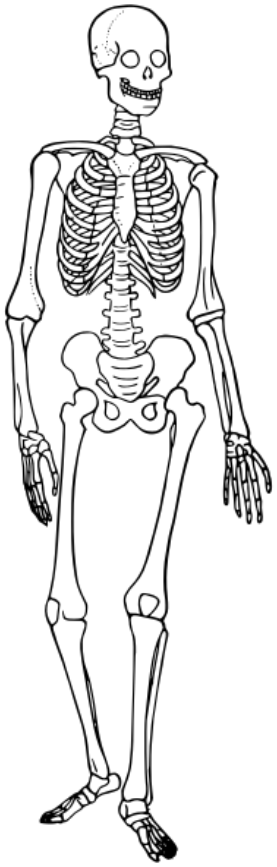
Anth 250 Forensic Anthropology

Human Osteology Terms and Images



W2026

Katie Waterhouse

You will need to refer to these terms and images during our human osteology labs. Please have these available to you for every human osteology lab. There is no need to print these if you work digitally but this file is designed for double sided printing if you like to work with a hard copy.

If printing I recommend the Camosun printshop- it's an affordable printing service available for students and they can hole punch and double side etc. You can find the Camosun printshop in the Fisher building- enter the building with the bookstore on the right and the cafeteria on the left, just before you hit F100 go left and down a hallway next to the CCSS offices. The printshop is on the right of the hallway.

Orientation to the lab

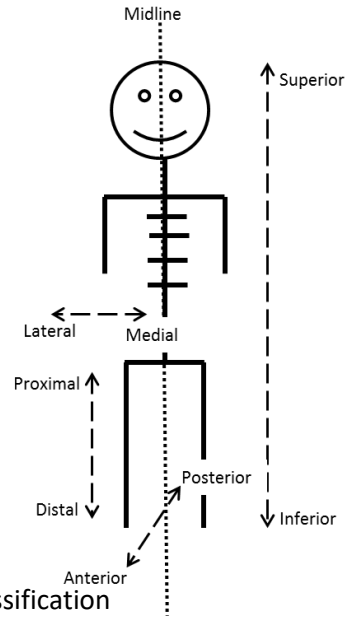
Introduction to lab decorum and handling of human skeletal remains

The Camosun College Anthropology lab is very fortunate to have a human skeletal collection. The number of skeletons is very important for a course in forensic anthropology. The reason is that every skeleton is different, the only copy of a "book" of unique information. Because of the uniqueness of every skeleton, you can learn something about human variability and about how anthropologists can make a biological and sometimes a personal identification of an individual from his or her skeleton. Bones and teeth have the potential, if read correctly, to tell us something about the living people they once belonged to. Along with the privilege of learning from this collection we also have a responsibility to care for them appropriately. These were once living people, they have families, relations and social networks. We need to honour these individuals and treat their gift to us with the upmost care and respect. Considering this, there are strong protocols around working with our collections.

Lab Protocols:

- No food or drink
- No photography
- Always place the bone on the foam mats or supported surfaces.
- Always place bones on trays to move them around the room, or better yet, move living people not bones
- Be careful of thin areas and small protrusions on the bones; some of these are so fragile that a finger could punch through them or snap them off.
- Be careful not to let teeth strike against anything, including each other.
- Some lab skulls have springs in them to hold the jaw closed. Never open the jaws while the springs are engaged – if you slip, the springs will close the jaw hard enough to crack the teeth. Instead, detach the springs as soon as you start to work with a skull, and put them back when you're finished.
- Always use a non-marking pointer to point at a bone.
- Do not remove the bones from the lab/classroom for any reason.
- Only people taking the course are allowed to handle the bones. Please do not allow anyone from outside the course to handle them.
- Please treat all casted material with the same care as real bones; casts are fragile too.

Anatomical Terminology



General Terms

Anatomical directions

Anterior (or ventral) / posterior (or dorsal) Medial / Lateral

Superior / Inferior Proximal / Distal

Skeletal units

Cranial Skeleton: the cranium, the mandible and the ear ossicles

Axial Skeleton and thorax: vertebral column and rib cage

Appendicular Skeleton: the bones of the arms, legs, shoulder and pelvis

Bone parts

Diaphysis: the long relatively straight main body of a long bone. A region of primary ossification

Epiphysis: the end regions of bones. A region of secondary ossification

Epiphyseal plate: the thin sheet of bone marking the fusion of epiphysis to diaphysis

Bone Terminology

These terms may help your understanding of the bony features you will be learning. Do not memorize this list of terms but use it as a reference guide.

p*rocess*	A relatively large projection or prominent bump.
articulation	The region where adjacent bones contact each other—a joint
articular process	A projection that contacts an adjacent bone.
eminence	A relatively small projection or bump.
tuberosity	A projection or bump with a roughened surface.
tubercle	A projection or bump with a roughened surface, generally smaller than a tuberosity.
trochanter	One of two specific tuberosities located on the femur
spine	A relatively long, thin projection or bump.
suture	Articulation between cranial bones.
malleolus	One of two specific protuberances of bones in the ankle
condyle	A large, rounded articular process.
epicondyle	A projection above a condyle but not part of the joint.
line, *ridge*	A long, thin projection, often with a rough surface.(also *torus*)
crest	A prominent ridge.
facet	A small, smooth articular surface.
foramen	An opening through a bone.
fossa	A broad, shallow depressed area.
canal	A long, tunnel-like foramen, usually a passage for notable nerves or blood vessels.
meatus	A short canal.
sinus	A cavity within a cranial bone.

