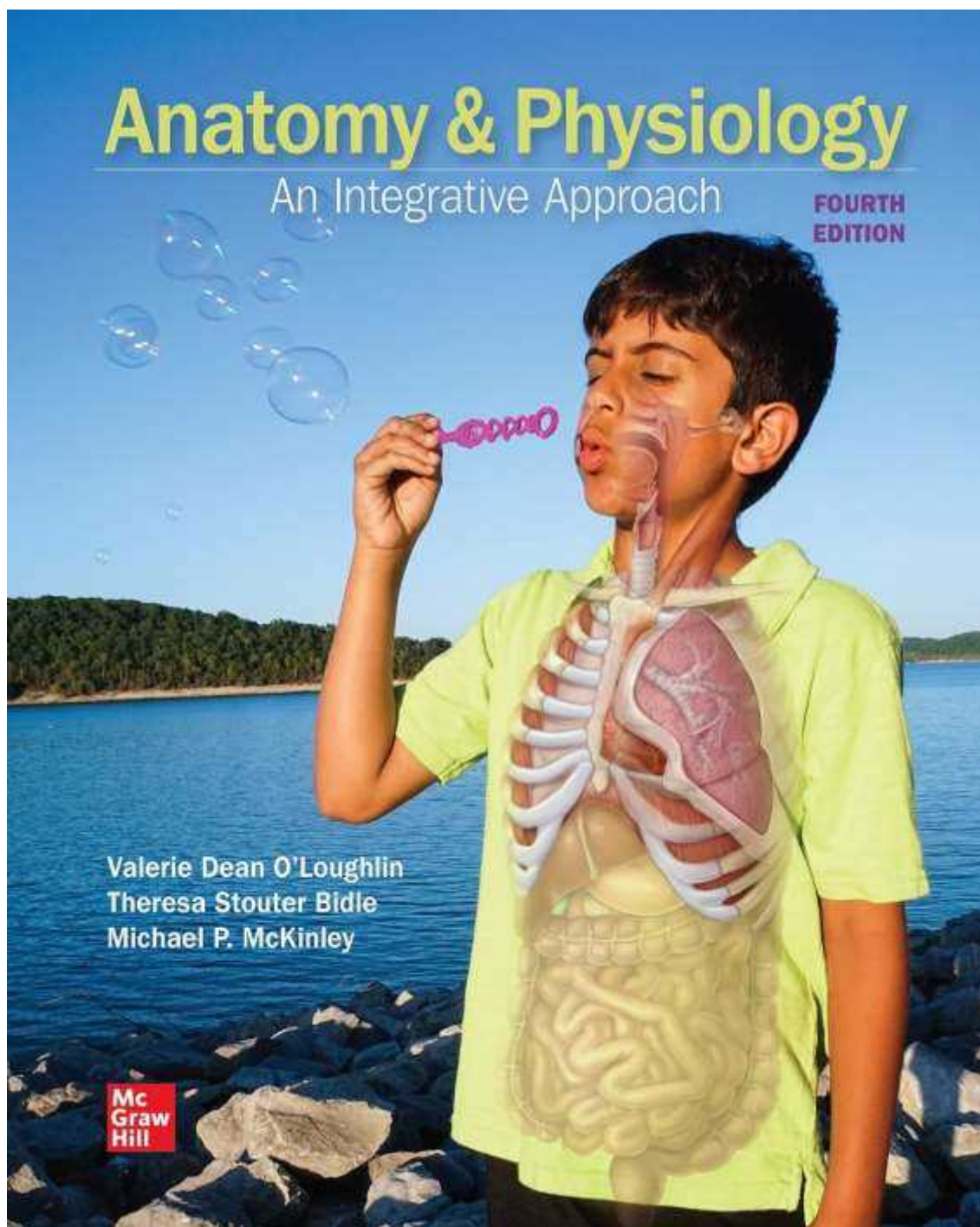


TEST BANK

Anatomy & Physiology An Integrative Approach

Michael McKinley, Valerie O'Loughlin, Theresa Bidle

4th Edition



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Table of Contents

1. The Sciences of Anatomy and Physiology
2. Atoms, Ions, and Molecules
3. Energy, Chemical Reactions, and Cellular Respiration
4. Biology of the Cell
5. Tissue Organization
6. Integumentary System
7. Skeletal System: Bone Structure and Function
8. Skeletal System: Axial and Appendicular Skeleton
9. Skeletal System: Articulations
10. Muscle Tissue
11. Muscular System: Axial and Appendicular Muscles
12. Nervous System: Nervous Tissue
13. Nervous System: Brain and Cranial Nerves
14. Nervous System: Spinal Cord and Spinal Nerves
15. Nervous System: Autonomic Nervous System
16. Nervous System: Senses
17. Endocrine System
18. Cardiovascular System: Blood
19. Cardiovascular System: Heart
20. Cardiovascular System: Vessels and Circulation
21. Lymphatic System
22. The Immune System and the Body's Defense
23. Respiratory System
24. Urinary System
25. Fluid and Electrolytes
26. Digestive System
27. Nutrition and Metabolism
28. Reproductive System
29. Development, Pregnancy, and Heredity

Chapter 01
The Sciences of Anatomy and Physiology

Multiple choice:

- 1) If a scientist forms and tests a hypothesis, but gets unexpected results, what is a logical next step? Check all that apply.
 - A) Accept the original hypothesis
 - B) Reject the original hypothesis
 - C) Revise the original hypothesis
 - D) Design a new experiment based on a new or modified hypothesis.

- 2) Some researchers think pheromones are important tools in human communication. Pheromones are chemical signals that one individual sends to another. What research questions might be asked by anatomists, and what questions might be asked by physiologists, to determine if pheromones are important to humans?

- 3) Iron atoms help our blood transport oxygen. Describe each level of anatomical structural complexity for an iron atom in your blood, working from the simplest level (atom) to the most complex (organism).

- 4) If someone speaks too loudly into a microphone, a public address system will sometimes produce a loud whistle of amplified feedback. Explain whether this is an example of negative or positive feedback, and explain how the microphone, control box, and speaker of the system serve as the different components of a feedback loop.
