Chapter 1: Introduction to Human Anatomy and Physiology

I. Introduction

A. The interests of our earliest ancestors most likely concerned________________________________

B. Primitive people certainly suffered from ___________________________________________________

C. Before agriculture, infectious diseases did not spread easily because ________________

D. With agriculture, humans became susceptible to worm diseases because ________________

E. With urbanization, humans became more susceptible to ____________________________
   and________________________________________________________

F. Tooth decay was lowest among ____________________________
   and highest among ________________________________

G. Preserved bones from children can reflect malnutrition because _______________________

H. At first healers had to rely on ______________________________________________________

I. The forerunners of modern drugs were _______________________________________________________________________

J. Early medical providers developed the language of anatomy and physiology from ________________

II. Anatomy and Physiology

A. Anatomy is ___________________________________________________________________________

B. Physiology is _________________________________________________________________________

C. Anatomists rely on _____________________________________________________________________

D. Physiologists rely on __________________________________________________________________

E. Anatomy and Physiology are difficult to separate because _____________________________

F. The anatomy of the hand, which is_____________________________________________________
   , allows it to grasp objects.
G. The structure of the heart includes __________________________
   which allows it to propel blood into blood vessels.
H. The heart valves ensure __________________________
I. The shape of the mouth allows it __________________________
J. Teeth can function to break solid foods because __________________________
K. A recent anatomical discovery is __________________________
L. A recent physiological discovery is __________________________
M. Researchers have recently sequenced __________________________
   which will help explain anatomy and physiology at the_________________________
   and __________________________ levels.

III. Levels of Organization
A. All materials are made of __________________________
B. Chemicals consist of tiny particles called __________________________
C. Examples of atoms are __________________________
D. When atoms chemically bond together they form __________________________
E. Examples of molecules are __________________________
F. When small molecules chemically combine they form __________________________
G. Examples of macromolecules are __________________________
H. Within humans, the basic unit of structure is __________________________
I. Cells are made of small structures called __________________________
J. Organelles are made of __________________________
K. Examples of organelles are __________________________
L. Examples of cells are __________________________
M. Tissues are formed from __________________________
N. Examples of tissues are __________________________
O. Organs are formed from __________________________
P. Examples of organs are __________________________
Q. Organ systems are formed from __________________________
R. Examples of organ systems include __________________________
S. Organisms are formed from __________________________
T. The organism studied in this class is the __________________________
IV. Characteristics of Life

A. Movement is _____________________________________________________________
B. Responsiveness is _______________________________________________________
C. Growth is ______________________________________________________________
D. Reproduction is _________________________________________________________
E. Respiration is __________________________________________________________
F. Digestion is ____________________________________________________________
G. Absorption is __________________________________________________________
H. Circulation is __________________________________________________________
I. Assimilation is __________________________________________________________
J. Excretion is ____________________________________________________________
K. Metabolism is __________________________________________________________

V. Maintenance of Life

A. Requirements of Organisms

1. The five requirements of life are ____________________, ____________________, ________________, and ____________________
2. The most abundant substance in the body is ________________________________
3. Four major uses of water by the body are ___________________________________
   _______________________________________________________________________
4. Substances that provide organisms with nutrients are called________________
5. Nutrients supply _________________________________________________________
6. One-fifth of air is _________________________________________________________
7. The body uses oxygen ___________________________________________________
8. A form of energy used by the body is _______________________________________
9. Heat helps to regulate ____________________________________________________
10. The application of force on an object is ________________________________
11. Atmospheric pressure is _________________________________________________
12. For humans, atmospheric pressure plays an important role in_______________
13. Hydrostatic pressure is _________________________________________________
14. A type of hydrostatic pressure in the human is ____________________________

B. Homeostasis
1. The internal environment of the body consists of __________________________________________________________

2. Homeostasis is __________________________________________________________

3. Homeostatic mechanisms are __________________________________________________________

4. The three components of a homeostatic mechanism are __________________________________________________________

5. Receptors provide __________________________________________________________

6. Control centers function to __________________________________________________________

7. Effectors cause __________________________________________________________

8. In a negative feedback mechanism, a deviation from the set point is _______ and the correction __________________________________________________________

VI. Organization of the Human Body

A. Body Cavities

1. The human body can be divided into an __________________________ portion and an __________________________ portion.

2. The axial portion includes __________________________________________________________

3. The appendicular portion includes __________________________________________________________

4. Within the axial portion, the three major cavities are __________________________________________________________

5. The cranial cavity houses __________________________________________________________

6. The vertebral canal houses the __________________________________________________________

7. Viscera are __________________________________________________________

8. The thoracic cavity is divided from the abdominopelvic cavity by the __________________________________________________________

9. The thoracic cavity contains the following organs: __________________________________________________________

10. The region between the lungs is the __________________________________________________________

11. Organs located in the mediastinum are __________________________________________________________

12. The two portions of the abdominopelvic cavity are __________________________________________________________
13. The organs of the abdominal cavity are

