF: Memorization REF: p. 8
TOP: Tissue Level

45. “Apple-shaped” and “pear-shaped” usually describe subtypes of what major body type?
- Mesomorph
 - Ectomorph
 - Endomorph
 - Polymorph

ANS: C DIF: Memorization REF: p. 18
TOP: Body Type and Disease

46. An organ is one organizational step higher than a(n):
- system.
 - cell.
 - organelle.
 - tissue.

ANS: D DIF: Memorization REF: p. 8
TOP: Organ Level

47. Which of the following does not describe anatomical position?
- Head pointing forward
 - Body standing erect
 - Arms extended from the shoulders, palms up
 - All of the above describe the body in the anatomical position.

ANS: C DIF: Memorization REF: p. 9
TOP: Anatomical Position

48. Someone studying gross anatomy would not study which of the following?
- The location of the heart and chambers of the heart
 - Muscles of the arms and legs
 - The nucleus of the cell
 - All of the above would be studied.

ANS: C DIF: Memorization REF: p. 5
TOP: Anatomy

49. The parietal pleura covers the:
- lungs.
 - heart.
 - walls of the thoracic cavity.
 - Both A and B are correct.

ANS: C DIF: Memorization REF: p. 11
TOP: Body Cavities

50. The hollow part of an organ or body structure is called the _____ of the organ.
- cortical part
 - lumen
 - medullary part
 - apical part

ANS: B DIF: Memorization REF: p. 15
TOP: Terms Related to Organs

51. The narrowest part of an organ or body structure is called the _____ of the organ.
- cortical part
 - lumen
 - medullary part
 - apical part

ANS: D DIF: Memorization REF: p. 15
TOP: Terms Related to Organs

52. Which of the following is not a directional term of the body?
- Apical
 - Proximal
 - Superficial
 - Deep

ANS: D DIF: Memorization REF: p. 15
TOP: Terms Related to Organs

53. What is the anatomical direction term that means *nearer the surface*?
- Deep
 - Distal
 - Proximal
 - Superficial

ANS: D DIF: Application REF: p. 15 TOP: Directional Terms

54. An x-ray technician has been asked to make x-ray films of the liver. Which of the abdominopelvic regions must be included?
- Right hypochondriac, epigastric, and left hypochondriac
 - Right hypochondriac, right lumbar, and right iliac
 - Right iliac, hypogastric, and left iliac
 - Right lumbar, umbilical, and left lumbar
- ANS: A DIF: Application REF: p. 13 TOP: Abdominal Regions
55. As a nurse, you are assisting a physician with the examination of a patient. The physician asks you to tell the patient, who is lying on the examination table, to assume the anatomical position. How would you instruct the patient to assume this position?
- Have the patient stand up and place his arms at his sides, palms facing forward, with hands and feet facing forward.
 - Have the patient stand up and place his arms at his sides, palms facing posteriorly, with hands and feet facing forward.
 - Have the patient stand up and place his arms behind him, palms facing to the side, with feet facing forward.
 - Have the patient stand up and place his arms at his sides, palms facing down, with feet facing forward.
- ANS: A DIF: Application REF: p. 9 TOP: Anatomical Position
56. During a routine physical examination, a patient with an endomorphic somatotype with a large waistline and overall “apple shape” should be advised that such a distribution of fat may lead to what conditions?
- Heart disease, stroke, high blood pressure, and colitis
 - Heart disease, stroke, high blood pressure, and diabetes
 - Heart disease, stroke, low blood pressure, and colitis
 - Prostate cancer, low blood pressure, and diabetes
- ANS: B DIF: Application REF: p. 18 TOP: Body Type and Disease
57. If your reference point is “farthest from the trunk of the body” versus “nearest to the trunk of the body,” where does the knee lie in relation to the ankle?
- Distal
 - Proximal
 - Superficial
 - Superior
- ANS: B DIF: Application REF: p. 15 TOP: Directional Terms
58. The study of microscopic anatomy might include:
- systemic anatomy.
 - cytology.
 - histology.
 - both B and C.
- ANS: D DIF: Memorization REF: p. 5
TOP: Anatomy and Physiology
59. The structure that is called the “powerhouse” of the cell is the:
- cytoplasm.
 - endoplasmic reticulum.
 - mitochondria.
 - Golgi apparatus.
- ANS: C DIF: Memorization REF: p. 8
TOP: Levels of Organization
60. How many main tissue types are found in the human body?
- 4
 - 8
 - 11
 - 6
- ANS: A DIF: Memorization REF: p. 8
TOP: Levels of Organization
61. The mediastinum is located in the _____ cavity.
- dorsal
 - abdominal
 - ventral
 - Both B and C are correct.
- ANS: C DIF: Application REF: p. 10 TOP: Body Cavities
62. Another term for *posterior* is:
- ventral.
 - dorsal.
 - inferior.
 - proximal.
- ANS: B DIF: Memorization REF: p. 14
TOP: Directional Terms

