LEARNING OBJECTIVES

After completing this chapter, you will be able to:

- Define and spell the word parts used to create terms for the human body.
- Identify the building blocks, organ systems, and cavities of the body.
- Identify the anatomical planes, regions, and directional terms used to describe areas of the body.
- Break down and define the important terms associated with the anatomy and physiology of the human body.
- Define the introductory terms associated with medical terminology.
- Identify the five major diagnostic imaging procedures.
CHAPTER 4
The Human Body in Health and Disease
Worksheet 1

Phonetic Spelling Challenge
Spell the medical term correctly in the space provided.

1. ann AH toe mee
2. fiz ee OL oh jee
3. SAJ ih tal
4. HOE mee oh STAY siss
5. mee dee ah STY num
6. ab DOMM ih nahl
7. HIGH poh GASS trik
8. ap PEN dah jiz
9. DYE ah fram
10. dih ZEEZ
11. path AHL oh jee
12. DYE ag NO sis
13. SIMP tumz
14. ah KYOOT
15. kor EYE zah
16. KRON ik
17. TRA Wild mah
Spelling Challenge
These terms are spelled incorrectly. Spell each term correctly in the space provided.

1. Illiac ____________________________
2. Peracrdiol cavity ____________________________
3. Proximil ____________________________
4. Mediastynum ____________________________
5. Organeles ____________________________
6. Abdomminal ____________________________
7. Homostasis ____________________________
8. Coronall ____________________________
9. Plural cavity ____________________________
10. Anatomical planes ____________________________
11. Dystal ____________________________
12. Saggital ____________________________
13. Appendeges ____________________________
14. Dorcal ____________________________
15. Thoraxic ____________________________

True/False
Mark each statement as true (T) or false (F).

_____ 1. Anatomical position is an erect posture with the arms at the side, palms of the hands facing forward, and legs together with the feet pointing forward.

_____ 2. The abdominal cavity contains the urinary bladder, internal reproductive organs, and parts of the small and large intestines.

_____ 3. The term pelvic literally means “pertaining to a bowl.”

_____ 4. The medical term for a head cold is coryza.

_____ 5. The simplest building block of the body is known as the atom.

_____ 6. Each lung is surrounded by the pleura, a double-layered membrane.
7. Two or more different tissues combine to form an organ system.

8. The lymphatic system removes unwanted substances and recycles fluid to the blood.

9. *Superior* means “pertaining to the back.”

10. The two main cavities of the body are the dorsal cavity and the vertebral cavity.

**Fill in the Blank**

Fill in the blank with the correct medical term from this chapter.

11. Literally meaning “the process of cutting up,” the study of body structure is called ____________________________.

12. The general function of the ____________________________ system is to exchange gases between the external environment and the blood.

13. A frontal or ____________________________ plane is a vertical plane passing through the body from side to side, dividing the body into anterior and posterior portions.

14. Dorsal and ____________________________ are interchangeable terms meaning “pertaining to the back.”

15. In general, the term ____________________________ refers to a state of the body in which homeostasis has faltered due to any cause.

16. A(n) ____________________________, ____________________________ is a diagnostic procedure that combines multiple x-rays and computer enhancement to produce three-dimensional images of internal body structures.

17. Derived from the Greek word for time, *kronos*, ____________________________ diseases usually develop slowly and last for many years.

18. The body’s basic design consists of a central trunk, or torso, with attached ____________________________, or limbs.

19. The term ____________________________ is defined as “toward the origin of attachment to the trunk.”

20. The general function of the ____________________________ system is to transport substances to and from body cells.
Short Answer
Write the definition for each of the following terms.

21. Epigastric

22. Diaphragm

23. Sign

24. Chronic

25. Lateral

Word Search
Fill in the blank with the correct medical term from this chapter, then find those terms in the word search puzzle that follows.

1. There are four main categories of __________________________: epithelial, connective, muscle, and nervous.

2. The function of the __________________________ system is to convert food material into a molecular form that can be absorbed by the bloodstream and transported to body cells for nourishment.

3. The general function of the __________________________ system is to control homeostasis by releasing hormones into the bloodstream.

4. In addition to lymph nodes, the __________________________ system includes numerous other organs, many of which consist of clusters of white blood cells, such as monocytes and lymphocytes.

