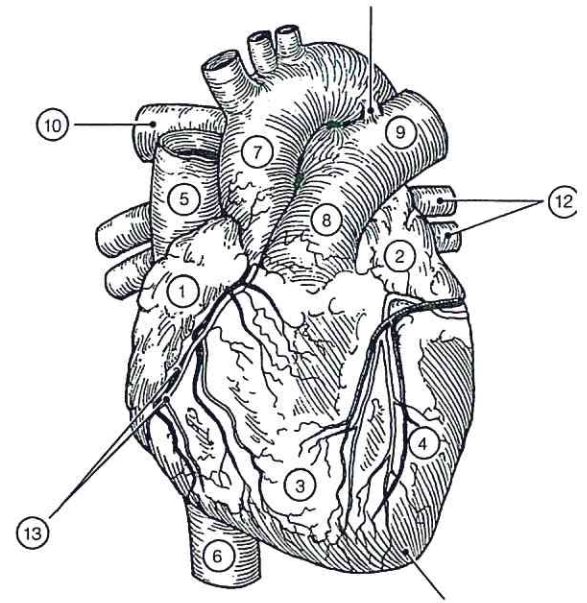


1 THE HUMAN BODY: AN ORIENTATION



Most of us have a natural curiosity about our bodies, and a study of anatomy and physiology elaborates on this interest. Anatomists have developed a universally acceptable set of reference terms that allows body structures to be located and identified with a high degree of clarity. Initially, students might have difficulties with the language used to describe anatomy and physiology, but without such a special vocabulary, confusion is bound to occur.

The topics in this chapter enable students to test their mastery of terminology commonly used to describe the body and its various parts, and concepts concerning functions vital for life and homeostasis. Body organization from simple to complex levels and an introduction to the organ systems forming the body as a whole are also covered.

AN OVERVIEW OF ANATOMY AND PHYSIOLOGY

1. Match the terms in Column B to the appropriate descriptions provided in Column A. Enter the correct letter or its corresponding term in the answer blanks.

Column A

- _____ 1. The branch of biological science that studies and describes how body parts work or function
- _____ 2. The study of the shape and structure of body parts
- _____ 3. The tendency of the body's systems to maintain a relatively constant or balanced internal environment
- _____ 4. The term that indicates *all* chemical reactions occurring in the body

Column B

- A. Anatomy
- B. Homeostasis
- C. Metabolism
- D. Physiology

- _____ 1. Rids the body of nitrogen-containing wastes
- _____ 2. Is affected by the removal of the thyroid gland
- _____ 3. Provides support and levers on which the muscular system can act
- _____ 4. Includes the heart
- _____ 5. Protects underlying organs from drying out and mechanical damage
- _____ 6. Protects the body; destroys bacteria and tumor cells
- _____ 7. Breaks down foodstuffs into small particles that can be absorbed
- _____ 8. Removes carbon dioxide from the blood
- _____ 9. Delivers oxygen and nutrients to the body tissues
- _____ 10. Moves the limbs; allows facial expression
- _____ 11. Conserves body water or eliminates excesses
- _____ 12. Provides for conception and childbearing
- _____ 13. Controls the body with chemicals called hormones
- _____ 14. Is damaged when you cut your finger or get a severe sunburn
6. Using the key choices from Exercise 5, choose the organ system to which each of the following sets of organs belongs. Enter the correct letter or term in the answer blanks.
- _____ 1. Blood vessels, heart
- _____ 2. Pancreas, pituitary, adrenal glands
- _____ 3. Kidneys, bladder, ureters
- _____ 4. Testis, vas deferens, urethra
- _____ 5. Esophagus, large intestine, rectum
- _____ 6. Breastbone, vertebral column, skull
- _____ 7. Brain, nerves, sensory receptors
7. Figures 1-1 to 1-6, on pages 4-6, represent the various body organ systems. First identify and name each organ system by labeling the organ system under each illustration. Then select a different color for each organ and use it to color the coding circles and corresponding structures in the illustrations.