63. The term most nearly opposite *cortical* would be:
a. peripheral.
b. apical.
c. medullary.
d. basal.

ANS: C DIF: Memorization REF: p. 15
TOP: Terms Related to Organs

64. Withdrawing from a painful stimulus is an example of:
a. excretion.
b. growth.
c. responsiveness.
d. secretion.

ANS: C DIF: Application REF: p. 6 TOP: Characteristics of Life

MATCHING

Match each organ to its corresponding system.

a. Respiratory
b. Digestive
c. Urinary
d. Reproductive
e. Endocrine
f. Cardiovascular
g. Integumentary
h. Muscular
i. Skeletal
j. Nervous

1. Tendons
2. Pituitary gland
3. Skin
4. Capillaries
5. Ligaments
6. Spinal cord
7. Bronchial tree
8. Testes and ovaries
9. Large and small intestines
10. Ureters

1. ANS: H DIF: Memorization REF: p. 9
TOP: Body Systems
2. ANS: E DIF: Memorization REF: p. 9
TOP: Body Systems
3. ANS: G DIF: Memorization REF: p. 9
TOP: Body Systems
4. ANS: F DIF: Memorization REF: p. 9
TOP: Body Systems
5. ANS: I DIF: Memorization REF: p. 9
TOP: Body Systems
6. ANS: J DIF: Memorization REF: p. 9
TOP: Body Systems
7. ANS: A DIF: Memorization REF: p. 9
TOP: Body Systems
8. ANS: D DIF: Memorization REF: p. 9
TOP: Body Systems
9. ANS: B DIF: Memorization REF: p. 9
TOP: Body Systems
10. ANS: C DIF: Memorization REF: p. 9
TOP: Body Systems

Match each term to its associated region.

a. Abdominal
b. Brachial
c. Cervical
d. Coxal
e. Cutaneous
f. Digital
g. Femoral
h. Lumbar

11. Thigh
12. Arm
13. Anterior torso
14. Lower back between ribs and pelvis
15. Fingers and toes
16. Hip
17. Skin

18. Neck
11. ANS: G DIF: Memorization REF: p. 13
TOP: Body Regions
12. ANS: B DIF: Memorization REF: p. 13
TOP: Body Regions
13. ANS: A DIF: Memorization REF: p. 13
TOP: Body Regions
14. ANS: H DIF: Memorization REF: p. 13
TOP: Body Regions
15. ANS: F DIF: Memorization REF: p. 13
TOP: Body Regions
16. ANS: D DIF: Memorization REF: p. 13
TOP: Body Regions
17. ANS: E DIF: Memorization REF: p. 13
TOP: Body Regions
18. ANS: C DIF: Memorization REF: p. 13
TOP: Body Regions

- Match each term to its correct corresponding statement.*
- a. Superior
 - b. Inferior
 - c. Anterior
 - d. Posterior
 - e. Medial
 - f. Lateral
 - g. Proximal
 - h. Distal
 - i. Superficial

19. The great toe is _____ to the little toe.
20. The skin is _____ to the muscles beneath it.
21. The vertebrae are located on the _____ aspect of the body.
22. The hand is _____ to the shoulder.
23. The abdomen is _____ to the head.
24. The lungs are _____ to the intestines.
25. The nose is located on the _____ surface of the head.
26. The knee is _____ to the ankle.
27. The ear is on the _____ aspect of the head.

19. ANS: E DIF: Memorization REF: p. 15
TOP: Directional Terms
20. ANS: I DIF: Memorization REF: p. 14
TOP: Directional Terms
21. ANS: D DIF: Memorization REF: p. 15
TOP: Directional Terms
22. ANS: H DIF: Memorization REF: p. 14
TOP: Directional Terms
23. ANS: B DIF: Memorization REF: p. 14
TOP: Directional Terms
24. ANS: A DIF: Memorization REF: p. 14
TOP: Directional Terms
25. ANS: C DIF: Memorization REF: p. 14
TOP: Directional Terms
26. ANS: G DIF: Memorization REF: p. 15
TOP: Directional Terms
27. ANS: F DIF: Memorization REF: p. 14
TOP: Directional Terms

- Match each set of functions with its corresponding system or systems.*
- a. Reproduction and development
 - b. Processing, regulation, and maintenance
 - c. Outer protection
 - d. Support and movement
 - e. Communication, control, and integration
 - f. Transportation and defense

28. Nervous system
29. Muscular system and skeletal system
30. Circulatory system and lymphatic system
31. Respiratory system, digestive system, and endocrine system
32. Reproductive system
33. Integumentary system
28. ANS: E DIF: Memorization REF: p. 9
TOP: Body Systems
29. ANS: D DIF: Memorization REF: p. 9
TOP: Body Systems
30. ANS: F DIF: Memorization REF: p. 9
TOP: Body Systems

31. ANS: B DIF: Memorization REF: p. 9
TOP: Body Systems
32. ANS: A DIF: Memorization REF: p. 9
TOP: Body Systems
33. ANS: C DIF: Memorization REF: p. 9
TOP: Body Systems

Match each characteristic of life with the correct descriptive phrase.