5. The process of maintaining internal stability is a central concept of human physiology and is called __________________________.

6. The __________________________ is the simplest organized substance known, although it too is composed of smaller particles.

7. __________________________ means “on top of the belly.”

8. When looking at the body as a whole, you will notice that its basic design consists of a central trunk or torso with attached __________________________, or limbs.

9. A(n) __________________________ plane is a horizontal plane dividing the body into superior and inferior portions.

10. The primary function of the cardiovascular system is to __________________________ vital substances throughout the body.
11. The cavity that is superior to the diaphragm is the _______________________________ cavity.

12. A(n) ____________________ plane is a vertical plane dividing the body into right and left portions.
CHAPTER 4
The Human Body in Health and Disease

Worksheet 2

Dictation Report

Write each numbered term as you hear it, spelling each term correctly. This exercise will help you learn to hear, comprehend, visualize, and spell the new medical terms accurately.

The study of body structure is called (1) ____________________________.

(2) ____________________________ refers to the study of the nature of living things and how they work. Understanding of both is important to maintaining (3) ____________________________ within the body.

The body is made up of tiny particles known as (4) ____________________________, which make up (5) ____________________________, which make up (6) ____________________________, which make (7) ____________________________, which make up (8) ____________________________, which make up eleven different body (9) ____________________________. Every part of the body works in concert with the rest of the body to keep the body functioning.

The body systems include the (10) ____________________________ system, the (11) ____________________________ system, the (12) ____________________________ system, the (13) ____________________________ system, the (14) ____________________________ system, the (15) ____________________________ system, the (16) ____________________________ system, the (17) ____________________________ system, the (18) ____________________________ system, the (19) ____________________________ system, and the (20) ____________________________ system.

The body is divided into (21) ____________________________, (22) ____________________________, and (23) ____________________________.
Medical terminology also uses special terms to describe direction within the body. Directional terms are always based on the body standing in (24) _______________________, or erect posture with the arms at the side, palms of the hands facing forward, and legs together with the feet pointing forward. Such terms as (25) ______________________ and (26) ______________________, referencing up and down, (27) ______________________ and (28) ______________________, referencing front and back, and (29) ______________________ and (30) ______________________, referencing attachment to the trunk, help us describe the body.
CHAPTER 4
The Human Body in Health and Disease

Worksheet 3

Word Surgery

Read the Medical Word. Break down the medical word into its word parts, and give the meaning of each word part. Then give the definition of the medical word.

1. Anatomy
   Definition: ____________________________________________________________
   Prefix and definition: __________________________________________________
   Suffix and definition: __________________________________________________

2. Physiology
   Definition: ____________________________________________________________
   Combining form and definition: __________________________________________
   Suffix and definition: __________________________________________________

3. Intrapelvic
   Definition: ____________________________________________________________
   Prefix and definition: __________________________________________________
   Combining form and definition: __________________________________________
   Suffix and definition: __________________________________________________

4. Epigastric
   Definition: ____________________________________________________________
   Prefix and definition: __________________________________________________
   Combining form and definition: __________________________________________
   Suffix and definition: __________________________________________________

5. Dorsal
   Definition: ____________________________________________________________
   Combining form and definition: __________________________________________
   Suffix and definition: __________________________________________________

6. Periumbilical
   Definition: ____________________________________________________________
   Prefix and definition: __________________________________________________
   Combining form and definition: __________________________________________
   Suffix and definition: __________________________________________________
7. Homeostasis  
Definition: ____________________________________________________________  
Prefix and definition: ________________________________________________________________________  
Combining form and definition: ____________________________________________________________________  
Suffix and definition: ________________________________________________________________________

8. Microscopic  
Definition: ________________________________________________________________________  
Combining form and definition: ____________________________________________________________________  
Suffix and definition: ________________________________________________________________________

9. Abdominopelvic  
Definition: ________________________________________________________________________  
Combining form and definition: ____________________________________________________________________  
Suffix and definition: ________________________________________________________________________

10. Diagnosis  
Definition: ________________________________________________________________________  
Prefix and definition: ________________________________________________________________________  
Combining form and definition: ____________________________________________________________________  
Suffix and definition: ________________________________________________________________________