4 Anatomy & Physiology Coloring Workbook

Blood vessels

Heart

Nasal cavity

Lungs

Trachea

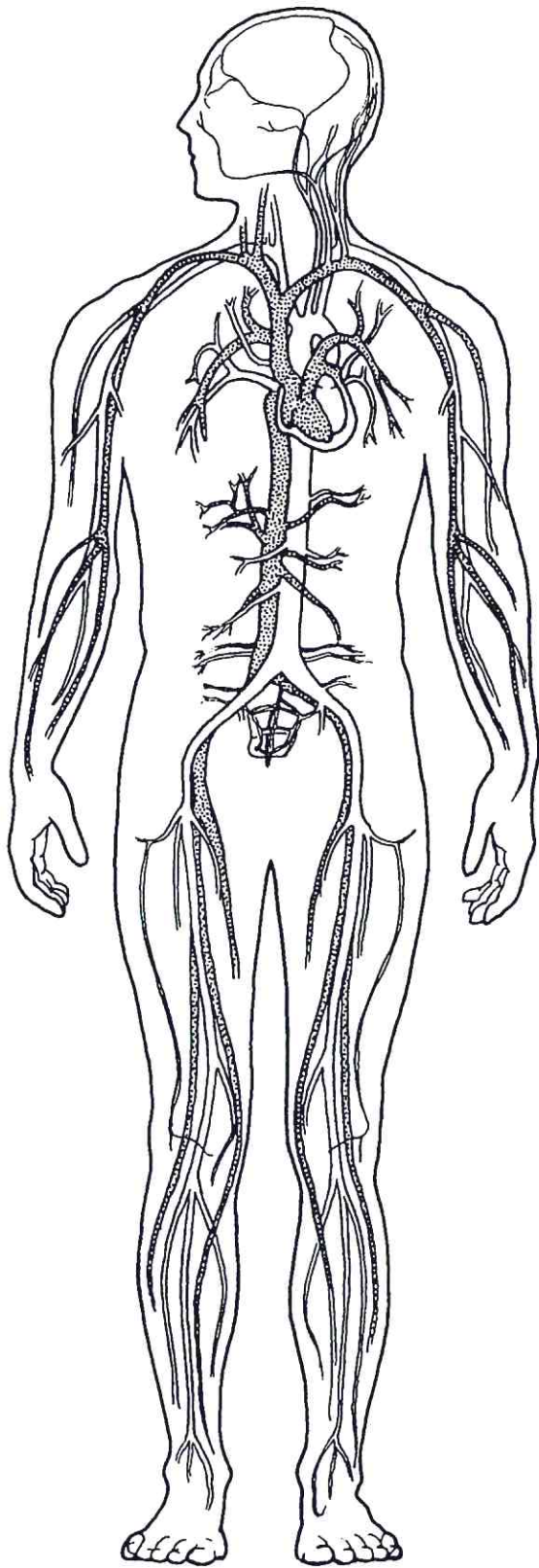


Figure 1-1

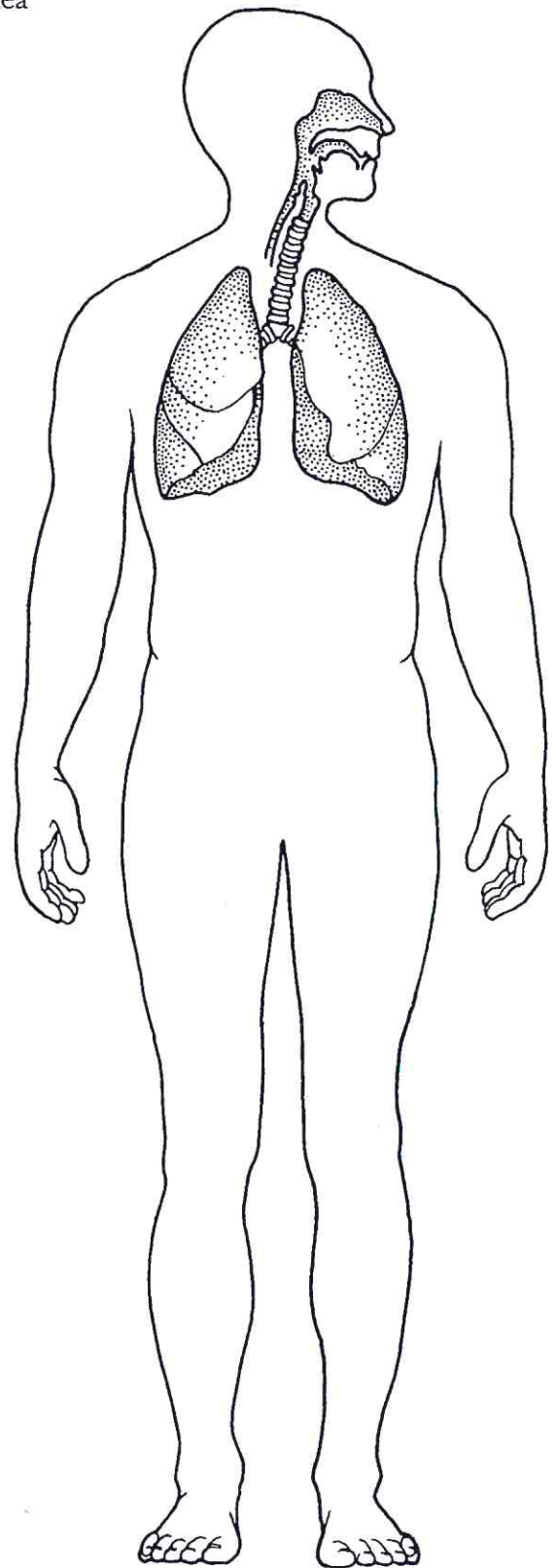


Figure 1-2

- Brain
- Spinal cord
- Nerves

- Kidneys
- Ureters
- Bladder

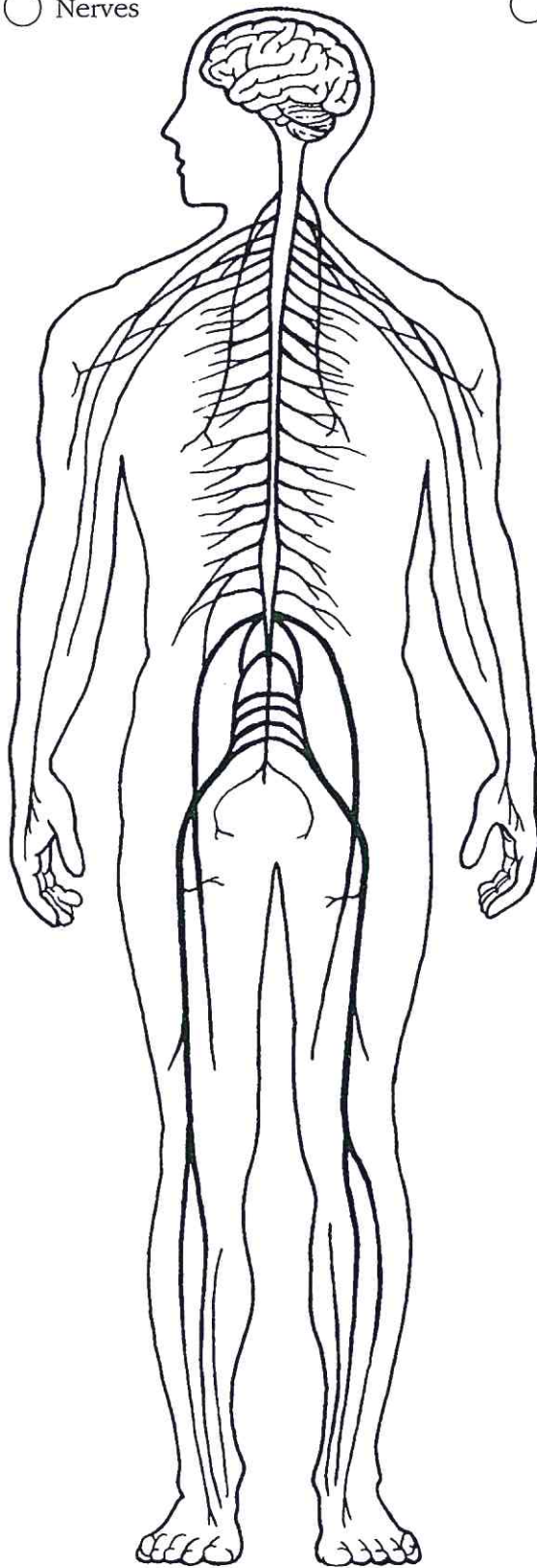


Figure 1-3

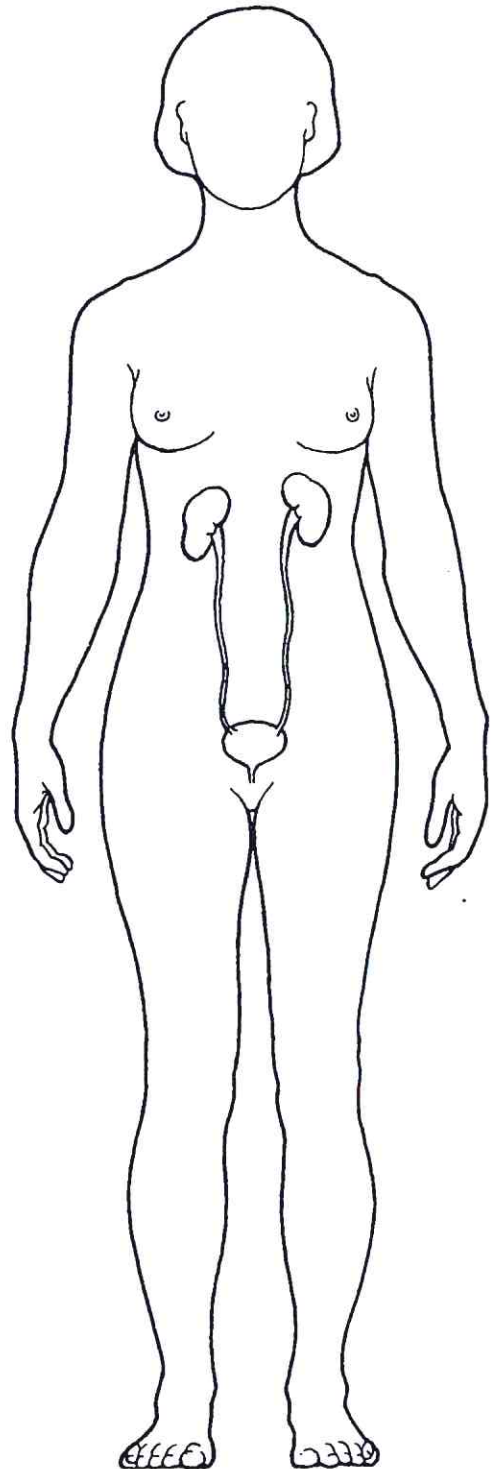


Figure 1-4

6 Anatomy & Physiology Coloring Workbook

Stomach

Esophagus

Ovaries

Intestines

Oral cavity

Uterus

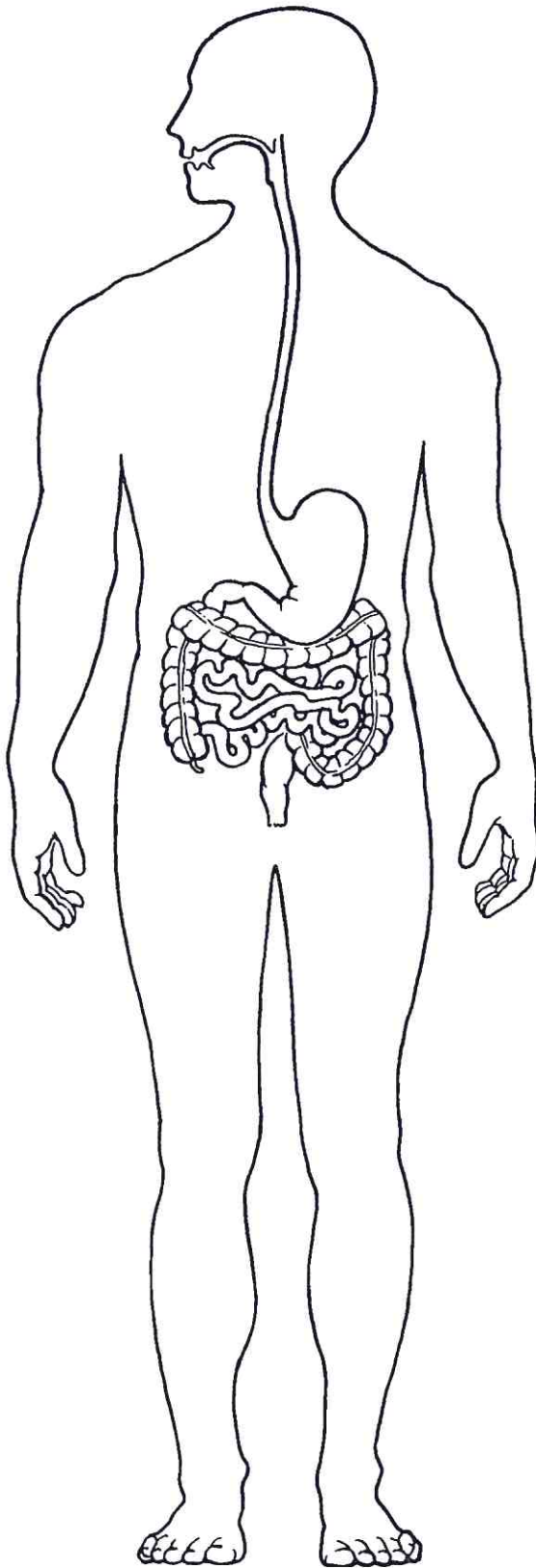


Figure 1-5

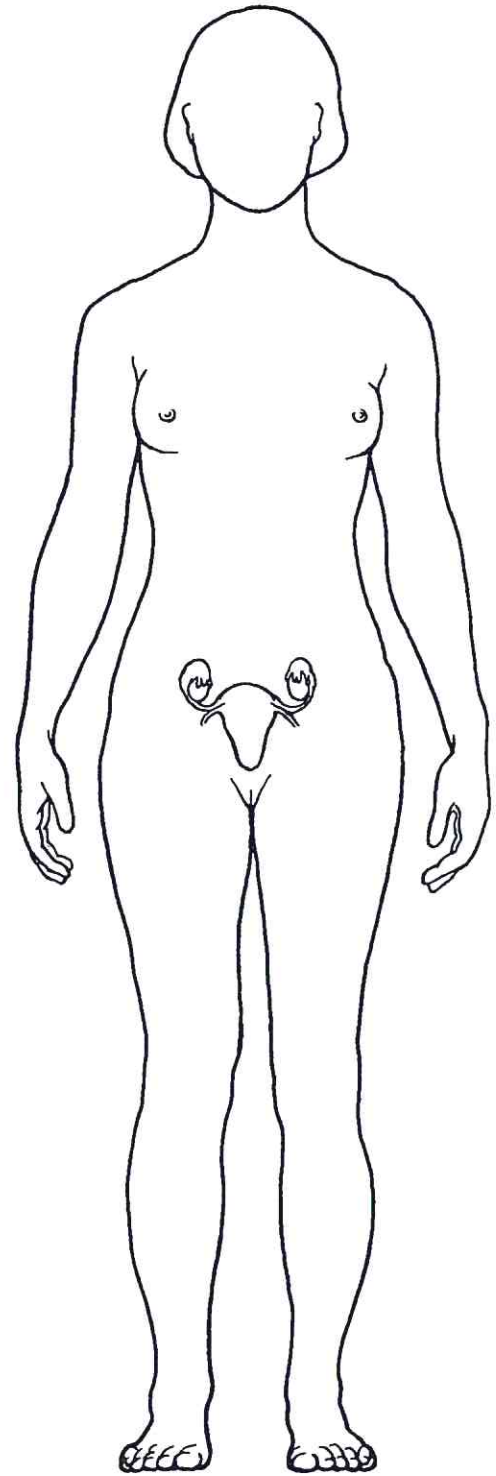


Figure 1-6

MAINTAINING LIFE

