CHAPTER 5 REVIEW

Knowledge

1. Define the anatomical position.
2. State the opposite of each of the following terms: (a) anterior, (b) superior, (c) medial, (d) proximal, and (e) superficial. Then define each pair of terms that physiologists use in relation to the anatomical position.
3. Describe the structure and functions of the two major divisions of the human skeleton and give three examples of bones in each division.
4. Name the five types of bones found in the human body and give one example of each type.
5. Name and describe the three main types of joints in the human body, based on structural classification. Give an example of each type of joint. Which type of joint allows the most movement?
6. List the six main types of synovial joints in the human body and give an example of each type.
7. Match the shoulder joint, knee joint, and ankle joint to each of its structural and anatomical classifications as well as to the types of movement each joint permits.
8. Identify and describe major types and causes of injuries affecting (a) the shoulder joint, (b) the knee joint, and (c) the ankle joint. Which ligaments are commonly involved in these injuries? What kinds of movements or actions can lead to these injuries?

Thinking and Inquiry

9. Differentiate between the three anatomical planes and the three anatomical axes of the human body.
10. Human bones are often presented as if they were dead body tissue, but they are actually composed of living tissue. Explain how this misconception might have developed.
11. Osteoporosis is a bone disease. Osteoarthritis is a disease of the joints. Compare and contrast these two diseases with respect to causes, symptoms, and treatment.
12. Analyze how the six main characteristics of the synovial joint enable continuous, heavy use of this type of joint over many years.
13. What advice could you give (a) professional athletes and (b) everyday athletes to help them avoid joint injuries while performing or working out?
14. Athletes who use their arms to throw a ball or swing a racquet are particularly vulnerable to rotator cuff tears. Identify the damage sustained when this type of joint injury occurs, and outline some possible strategies that might help athletes reduce the risks of experiencing a rotator cuff tear.

Communication

15. State the general rule pertaining to the relationship of anatomical axes and anatomical planes to one another. Then draw simple labelled sketches showing an example of a body movement involving each combination of plane and axis.
16. Using a replica of a human bone, or an illustration of one, make a presentation to your class to demonstrate the anatomy of a long bone.
17. Cartilage damage, sprains, dislocations, and separations are common joint injuries. Design a table to compare and contrast these injuries in terms of causes, signs or symptoms, and treatment.
18. In groups of three, with each person in a group assigned one joint, take turns explaining the structure and function of the shoulder joint, knee joint, and ankle joint. First, write out your description in a paragraph or two and then, one by one, read your description to your group. Describe the joint and how it works in your own words as concisely as possible.

Application

19. Using your own body (starting from the anatomical position), name and demonstrate each of the 19 types of movement that can occur at joints.
20. Work in groups of five or six, with each person responsible for a major bone in the human body (his or her choice). Taking turns, each student will present a mini-lesson to the group about the categorization and characteristics of that particular bone.
21. Based on your participation in your favourite physical activities or sports, to which joint injuries or diseases would you predict you might be most vulnerable, and why? What precautions can you take to avoid these injuries?