Chapter Test A
Integumentary, Skeletal, and Muscular Systems

Part A: Multiple Choice

In the space at the left, write the letter of the term that best answers each question.

1. Which is part of the integumentary system?
   A. bone  
   B. ligament  
   C. organ  
   D. skin

2. Which protein is found in the epidermis layer of the skin?
   A. actin  
   B. keratin  
   C. melanin  
   D. myosin

3. Which type of joint allows a piano player’s fingers to play music?
   A. gliding  
   B. hinge  
   C. pivot  
   D. suture

Part B: Matching

Check the box of the correct type of muscle that matches each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Cardiac Muscle</th>
<th>Skeletal Muscle</th>
<th>Smooth Muscle</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Muscles a person cannot control voluntarily</td>
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<tr>
<td>2. Allows the heart to pump blood efficiently</td>
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<tr>
<td>3. A bicep muscle lifting a book</td>
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<tr>
<td>4. Has tendons attached to muscle</td>
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</tbody>
</table>
Chapter Test A CONTINUED

Part C: Interpreting Drawings

Write your response to each statement in the space provided.

1. Study the Structures of Skin drawing. Identify the parts labeled A, B, and C.
   A. 
   B. 
   C. 

2. Study the Skeleton drawing. Identify the parts labeled A–G.
   A. 
   B. 
   C. 
   D. 
   E. 
   F. 
   G. 

Part D: Short Answer

Write your response to each statement in the space provided.

1. Contrast first-, second-, and third-degree sunburns.

2. Infer the importance of bones for overall body nutrition.
Chapter Test A CONTINUED

3. **Explain** how slow-twitch muscles help a cross-country runner who is running a 5-km race.

Part E: Concept Application

Write your response to each statement in the space provided.

1. **Explain** why an athlete who swims a long race in cold water gets goose bumps after leaving the pool. Include the term *dermis layer* in your discussion.

2. Damage to the ozone layer in recent decades has resulted in many people avoiding the Sun. **Infer** a negative health effect of too little exposure to the Sun.

3. A patient complains of constantly being sick with infections such as colds and the flu for the past several months. Tests reveal the patient has a low white blood cell count. **Hypothesize** a diagnosis the patient’s doctor might make.
CHAPTER 32
Integumentary, Skeletal, and Muscular Systems

Part A: Multiple Choice

In the space at the left, write the letter of the term or phrase that best answers each question.

1. Which is the primary organ of the integumentary system?
   A. hair
   B. muscle tissue
   C. nerve tissue
   D. skin

2. Which is the function of sebaceous glands?
   A. clean away particles
   B. lubricate the skin
   C. produce keratin
   D. supply essential nutrients

3. Which is a possible negative effect of staying indoors for long periods of time?
   A. decreased bone density
   B. delayed nerve reactions
   C. increased calcium levels
   D. vitamin D deficiency

4. Which is a sign of first-degree sunburn?
   A. blisters
   B. mild epidermal redness
   C. muscle and tissue damage
   D. scarring

5. Which is an effect of a loss of knee cartilage?
   A. decreased leg strength
   B. disconnected leg bones
   C. loss of flexibility
   D. reduced joint lubrication

Part B: Matching and Completion

Matching Write the letter of the correct type of joint on the line next to its description.
Answers may be used only once or not at all.

1. immobilized joint in the skull
   A. gliding joint

2. allows a person to bend his knee
   B. hinge joint

3. allows a person to arch her back
   C. pivot joint
   D. suture joint
Completion  Write the correct term in the blank to complete each sentence below.

4. The protein that waterproofs tissues beneath the epidermal cells is called ____________________________.

5. The sternum and vertebral column are part of the skeleton section called the ____________________________.

6. The substance inside the carpal bones that stores fat is called ____________________________.

7. Muscles used to move food through the large intestine are called ____________________________.

Part C: Interpreting Drawings

Write your response to each statement in the space provided.

1. Study the Structures of Skin drawing. Identify the parts labeled A, B, and C. Explain the function of each skin structure.
   
   A. ____________________________________________
   
   B. ____________________________________________
   
   C. ____________________________________________

2. Study the Skeleton drawing. Identify the parts labeled A–L.
   
   A. ____________________________________________
   
   B. ____________________________________________
   
   C. ____________________________________________
   
   D. ____________________________________________
   
   E. ____________________________________________
   
   F. ____________________________________________
   
   G. ____________________________________________
   
   H. ____________________________________________
   
   I. ____________________________________________
   
   J. ____________________________________________
   
   K. ____________________________________________
   
   L. ____________________________________________
Part D: Short Answer

Write your response to each statement in the space provided.