8. Match the terms pertaining to functional characteristics of organisms in Column B with the appropriate descriptions in Column A. Fill in the answer blanks with the appropriate letter or term.

Column A	Column B
_____ 1. Keeps the body's internal environment distinct from the external environment	A. Digestion
_____ 2. Provides new cells for growth and repair	B. Excretion
_____ 3. Occurs when constructive activities occur at a faster rate than destructive activities	C. Growth
_____ 4. The tuna sandwich you have just eaten is broken down to its chemical building blocks	D. Maintenance of boundaries
_____ 5. Elimination of carbon dioxide by the lungs and elimination of nitrogenous wastes by the kidneys	E. Metabolism
_____ 6. Ability to react to stimuli; a major role of the nervous system	F. Movement
_____ 7. Walking, throwing a ball, riding a bicycle	G. Responsiveness
_____ 8. All chemical reactions occurring in the body	H. Reproduction
_____ 9. At the cellular level, membranes; for the whole organism, the skin	

9. Using the key choices, correctly identify the survival needs that correspond to the following descriptions. Insert the correct letter or term in the answer blanks.

Key Choices

- | | | |
|---------------------------------|--------------|----------|
| A. Appropriate body temperature | C. Nutrients | E. Water |
| B. Atmospheric pressure | D. Oxygen | |

- | |
|--|
| _____ 1. Includes carbohydrates, proteins, fats, and minerals |
| _____ 2. Essential for normal operation of the respiratory system and breathing |
| _____ 3. Single substance accounting for more than 60% of body weight |
| _____ 4. Required for the release of energy from foodstuffs |
| _____ 5. Provides the basis for body fluids of all types |
| _____ 6. When too high or too low, physiological activities cease, primarily because molecules are destroyed or become nonfunctional |