

Skeletal System Lab

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Overview of the Skeleton

Classification of bones by shape

- List the four (4) bone shapes
 - identify examples of each shape on the skeleton

Haversian system (osteon) of compact bone

Sketch an idealized osteon and label the following:

- Haversian canal
- lamellae
- lacunae
- osteocyte
- canaliculi
- Obtain a microscope slide of compact bone. Sketch a region of a specimen containing at least four osteon units.
- If available, obtain one of the following viewmaster slides to study the osteon (Haversian system).
 - **Set 223: The Skeletal System** – frame #1
 - **Set 10: Cells of the Body** – frame #4
 - **Set 51: Animal Tissue** – frame #5
- Which structure(s) from your idealized sketch is/are not clearly visible in the slides?

Name the two divisions of the skeletal system

- 1.
- 2.

Axial Skeleton

List the three regions of the axial skeleton

- Next identify these regions on the skeleton, diagrams or yourself

Skull

Using the skeleton and diagrams, identify the cranial and facial bones discussed in lecture

- | <u>Cranial bones</u> | <u>Facial bones</u> |
|----------------------|-----------------------|
| - 1 – frontal bone | - 2 – maxillae |
| - 2 – parietal bones | - 2 – palatine bones |
| - 1 – occipital bone | - 2 – zygomatic bones |
| - 2 – temporal bones | - 2 – nasal bones |
| | - 1 – mandible |

Vertebral Column

Using a model and diagrams, observe a typical thoracic vertebra. Sketch, identify and describe the functions of its parts:

- body
- facets
- vertebral foramen
- articular processes
- spinous and transverse processes
- intervertebral discs

Bony Thorax (rib cage)

State the two principal functions of the rib cage

Describe ‘true’ and ‘false’ ribs and their differences

Appendicular Skeleton

Describe the components of the appendicular skeleton

Using the skeleton and diagrams:

- Identify the bones of the pectoral and pelvic girdles and their attached limbs

Pectoral girdle

- scapula
- clavicle
- glenoid fossa
- humerus

Pelvic girdle

- coxal (hip) bones
- acetabulum
- femur

- Compare and contrast the relative functions and stability of the two girdles

- Identify the bones of the arm, wrist and hand

- humerus
- radius
- ulna
- carpals
- metacarpals
- phalanges

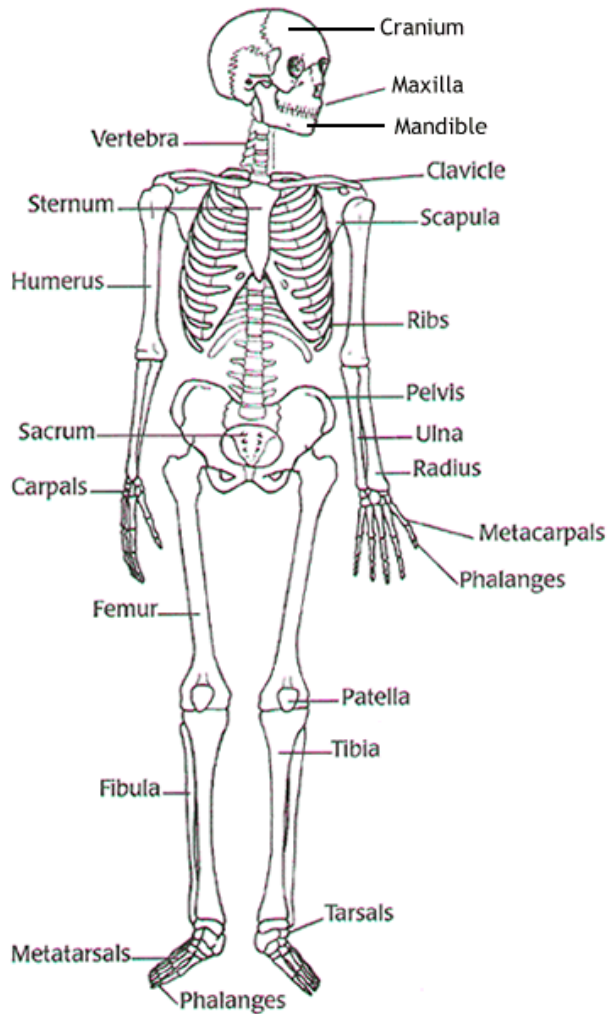
- Identify the bones of the leg, ankle and foot

- femur
- tibia
- fibula
- tarsals
- metatarsals
- phalanges

JOINTS

3 Tasks: **COMPLETE** the following grid, **VIEW** examples of each on the skeleton and **MARK THEIR LOCATIONS** on the illustrations below.

	Joint function (descriptive)	Joint function (formal name)	Joint Structure	Example
1	immovable			
2		amphiarthroses		
3			synovial	



In the above left figure, which large posterior-inferior cranial bone has been left out?
 _____ Insert its borders into the picture.

ASSEMBLY

Assemble a skeleton on your tabletop utilizing the contents of your group's bone box/bag. In the event that some bones are missing, borrow them from a neighbor to complete the job. Be sure to return all borrowed bones.