- 5) The discipline known as _____ anatomy examines similarities and differences across species.
- 6) The discipline that studies the functions of the nervous system, including the way that impulses are conducted, is known as _____.
- 7) The discipline that associates changes in organ system function with disease or injury is known as _____.
- 8) The group of metabolic reactions in which smaller molecules are combined to form larger ones is _____.
- 9) Specialized subunits of cells that are made of macromolecules are called _____.

- 10) The organ system that transports and filters interstitial fluid while also participating in immune responses is the _____ system.
- 11) The pituitary, thyroid, and adrenal glands are typically grouped within the _____ system.
- 12) The appendix is in the right iliac region, and is therefore located in the _____ quadrant.
- 13) The level of organization one step more complex than the organ level is the _____ level.
- 14) The state of equilibrium, or fairly constant internal environment, in the body is called _____.
- 15) The _____ reproductive system produces oocytes.
- 16) The antecubital region is _____ to the brachial region.

- 17) The muscular partition that separates the thoracic and abdominopelvic cavities is the thoracic_____.
- 18) The hypogastric region is located_____to the right iliac region.
- 19) Sensory nerves that detect changes in a variable that is being regulated comprise the _____of the control mechanism.
- 20) In a homeostatic control mechanism, the receptor detects changes in the environment and relays that information to the_____.
- 21) The reinforcement of a stimulus so that a climax is reached is known as_____.
- 22) The word "anatomy" comes from
- A) Latin and means "to be born."
 - B) Hebrew and means "shape."
 - C) Greek and means "to cut apart."
 - D) German and means "body."
 - E) Italian and means "form."
- 23) A scientist who describes the layers of the heart wall and their relationship to the surrounding pericardium would be a(n)

- A) anatomist.
- B) physiologist.
- C) pathologist.
- D) pulmonologist.

24) _____anatomy examines both superficial anatomic markings and internal body structures as they relate to the skin covering them.

- A) Regional
- B) Surface
- C) Radiographic
- D) Surgical
- E) Systemic

25) Which branch of microscopic anatomy is the study of tissues?