14. Organs of the pelvic cavity are

15. The four types of smaller cavities in the head are

B. Thoracic and Abdominopelvic Membranes

1. Serous membranes are located

2. The serous membrane that lines the thoracic cavity is the

3. The serous membrane that covers the lungs is the

4. The pleural cavity is

5. The serous membrane that covers the heart’s surface is the

6. The visceral pericardium is separated by serous fluid from the

7. The space between the pericardial membranes is the

8. The serous membrane that lines the abdominopelvic wall is the

9. The serous membrane that covers each abdominal organ is the

10. The peritoneal cavity is

C. Organ Systems

1. Introduction
   a. The eleven organ systems of the human body are
   b. Each organ system includes a set of
2. Body Covering
   a. The organs of the integumentary system are ______________________
   b. The major functions of the integumentary system are ______________________

3. Support and Movement
   a. The organs of the skeletal system are ______________________
   b. The major functions of the skeletal system are ______________________
   c. The organs of the muscular system are ______________________
   d. The major functions of the muscular system are ______________________

4. Integration and Coordination
   a. The organs of the nervous system are ______________________
   b. The major functions of the nervous system are ______________________
   c. The organs of the endocrine system are ______________________
   d. The major functions of the endocrine system are ______________________

5. Transport
   a. The organs of the cardiovascular system are ______________________
   b. The major functions of the cardiovascular system are ______________________
   c. The organs of the lymphatic system are ______________________
   d. The major functions of the lymphatic system are ______________________

6. Absorption and Excretion
   a. The organs of the digestive system are ______________________
   b. The major functions of the digestive system are ______________________
   c. The organs of the respiratory system are ______________________
d. The major functions of the respiratory system are________________________
________________________________________________________________________
e. The organs of the urinary system are____________________________
f. The major functions of the urinary system are________________________
________________________________________________________________________

7. Reproduction
a. The organs of the female reproductive system are______________________
b. The organs of the male reproductive system are______________________
c. The major functions of the reproductive system are________________________
________________________________________________________________________

VII. Life Span Changes
A. In the thirties, signs of aging include ________________________________
B. In the forties and fifties, signs of aging include ________________________________
C. In the sixties, signs of aging include ________________________________
D. Wrinkles are produced because ________________________________
E. Elderly people metabolize drugs at different rates than younger people because________________________
F. Alzheimer disease may be caused by ________________________________

VIII. Anatomical Terminology
A. Relative Position
1. The position of the body in the anatomical position is __________________
2. The anatomical term meaning above another body part is __________________
3. The anatomical term meaning below another body part is __________________
4. The anatomical term meaning toward the front is __________________
5. The two anatomical terms meaning toward the back are________________________
   and________________________________
6. The two anatomical terms meaning closer to the midline of the body are _____
   and________________________________
7. The anatomical term meaning closer to the sides of the body is ____________
8. The anatomical term for the same side is________________________
9. The anatomical term for the opposite side is _______________________
10. The anatomical term meaning closer to a specific point is _____________
11. The anatomical term meaning farther away from a specific point is ______
12. The two anatomical terms meaning closer to the surface of the body are ___
   and___________________________________________________________
13. The anatomical term meaning more internal is _______________________

B. Body Sections

1. A lengthwise cut that divides the body into left and right portions is called____
   ______________________________________________________________
2. A cut that divides the body into superior and inferior portions is called______
   ______________________________________________________________
3. A section that divides the body into anterior and posterior portions is called___
   ______________________________________________________________
4. A cut across a cylindrical organ is called______________________________
5. An angular cut of a cylindrical organ is called__________________________
6. A lengthwise cut of a cylindrical organ is called_______________________

C. Body Regions

1. Label the nine abdominal regions on the diagram below:

   Right                                      Left

   _______________________________________
   _______________________________________
   _______________________________________
   _______________________________________
   _______________________________________
   _______________________________________

   _______________________________________
   _______________________________________
   _______________________________________
2. Label the four quadrants of the abdomen on the diagram below:

Right                                      Left

3. Give the correct anatomical term for the following body regions:

region between thorax and pelvis
point of the shoulder
forearm
space in front of the elbow
armpit
arm
cheek
wrist
abdomen
head
neck
ribs
hip
leg
elbow
finger
back
thigh _________________________________
forehead ______________________________
reproductive organs _______________________
buttocks ________________________________
depressed area of the abdominal wall near the thigh _______________________
lower back between ribs and pelvis _______________________
breast _________________________________
chin _________________________________
nose __________________________________
lower posterior region of head _______________________
mouth __________________________________
eye cavity ______________________________
ear __________________________________
palm of hand _____________________________
front of knee _____________________________
chest __________________________________
foot ___________________________________
pelvis __________________________________
region between anus and external reproductive organs _________________
sole of the foot ____________________________
area behind the knee ____________________________
posterior region between the hipbones ____________________________
middle and anterior region of thorax ___________________________
instep of foot _____________________________
navel ___________________________________
spinal column ______________________________