

# UNIT 4 - SKELETAL SYSTEM

## ACTIVITY - The Axial Skeleton Worksheet

Name \_\_\_\_\_ Period \_\_\_\_\_

1. Complete the table about the four major and two minor classes of bones.

TYPE	STRUCTURAL FEATURES	LOCATION
Long		
		Wrist, Ankle
	Composed of two thin plates	
Irregular		

2. What are the functions of surface markings of bones?

3. Match these bone markings:

- |  |               |
|--|---------------|
| _____ a. An air-filled cavity within a bone connected to the nasal cavity. | 1. Foramen    |
| _____ b. A large rounded articular prominence                              | 2. Condyle    |
| _____ c. An opening through which blood vessels, nerves or ligaments pass. | 3. Tuberosity |
| _____ d. A large, rounded, usually roughened process                       | 4. Sinus      |
| _____ e. A large projection found only on the femur.                       | 5. Trochanter |

4. Define sutures.

5. a. \_\_\_\_\_ "Soft spots" of a newborn baby's head.  
b. \_\_\_\_\_ What is the location of the largest one?  
c. List three functions of the fontanels.  
1.  
2.  
3.

6. Identify the location of the hyoid bone on yourself. Place your hand on your throat and swallow. Feel your larynx move upward? The hyoid sits just (superior / inferior) to the larynx at the level of the mandible.

In what way is this bone unique among all the bones of the body?

7. What are the five regions of the vertebral column? How many bones make up each region?

- ....1.
- ....2.
- ....3.
- ....4.
- ....5.

8. What are the structures that provide flexibility to the vertebral column?

\_\_\_\_\_ Which regions of the vertebral column normally retain an posteriorly convex curvature in the adult: \_\_\_\_\_ and \_\_\_\_\_. These are considered (primary / secondary) curvatures. This classification is based upon the fact that these curves (were present during fetal life / are more important).

9. Identify distinctive features of vertebrae in each region.

- .... C. Cervical..... S. Sacral
- .. L. Lumbar.... .. T. Thoracic

- \_\_\_\_\_ a. Small body, foramen for vertebral blood vessels in transverse processes
- \_\_\_\_\_ b. Smooth flat surfaces on the vertebrae for articulation with the ribs
- \_\_\_\_\_ c. Largest and strongest vertebrae, their various projections are short and thick
- \_\_\_\_\_ d. Long spinous processes that point inferiorly
- \_\_\_\_\_ e. Articulate with the two hipbones

10. Match types of abnormal curvatures of the vertebral column with descriptions below.

- K. Kyphosis                      L. Lordosis                      S. Scoliosis

- \_\_\_\_\_ a. Exaggerated lumbar curvature; "swayback"
- \_\_\_\_\_ b. Exaggerated thoracic curvature; "hunchback"
- \_\_\_\_\_ c. S- or C- shaped lateral curvature

11. Describe Spina Bifida. How can it be detected? What can the outcomes be?

12. Describe a herniated (slipped) disc.

## WORKSHEET - The Axial Skeleton - KEY

1.
  - a. bones of the thighs, legs toes, arms, forearms, and fingers
  - b. short bones; cube - shaped and nearly equal in length and width
  - c. flat bones; cranial bones, the sternum and ribs, and the scapulas
  - d. complex shapes that cannot be grouped into any of the above three categories; vertebrae, certain facial bones
  - e. small bones, their number varies greatly from person to person; between the joints of certain cranial bones
  - f. sesamoid bones; patellas
2. to form joints, attachment of ligaments and muscles, depressions receive the rounded ends of bones, grooves provide for the passage of blood vessels, openings allow blood vessels and nerves to pass through the bone
3.
  - a. 4
  - b. 2
  - c. 1
  - d. 3
  - e. 5
4. .8, 14, 1, 6, 26, 1, 24, 2, 2, 2, 2, 2, 16, 10, 28, 2, 2, 2, 2, 2, 14, 10, 28, - 206
4. .A suture is an immovable joint found only between skull bones.
5.
  - a. fontanel
  - b. The anterior (frontal) fontanel is located between the angles of the two parietal bones and the two segments of the frontal bone.
  - c.
    1. enable the fetal skull to compress as it passes through the birth canal
    2. permit rapid growth of the brain during infancy
    3. facilitate the degree of brain development by their rate of closure
    4. serve as landmarks for the withdrawal of blood
    5. aid in the determination of the fetal head position prior to birth.
6. superior; it does not articulate with any other bone in the body; tongue
7. .... cervical, 7  
.... thoracic, 12  
.... lumber, 5  
.... sacral, 5  
.... coccygeal, 4
8. intervertebral discs and ligaments; thoracic and sacral; primary; were present originally during fetal life
9. a. C b. T c. L d. T e. S

10.a. b. K c. S

11. A congenital defect of the vertebral column in which laminae fail to unite at the midline. It may be diagnosed by a test of the mother's blood, sonography, or amniocentesis. It can cause partial or complete paralysis.
12. When compression forces are great enough to rupture the fibrocartilage of the disc, the nucleus pulposus may herniate (protrude), slip toward the spinal cord and exert pressure on the spinal nerves causing pain. Treatment includes traction, bedrest, chemonucleolysis, and surgery.