- A) Histology
- B) Cytology
- C) Embryology
- D) Developmental anatomy
- E) Surgical anatomy

26) Gross anatomy refers to the study of

- A) cells.
- B) structures formed by cells.
- C) structures not visible to the unaided eye.
- D) structures visible to the unaided eye.
- E) nasal secretions.

- 27) The anatomic changes that result from disease are studied under
- A) pathologic anatomy.
 - B) systemic anatomy.
 - C) histology.
 - D) surgical anatomy.
 - E) developmental anatomy.
- 28) The two main divisions of microscopic anatomy are
- A) embryology and parasitology.
 - B) cytology and histology.
 - C) comparative anatomy and pathological anatomy.
 - D) neurobiology and surface anatomy.
- 29) When medical students study all of the structures in a particular area of the body as a unit (for example, all the muscles, blood vessels, and nerves of the leg), that approach is called
- A) surface anatomy.
 - B) comparative anatomy.
 - C) popliteal physiology.
 - D) regional anatomy.
 - E) systemic anatomy.
- 30) The scientific discipline that studies the functions of body structures is
- A) anatomy.
 - B) physiology.

- 31) Which is a physiological description rather than an anatomical one?
- A) The muscles of the intestinal wall contract slowly and involuntarily.
 - B) The walls of blood capillaries are composed of a thin epithelium.
 - C) The muscles of the thigh are composed of skeletal muscle tissue.
 - D) There are fenestrations (openings) in the epithelial cells of capillary walls.
 - E) The esophageal wall includes a middle layer of dense irregular connective tissue.
- 32) Respiratory physiology is primarily the study of
- A) cell shape within the alveoli of the lungs.
 - B) the branching pattern of the small airways of the lungs.
 - C) the tissue composition of the airways, air sacs, and blood vessels.
 - D) how gases are transferred between the lungs and the blood vessels supplying them.
- 33) The large surface area of the inside of the small intestine means that this structure is
- A) well adapted for its physiological role in absorption.
 - B) derived from an embryological structure that served a different function.
 - C) anatomically complex but physiologically simple.
 - D) maladaptive in that it harbors bacteria.
- 34) The mechanism by which the body propels food through the digestive tract is primarily a topic of study for
- A) anatomists.
 - B) physiologists.

- 35) The term that refers to the ability of organisms to react to changes in the environment is
- A) responsiveness.
 - B) reproduction.
 - C) metabolism.
 - D) development.
 - E) organization.
- 36) The various chemical reactions that organisms carry out are collectively called
- A) reproduction.
 - B) homeostasis.
 - C) metabolism.
 - D) responsiveness.
 - E) development.
- 37) The category of reactions in which larger molecules are broken down into smaller ones is known as
- A) anabolism.
 - B) catabolism.
 - C) synthesis.
 - D) homeostasis.
 - E) enzymatic.
- 38) The smallest structural unit that exhibits the characteristics of living things is

- A) an organ.
- B) an individual.
- C) tissue.
- D) a cell.
- E) a system.

39) Which level consists of related organs that work to achieve a common function?

- A) Organ system level
- B) Cellular level
- C) Tissue level
- D) Chemical level
- E) Organ level

40) At what level of organization is a tooth, which contains multiple tissue types?

- A) Tissue level
- B) Cell level
- C) Organ level
- D) System level
- E) Atomic level

41) Which of the following statements accurately describes the organization of structures?

- A) Organs are made up of tissues, which are made up of cells, which are made up of organelles and molecules.
- B) Tissues are made up of organs, which are made up of cells, which are made up of individual atoms.
- C) Organisms are made up of tissues, which are made up of organ systems, which are made up of DNA.
- D) Organ systems are made up of cells, which are made up of tissues, which are made up of organelles.
- E) Organs are made up of cells, which are made up of atoms, which are made up of molecules.

42) Which system is responsible for providing protection, regulating body temperature, and being the site of cutaneous receptors?

- A) Respiratory
- B) Muscular
- C) Integumentary
- D) Urinary
- E) Nervous

43) The body system that provides support and protection as well as being a site of blood cell production (hemopoiesis) is the _____ system.

- A) skeletal
- B) muscular
- C) cardiovascular
- D) respiratory
- E) lymphatic