11. Ambilateral  
Definition: ________________________________________________________________________  
Prefix and definition: ________________________________________________________________________  
Combining form and definition: ____________________________________________________________________  
Suffix and definition: ________________________________________________________________________

12. Prognosis  
Definition: ________________________________________________________________________  
Prefix and definition: ________________________________________________________________________  
Combining form and definition: ____________________________________________________________________  
Suffix and definition: ________________________________________________________________________

13. Sagittal  
Definition: ________________________________________________________________________  
Prefix and definition: ________________________________________________________________________  
Combining form and definition: ____________________________________________________________________  
Suffix and definition: ________________________________________________________________________

14. Pericardial  
Definition: ________________________________________________________________________  
Prefix and definition: ________________________________________________________________________  
Combining form and definition: ____________________________________________________________________  
Suffix and definition: ________________________________________________________________________
Case Study

Fill in the blank with the correct medical term from this chapter.

Roger and Ken are seen in the doctor’s office for the complaint of difficulty breathing.

Roger is a 22-year-old college student with three days of elevated temperature, runny nose, sore throat, cough, and fatigue along with the difficulty breathing. The doctor examines him and finds him to have a temperature of 100.6°F, normal respiratory rate, with inflammation of the pharynx. He is found to have an infection with a virus. He is told to keep up with fluids, nutrition, and rest and that he should be well within the week.

1. Which of the above are symptoms? ______________________, ______________________, ______________________, ______________________, and ______________________

2. Which of the above are signs? ______________________, ______________________, ______________________

3. Is this an acute or chronic condition? ______________________

Ken is a 78-year-old gentleman with increasing difficulty breathing over the last three months. He also complains of chest pain when he does small amounts of exercise. His doctor is concerned that this may be caused by coronary artery disease. The doctor performs a physical exam showing normal temperature, heart rate, respiratory rate, and heart and lung exam. Further cardiac testing shows that he does have blockages of the arteries in his heart. He is then placed on medication to control symptoms and help him improve his long-term situation, which is described as fair.

4. Which of the above are symptoms? ______________________

5. Which of the above are signs? ______________________, ______________________, ______________________, ______________________, ______________________

6. What is the diagnosis? ______________________

7. Is this an acute or chronic condition? ______________________
Medical Report Analysis

Consider the following excerpt from a clinician’s notes following completion of a history and physical examination. For the highlighted terms or word parts, provide the meaning.

Mrs. C denies respiratory (A) ____________________________ distress, has equal bilateral (B) ____________________________ breath sounds and symmetrical movement of the chest wall. Pain is localized to the left upper quadrant of the abdominal (C) ____________________________ cavity. The spleen is not palpable in the left hypochondriac (D) ____________________________ region. Pain is not transmitted to the posterior (E) ____________________________ abdominal cavity.
Which Term Does Not Belong?

Circle the term that is not related to the other terms. Then explain why the term does not belong with the others.

1. Body systems
   a. cardiovascular
   b. respiratory
   c. cellular
   d. integumentary
   e. urinary

   Why does it not belong? __________________________________________________________

2. Directional terms
   a. lateral
   b. homeostasis
   c. inferior
   d. superficial
   e. distal

   Why does it not belong? __________________________________________________________

3. Regions of the abdomen
   a. axilla
   b. hypochondriac
   c. hypogastric
   d. lumbar
   e. umbilical

   Why does it not belong? __________________________________________________________
4. Body cavities
   a. abdominal
   b. pleural
   c. thoracic
   d. umbilical
   e. ventral

   Why does it not belong? ________________________________

5. Diagnostic tests or procedures
   a. computed tomography scan
   b. endoscopy
   c. magnetic resonance imaging
   d. prognosis
   e. ultrasound

   Why does it not belong? ________________________________
Labeling

Label the diagram below.
CHAPTER 4
The Human Body in Health and Disease

Worksheet 8

Crossword

Directions: Fill in the crossword puzzle with the words missing from the sentences below. Match the number of the sentence to the boxes placed across or down the grid. If filled out correctly, the words will fit neatly into the puzzle.

