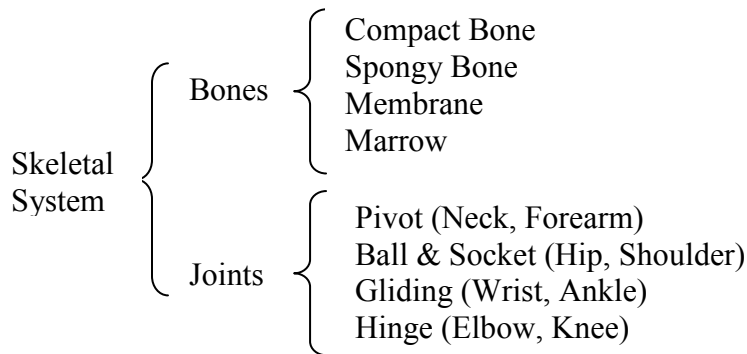


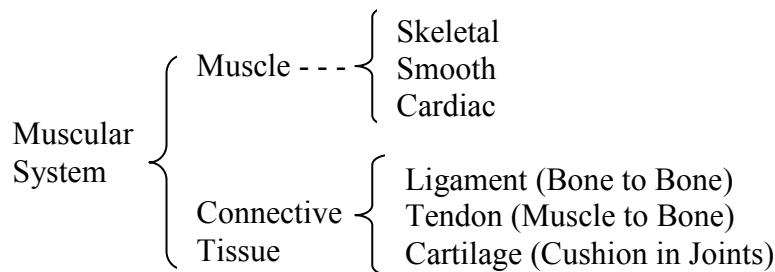
Notes - Skeletal - Muscular Systems

- 1. What are the five functions of the skeletal system? (p.344)** *The five functions of the skeletal system are (1) providing shape and support; (2) allowing the body to move; (3) protecting internal organs such as the heart, spinal cord and lungs; (4) producing red blood cells; and (5) storing minerals like calcium and phosphorus for use in other parts of the body.*
- 2. What are the four kinds of tissue in bones, and what are the functions of each? (pp.347-48)** *The four kinds of tissue in bones are (1) compact bone, the hard outer shell that provides much of the bone's structural strength; (2) spongy bone, the honeycombed filling that provides strength without much additional weight; (3) marrow, which makes red blood cells or stores fat; and (4) the outer membrane, which provides a smooth coating over which muscles can slide, anchors blood vessels entering the bones, and provides nutrients to the growing outer shell of the bones.*
- 3. What are the two kinds of bone marrow, and what is the function of each? (p.348)** *Red marrow makes red blood cells. Yellow marrow is stored fat, an energy reserve for the body.*
- 4. What are the four kinds of movable bone joints? Give an example of each type. (p.349)** *The four main kinds of skeletal system joints are (1) pivot (neck and forearm); (2) ball & socket (hip and shoulder); (3) hinge (knee, Elbow, and top two joints of fingers); and (4) gliding (wrist, ankle and hand).*
- 5. What is cartilage? Where is it found in adults? (p.348)** *Cartilage is a smooth, plastic form of bone that provides cushioning and lubrication between bones at joints such as the knee and spine (between each vertebrae). Cartilage is also found at the tip of the nose, in the rib cage on either side of the sternum (breastbone) and in the ears.*
- 6. What are ligaments? What is their function? (p.350)** *Ligaments are strong but flexible connective tissue that ties bones together at joints, while still allowing joint movement.*
- 7. How many bones are in an adult's body? (p.344)** *Newborn humans have about 275 bones, though many of those are still cartilage (not yet hardened). Adults have 206 separate bones.*
- 8. How many muscles are in the human body? (p.352)** *There are about 600 different bundles of muscles in the human body.*
- 9. What are the three kinds of muscle tissue? (pp.353-55)** *The three kinds of muscle tissue are (1) skeletal muscles (providing movement to skeletal joints); (2) smooth muscles (providing movement in organ systems and opening/closing valves); and (3) cardiac muscles (pumping blood in the heart throughout the circulatory system).*
- 10. What is the connective tissue that links muscle to bone? (p.354)** *Tendons are the connective tissues that attach a muscle to a bone. Joint injuries often are caused by a torn tendon, which cannot heal without surgical repair.*
- 11. Why does it take a pair of muscles to move a skeletal joint? (p.355)** *Muscles are not rigid, and cannot push against the bones with a compressive force. Muscles can only relax or contract to pull on a bone. Thus, it takes two muscles, each pulling from an opposite direction, to move a joint in both directions.*

12. **Make a brace map of the skeletal system organs, tissues and joints. (pp.344-49)**



13. **Make a brace map of the muscular system tissues. (pp.352-55)**



14. **How do the muscular and skeletal systems work together to maintain homeostasis? (pp.344-55)** *The skeletal and muscular systems work together to provide stable oxygen levels in the blood by providing red blood cells to distribute the oxygen in the circulatory system, to provide a open space for the lungs to inflate and deflate, and to provide the movement of the diaphragm that actually inflates and deflates the lungs, thus exchanging carbon dioxide and oxygen. They work together to maintain stable blood sugar levels, by helping the digestive system to get food, and break it down mechanically by chewing and swallowing it.*

15. **What are the functions of the muscular system? (pp.352-55)** *The muscular system (1) provides movement of the skeletal system; (2) moves blood through blood vessels; (3) moves food through the digestive system; (4) operates valves and provides movement within various internal organs.*