# **The Skeletal and Muscular Systems Discussion Guide (for use during or after reading)**

1. What is the main purpose of the skeletal and muscular systems? (Did You Just Move?, p. 4-5)
   1. The skeletal system forms a structure to support and protect your body. The muscular system covers your bones and pulls them around. These systems work together to help us move.
2. Look at the skeleton diagram. What does this page make you think about or wonder? (The Skeleton, p. 6-7)
   1. Students’ answers will vary. Encourage students to ask questions about the skeleton or other aspects on the page.
3. What are joints, ligaments, and cartilage? (The Skeleton, p. 6-9)
   1. Joints are the places where bones meet. Ligaments are strong tissues that hold bones in place. Cartilage is smooth tissue at the ends of bones that keeps bones from rubbing against one another.
4. Describe how your skeleton protects your body. (The Skeleton, p. 6-9)
   1. The skeleton contains many bones that protect the vital structures in your body. For example, the skull protects the brain, vertebrae protect the spinal cord, and the ribs protect the heart and lungs.
5. What do the different cells within bones do? (Living Bones, p. 10-11)
   1. Bones contain cells that have many functions. Some cells create new bone cells and material. Other cells have the unique function of breaking down bone material. Bone cells are constantly being broken down and remade in order to keep them strong.
6. What are the three main materials that make up bones? (Inside a Bone, p. 12-13)
   1. Bones contain compact bone, a hard material on the outside. They are filled with a spongy, lightweight material called cancellous bone as well as a jellylike material called bone marrow. Bone marrow can be yellow or red.
7. What vital cells are produced within red bone marrow? (A Cell Factory, p. 14-17)
   1. Red bone marrow plays a special role in cell production. Blood cells are produced within the red bone marrow including red blood cells, platelets, and white blood cells.
8. How is the circulatory system supported by the skeletal system?
   1. The circulatory system is supported by the skeletal system because the skeletal system produces three major components of blood: red blood cells, platelets, and white blood cells.
9. Describe each of the three types of muscles. (Types of Muscles, p. 20-23)
   1. Skeletal muscles attach to bones and work in pairs. One set of skeletal muscles contracts while the others relax to move your bones. Skeletal muscles are voluntary muscles because you can move them whenever you please.
   2. Smooth muscles are found in most of your internal organs. They contract in order to move materials in your body. The majority of the digestive system contains these involuntary muscles.
   3. Cardiac muscles are only found in the heart. They are involuntary and keep your heart beating throughout your entire life.
10. According to the text, what can you do to keep you skeletal and muscular systems healthy? (Happy Bones and Muscles, p. 26-27).
    1. According to the text, regular exercise is a great way to keep your bones and muscles healthy. In addition, bones and muscles benefit from a healthy diet. Minerals like calcium, vitamins found in vegetables, and proteins found in fish, nuts, or lean meats can help you bones and muscles work properly.