ACROSS
3 When looking at the body as a whole, you will notice that its basic design consists of a central trunk, or torso, with attached ________ or limbs.
7 A group of organs sharing a general function is called a(n) ____________.
8 The ________ system controls homeostasis by sensing changes in the environment, processing information, and initiating body responses.
9 The process of maintaining internal stability is a central concept of human physiology and is called ____________.
10 The study of body structure is called ____________.

DOWN
1 Atoms may bind together to form molecules, which in turn combine to form large, nonliving structures such as parts of cell called ____________.
2 __________ terms are words used to describe the relative location of the body or its parts.
4 The study of disease is a field of medicine called ____________.
5 The ________ cavity contains the liver, stomach, pancreas, spleen, and most of the small and large intestines.
6 A(n) ________ plane is a vertical plane dividing the body into right and left portions.
CHAPTER 4
The Human Body in Health and Disease

Worksheet 1 Answers

Phonetic Spelling Challenge

1. Anatomy
2. Physiology
3. Sagittal
4. Homeostasis
5. Mediastinum
6. Abdominal
7. Hypogastric
8. Appendages
9. Diaphragm
10. Disease
11. Pathology
12. Diagnosis
13. Symptoms
14. Acute
15. Coryza
16. Chronic
17. Trauma

Spelling Challenge

1. Iliac
2. Pericardial cavity
3. Proximal
4. Mediastinum
5. Organelles
6. Abdominal
7. Homeostasis
8. Coronal
9. Pleural cavity
10. Anatomical planes
11. Distal
12. Sagittal
13. Appendages
14. Dorsal
15. Thoracic

True/False

1. T
2. F
3. T
4. T
5. T
6. T
7. F
8. T
9. F
10. F

Fill in the Blank

11. anatomy
12. respiratory
13. coronal
14. posterior
15. disease
16. CT (CAT) scan
17. chronic
18. appendages
19. proximal
20. cardiovascular
Short Answer

21. On top of the stomach
22. A muscular partition that divides the ventral cavity into upper and lower cavities
23. A finding that can be discovered by an objective examination
24. Describes a disease of long duration
25. Toward the side

Word Search

1. tissues
2. digestive
3. endocrine
4. lymphatic
5. homeostasis
6. atom
7. epigastric
8. appendages
9. transverse
10. transport
11. thoracic
12. sagittal
Dictation Report

Write each numbered term as you hear it, spelling each term correctly. This exercise will help you learn to hear, comprehend, visualize, and spell the new medical terms accurately.

The study of body structure is called (1) **anatomy**, (2) **Physiology** refers to the study of the nature of living things and how they work. Understanding of both is important to maintaining (3) **homeostasis** within the body.

The body is made up of tiny particles known as (4) **atoms**, which make up (5) **molecules**, which make up (6) **cells**, which make (7) **tissue**, which make up (8) **organs**, which make up eleven different body (9) **systems**. Every part of the body works in concert with the rest of the body to keep the body functioning.

The body systems include the (10) **respiratory** system, the (11) **digestive** system, the (12) **cardiovascular** system, the (13) **lymphatic** system, the (14) **urinary** system, the (15) **reproductive** system, the (16) **nervous** system, the (17) **endocrine** system, the (18) **skeletal** system, the (19) **muscular** system, and the (20) **integumentary** system. The body is divided into (21) **regions**, (22) **cavities**, and (23) **planes**.

Medical terminology also uses special terms to describe direction within the body. Directional terms are always based on the body standing in (24) **anatomical position**, or erect posture with the arms at the side, palms of the hands facing forward, and legs together with the feet pointing forward. Such terms as (25) **superior** and (26) **inferior**, referencing up and down, (27) **anterior** and (28) **posterior**, referencing front and back, and (29) **proximal** and (30) **distal**, referencing attachment to the trunk, help us describe the body.
Word Surgery

1. Anatomy
   Definition: The study of the structures of the human body
   Prefix and definition: ana-, apart from; excessive
   Suffix and definition: -tomy, process of cutting or making an incision

2. Physiology
   Definition: The study or science of how cells, tissues, organs and systems work
   Combining form and definition: physi/o, function
   Suffix and definition: -logy, study or science of