1. Explain the steps required for a broken bone to be repaired by the body. Include the terms osteoblasts and osteoclasts in your discussion.

2. Describe several functions of the skeletal system.

Part E: Concept Application

Write your response to each statement in the space provided.

1. Infer why the integumentary system has greater difficulties removing heat from the body on a hot day with high humidity.

2. A patient complains of constantly being sick with infections such as colds and the flu for the past several months. The doctor suspects a bone disorder. Hypothesize a diagnosis the patient’s doctor might make.

3. A soccer player is returning to practice after being injured for several weeks. After a few minutes of running, the player’s breathing becomes labored, she feels tired, and her leg muscles begin to cramp. Analyze the player’s difficulties. Infer why she is experiencing these symptoms. Use the term lactic acid in your discussion.
CHAPTER 32
Integumentary, Skeletal, and Muscular Systems

Part A: Multiple Choice

In the space at the left, write the letter of the term, phrase, or sentence that best completes each statement or answers each question.

1. Which explains why a person’s skin becomes darker when frequently exposed to sunlight?
   A. Cells in the dermis layer become thicker and layered.
   B. Epithelial cells in the epidermis stretch to protect tissues.
   C. Exposure to sunlight causes melanin to be produced.
   D. Sebaceous glands secrete additional oil for protection.

2. Which occurs in the integumentary system after a deep injury occurs to the system?
   A. Blood quickly clots to form a scab.
   B. Dermis cells close the injured vein.
   C. Epidermis cells increase their size.
   D. Red blood cells fight off pathogens.

3. Which is part of the appendicular skeleton?
   A. clavicle
   B. skull
   C. sternum
   D. vertebra

4. Which is part of the repair process to heal a broken bone?
   A. A blood clot temporarily keeps blood from the bone.
   B. Endorphins cause inflammation to hasten cell division.
   C. Osteoblasts form rigid structures to immobilize the site.
   D. Osteoclasts remove dead bone cells to clean the site.

5. Grasping a tennis ball in the palm of the hand is made possible by
   A. gliding joints.
   B. hinge joints.
   C. pivot joints.
   D. suture joints.

6. Which would cause fatigue in the body of a long-distance runner?
   A. buildup of lactic acid in muscles
   B. decrease of fermentation energy
   C. excess ATP created in muscle cells
   D. metabolizing oxygen aerobically

Part B: Completion

Write the correct term in the blank to complete each sentence below.

1. Tissues beneath epidermal cells could easily become waterlogged if the cells did not contain the protein ____________________________.
Chapter Test C CONTINUED

2. Most sunburns are categorized as ________________. 

3. Dense bone with a large number of cavities containing bone marrow is called ________________. 

4. Living bone cells are called ________________. 

5. The femur and tibia are held together by a(n) ________________. 

6. The basic unit of a muscle that causes contraction is called a(n) ________________. 

Part C: Interpreting Drawings

Write your response to each statement in the space provided.

1. Study the Structures of Skin drawing. Infer when an injury to the skin would cause bleeding or nerve damage. 

______________________________________________________________________________

______________________________________________________________________________

2. Study the Skeleton drawing. Identify the parts labeled A–Q.

A. ________________________________

B. ________________________________

C. ________________________________

D. ________________________________

E. ________________________________

F. ________________________________

G. ________________________________

H. ________________________________

I. ________________________________

J. ________________________________

K. ________________________________

L. ________________________________

M. ________________________________

N. ________________________________

O. ________________________________

P. ________________________________

Q. ________________________________
Part D: Short Answer

Write your response to each statement in the space provided.

1. **Infer** the effect of deficient osteoblasts during fetal development.

2. **List** the three basic types of muscles. **Describe** each type of muscle.

Part E: Concept Application

Write your response to each statement in the space provided.

1. **Hypothetize** the possible adverse health effect of living in a northern climate such as Nova Scotia, Sweden, or northern Russia. **Formulate** a strategy for people living in northern climates to avoid this health risk.

2. **Consider** how a soccer player depends on a properly functioning skeletal system.

3. A group of athletes are discussing the world records for various track-and-field events. One athlete claims that a disproportionately large number of world record sprinters have an ancestry that is traced back to one specific region. **Critique** the athlete’s statement.