- a. Conductivity
 - b. Excretion
 - c. Growth
 - d. Circulation
 - e. Respiration
 - f. Responsiveness
 - g. Digestion
 - h. Absorption
 - i. Secretion
 - j. Reproduction
34. Movement of digested nutrients through the wall of the digestive tract into body fluids for transport to the cell
35. Permits an organism to sense, monitor, and respond to changes in the external environment
36. Production and release of specialized substances to support diverse body functions
37. Responsiveness and this characteristic are highly developed in nerve cells
38. Movement of body fluids and other substances from one part of the body to another
39. Removal of waste produced by many body functions
40. Comes about as a result of a normal increase in size or number of cells
41. Exchange of gases between the organism and the environment
42. Formation of new individuals
43. Process by which complex food substances are broken down into simple substances that can be absorbed by the cells

34. ANS: H DIF: Memorization REF: p. 6
TOP: Characteristics of Life
35. ANS: F DIF: Memorization REF: p. 6
TOP: Characteristics of Life
36. ANS: I DIF: Memorization REF: p. 6
TOP: Characteristics of Life
37. ANS: A DIF: Memorization REF: p. 6
TOP: Characteristics of Life
38. ANS: D DIF: Memorization REF: p. 6
TOP: Characteristics of Life
39. ANS: B DIF: Memorization REF: p. 6
TOP: Characteristics of Life
40. ANS: C DIF: Memorization REF: p. 6
TOP: Characteristics of Life
41. ANS: E DIF: Memorization REF: p. 6
TOP: Characteristics of Life
42. ANS: J DIF: Memorization REF: p. 6
TOP: Characteristics of Life
43. ANS: G DIF: Memorization REF: p. 6
TOP: Characteristics of Life

Match each term related to an organ to its definition or explanation.

- a. Medullary
 - b. Basal
 - c. Apical
 - d. Cortical
 - e. Lumen
44. Base or widest part of the organ
45. Outer region or layer of an organ
46. Hollow part of an organ or tube of the body
47. Inner region of an organ
48. Narrow part or point of an organ

44. ANS: B DIF: Memorization REF: p. 15
TOP: Terms Related to Organs
45. ANS: D DIF: Memorization REF: p. 15
TOP: Terms Related to Organs
46. ANS: E DIF: Memorization REF: p. 15
TOP: Terms Related to Organs
47. ANS: A DIF: Memorization REF: p. 15
TOP: Terms Related to Organs
48. ANS: C DIF: Memorization REF: p. 15
TOP: Terms Related to Organs

Match each level of organization with its description.

- a. Chemical
- b. Organelle
- c. Cellular
- d. Tissue
- e. Organ
- f. System
- g. Organism

- 49. Highest level of organization
- 50. Includes mitochondria
- 51. Composed of the smallest structure that possesses the basic characteristics of living matter
- 52. Level at which the tissues work together to perform a specific function
- 53. Composed of macromolecules
- 54. Cells working together to perform a specific function
- 55. Level at which a group of organs work together to perform specific complex functions

- | | | |
|-----------------------------|-------------------|-----------|
| 49. ANS: G | DIF: Memorization | REF: p. 9 |
| TOP: Levels of Organization | | |
| 50. ANS: B | DIF: Memorization | REF: p. 8 |
| TOP: Levels of Organization | | |
| 51. ANS: C | DIF: Memorization | REF: p. 7 |
| TOP: Levels of Organization | | |
| 52. ANS: E | DIF: Memorization | REF: p. 8 |
| TOP: Levels of Organization | | |
| 53. ANS: A | DIF: Memorization | REF: p. 7 |
| TOP: Levels of Organization | | |
| 54. ANS: D | DIF: Memorization | REF: p. 8 |
| TOP: Levels of Organization | | |
| 55. ANS: F | DIF: Memorization | REF: p. 8 |
| TOP: Levels of Organization | | |

OTHER

- 1. In simple terms, what are the characteristics of life?

ANS:

Answers will vary.

DIF: Application REF: p. 6 TOP: Characteristics of Life

- 2. Discuss the principle of complementarity of structure and function.

ANS:

Answers will vary.

DIF: Application REF: p. 17 TOP: Interaction of Structure and Function

- 3. Explain one way in which culture has affected science. Explain one way in which science has affected culture.

ANS:

Answers will vary.

DIF: Application REF: p. 4 TOP: Science and Society

- 4. Describe the levels of organization from chemical to system.

ANS:

Answers will vary.

DIF: Memorization REF: p. 8 TOP: Levels of Organization

- 5. Describe anatomical position. Give examples of structures that are ipsilateral and contralateral to each other.

ANS:

Answers will vary.

DIF: Application REF: p. 9 TOP: Anatomical Position

- 6. List the directional terms, and use them to describe the relationship between two structures in the body.

ANS:

Answers will vary.

DIF: Application REF: p. 14 TOP: Directional Terms