

SKELETAL SYSTEM

OBJECTIVES: *GPS Standard SAP1 a, b, and c and SAP2 b*

Bones

1. What are the two major subdivisions of the skeleton?
2. What are the 5 functions of the skeletal system?
3. What are the major shapes of bones? Give examples of each.
4. Describe the parts of a long bone.
5. Describe the microscopic anatomy of a bone.
6. What are the 3 cells used in the growth of bone? What are their functions?
7. What are the steps of bone formation and remodeling?
8. How does change in blood calcium levels and pull of muscles affect bone?
9. What is the purpose of bone calcium salts and the organic matrix?
10. Name and describe the various types of fractures and the repair process.

Axial Skeleton

11. List the names of the major bones of the skull. (Be able to label them on a lateral view of the skull)
12. Describe how the skull of a newborn infant (or fetus) differs from that of an adult, and explain the function of fontanelles.
13. What are the parts of a typical vertebra?
14. Explain how the cervical, thoracic, and lumbar vertebrae differ from one another in number and structure.
15. What is the importance of the intervertebral discs and spinal curvatures?
16. How are the abnormal spinal curvatures (scoliosis, lordosis, and kyphosis) different from one another?
17. What is the difference between the 3 types of ribs?
18. Why does the sacrum have foramen?

Appendicular Skeleton

19. Identify all the major bones of the body on a diagram of a skeleton. (Don't have to answer this one)
20. What are the main bones that make up the shoulder girdle and the pelvic girdle?
21. What bones make up the pelvic bone? And which one does the sacrum sit between?
22. What is one difference between a male and female pelvis?

Joints

23. What are the three functional categories of joints? How does the amount of movement allowed by each differ?
24. Explain the differences between fibrous, cartilaginous, and synovial joints.

Developmental Aspects

25. Identify some of the causes of bone and joint problems throughout life including different **disorders** that can occur to the skeletal system.
26. Describe how the skeleton **changes over a lifetime**.

KEY TERMS

hematopoiesis	canaliculi	tuberosity
diaphysis	perforating canals	fossa
periosteum	ossification	malleolus
epiphyses	osteoblasts	articulation
epiphyseal plate	osteoclasts	synarthroses
medullary cavity	hematoma	amphiarthroses
osteocytes	foramen magnum	diarthroses
lacunae	fontanels	syndesmoses
lamellae	true ribs	osteoarthritis
Haversian canals	floating ribs	osteoporosis
osteon	false ribs	

ROOT WORDS, PREFIXES, AND SUFFIXES

oste- = bone, cyte- = cell (*osteocyte*: mature bone cell)

arth- = joint, -itis = inflammation (*arthritis*: inflammation of a joint)

hemato- = blood, poie- = make, produce (*hematopoiesis*: blood cell formation)

lacrimal- = tear (*lacrimal bone*: contains a passageway for tears)

hyo- = U shaped (*hyoid bone*: horseshoe shaped bone that serves as a movable base for the tongue and attachment for neck muscles)

syn- = together, desmo- = band (*syndesmoses*: band of connective tissue that holds two bones together)

ax- = axis (*axial skeleton*: upright portion of the skeleton)

-blast = bud (*osteoblast*: cell that forms bone)

-clast = break (*osteoclast*: cell that breaks down bone)

carp- = wrist (*carpal*: wrist bones)