3. Intrapelvic
   Definition: Pertaining to the organs and tissues inside the pelvic cavity
   Prefix and definition: intra-, within
   Combining form and definition: pelv/o, pelvis or pelvic cavity
   Suffix and definition: -ic, pertaining to

4. Epigastric
   Definition: Pertaining to the area over the stomach
   Prefix and definition: epi-: upon, over, or outside
   Combining form and definition: gastr/o, stomach
   Suffix and definition: -ic, pertaining to

5. Dorsal
   Definition: Pertaining to the posterior of the body, particularly the back
   Combining form and definition: dors/o, back; dorsum
   Suffix and definition: -al, pertaining to

6. Periumbilical
   Definition: Pertaining to the area around the belly button
   Prefix and definition: peri-, around
   Combining form and definition: umbilic/o, belly button
   Suffix and definition: -ic, pertaining to

7. Homeostasis
   Definition: Describes a state of chemical and physical balance within the body
   Prefix and definition: home-, same
   Combining form and definition: stas/o, to stop or stay
   Suffix and definition: -is, state or condition

8. Microscopic
   Definition: Pertaining to structures that cannot be seen with the naked eye
   Combining form and definition: micr/o, small scop/o, examine with an instrument
   Suffix and definition: -ic, pertaining to
9. Abdominopelvic
   Definition: Pertaining to the abdomen and the pelvic cavity
   Combining form and definition: abdomin/o, abdomen; pelv/o, pelvis or pelvic cavity
   Suffix and definition: -ic, pertaining to

10. Diagnosis
    Definition: The identification of a person’s pathology or condition determined through assessment and laboratory studies. The term technically means “through knowledge.”
    Prefix and definition: dia-, through or across
    Combining form and definition: gnos/o, knowledge
    Suffix and definition: -is, state or condition

11. Ambilateral
    Definition: On both sides
    Prefix and definition: ambi-, both
    Combining form and definition: later/o, to the side
    Suffix and definition: -al, pertaining to

12. Prognosis
    Definition: Predicted outcome of a disease
    Prefix and definition: pro-, before
    Combining form and definition: gnos/o, knowledge
    Suffix and definition: -osis, condition; abnormal condition

13. Sagittal
    Definition: The plane that divides the body into right and left sides.
    Combining form and definition: sagitt/o, going from front to back
    Suffix and definition: -al, pertaining to

14. Pericardial
    Definition: Pertaining to the area around the heart
    Prefix and definition: peri-, around
    Combining form and definition: cardi/o, heart
    Suffix and definition: -al, pertaining to
Case Study

1. elevated temperature, runny nose, sore throat, cough, and fatigue along with the difficulty breathing
2. temperature of 100.6°F, normal respiratory rate and with inflammation of the pharynx
3. acute
4. difficulty breathing, chest pain
5. normal temperature, heart rate, respiratory rate, heart and lung exam
6. coronary artery disease
7. chronic
CHAPTER 4
The Human Body in Health and Disease

Worksheet 5 Answers

Medical Report Analysis

A: The system including the lungs and airways that is responsible for providing oxygen to the body and eliminating carbon dioxide waste
B: Both sides
C: Pertaining to the abdomen
D: Below the cartilage/relates to the region that underlies the cartilages that connect the lower ribs to the breastbone
E: Back of
CHAPTER 4
The Human Body in Health and Disease

Worksheet 6 Answers

Which Term Does Not Belong?

1. C  Cellular is not a body system.
2. B  Homeostasis means “balance” and is not related to direction.
3. A  Axilla refers to the armpit and is not a region of the abdomen.
4. D  The umbilical region of the abdomen is an external landmark and is not a body cavity.
5. D  Prognosis is a projected outcome rather than a diagnostic test or procedure.
CHAPTER 4
The Human Body in Health and Disease

Worksheet 7 Answers

Labeling

(a)

(b)
Crossword Puzzle

Solution:

```
O  D
R  I
G  R

A  N  C  A
P  E  N  D  A  G  E  S
S  Y  S  T  E  M  E  T  B
H  L  I  D
N  E  R  V  O  U  S  L  O  O
E  N  M
H  O  M  E  O  S  T  A  S  I  S
G  L  N
A  N  A  T  O  M  Y  A
L  L
```