

Skeletal System

Required:

1. Describe the two systems used to classify bones (shape and location in the skeleton). Give examples of bones in each class.
2. Describe the five functions of the skeletal system.
3. Draw and label a typical long bone's gross anatomy. Include the following terms: epiphysis, diaphysis, articular cartilage, periosteum, spongy bone, compact bone, medullary cavity, yellow, red marrow, endosteum, epiphyseal plate/line
4. Describe three types of bone cells. Compare their locations and functions.
5. Describe the typical structure of spongy/woven/cancellous bone. Use the terms trabeculae/spicule.
6. Draw a cross section of compact/osteon bone labeling all microscopic structures. Describe how this is live tissue which is both strong and slightly flexible.
7. Describe lengthwise bone growth at the epiphyseal plate. What controls this process? When does it end?
8. In contrast, describe diametric bone growth. When does it occur? How does it differ from lengthwise bone growth?
9. Explain the term bone remodeling. Describe several time periods in the human life cycle when remodeling occurs.
10. Explain the role of calcitonin (thyroid hormone) and osteoblast cells in mineral deposition in bone tissue.
11. Explain the role of parathyroid hormone ((PTH) and osteoclast cells in mineral reabsorption in bone tissue.
12. Explain the negative feedback loop of hormonal control seen in the opposing cycles involving blood levels of Ca⁺.
13. Define and explain the role of skeletal system accessory structures listed below: ligament, tendon, meniscus, bursa, tendon sheath.

14. Explain the three types of arthritis: osteo, rheumatoid, and gouty. Compare and contrast their causes, symptoms, locations, and occurrence.
15. Define osteoporosis and discuss contributing factors and preventative measures.
16. Briefly describe the following skeletal disorders: sprain, dislocation, fracture.