The Skull

Bones of the Skull

Frontal

- Glabella
- Supraorbital margin
- Temporal line
- Coronal suture

Parietal, R and L

- Temporal line
- Coronal suture
- Sagittal suture
- Lambdoid suture
- Squamosal suture

Occipital

- External occipital protuberance
- Occipital condyles
- Foramen magnum
- Lambdoid suture

Temporal, R and L

- Zygomatic process
- Mandibular fossa
- External auditory meatus
- Mastoid process
- Supramastoid crest
- Squamosal suture

Maxilla, R and L

- Frontal process
- Zygomatic process
- Palatine process
- Infraorbital foramen
- Incisors, Canines, Premolars and Molars

Zygomatic, R and L

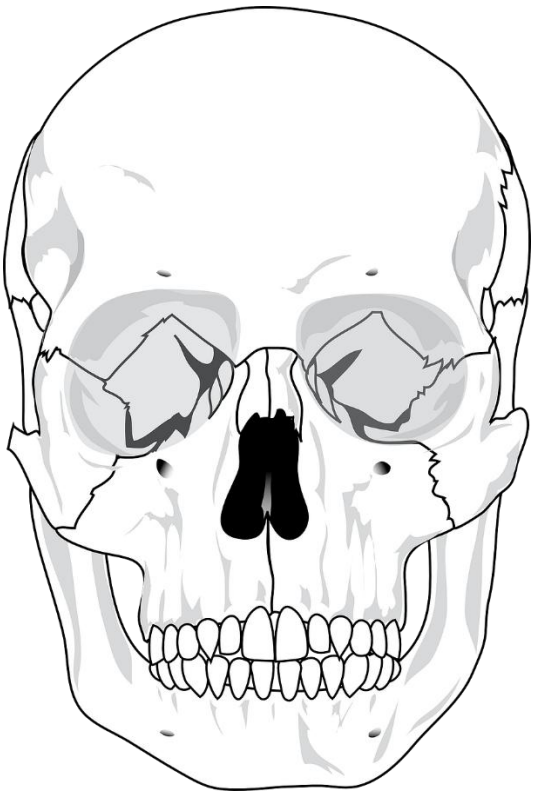
- Frontal process (in articulation)
- Maxillary process (in articulation)
- Temporal process (in articulation)

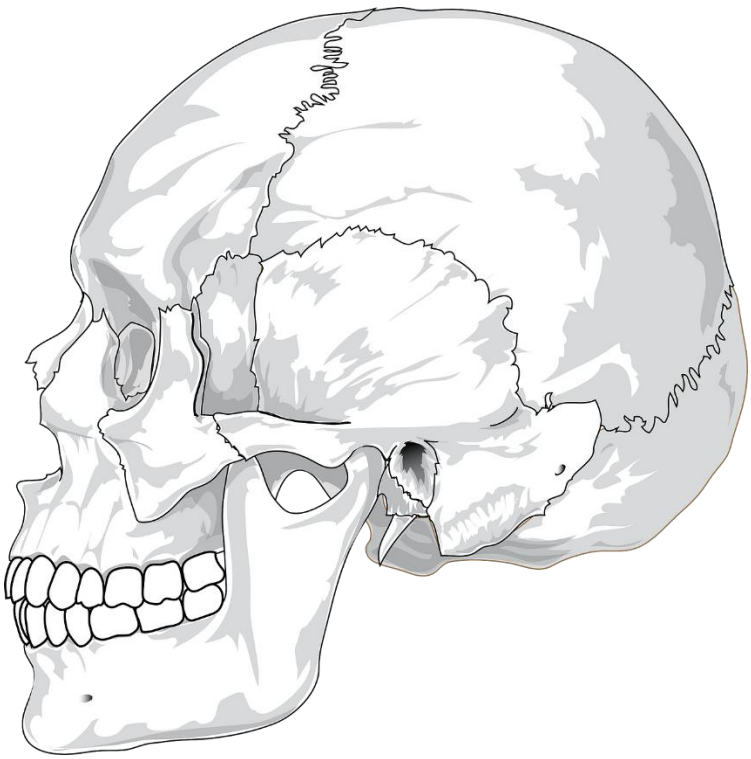
Mandible

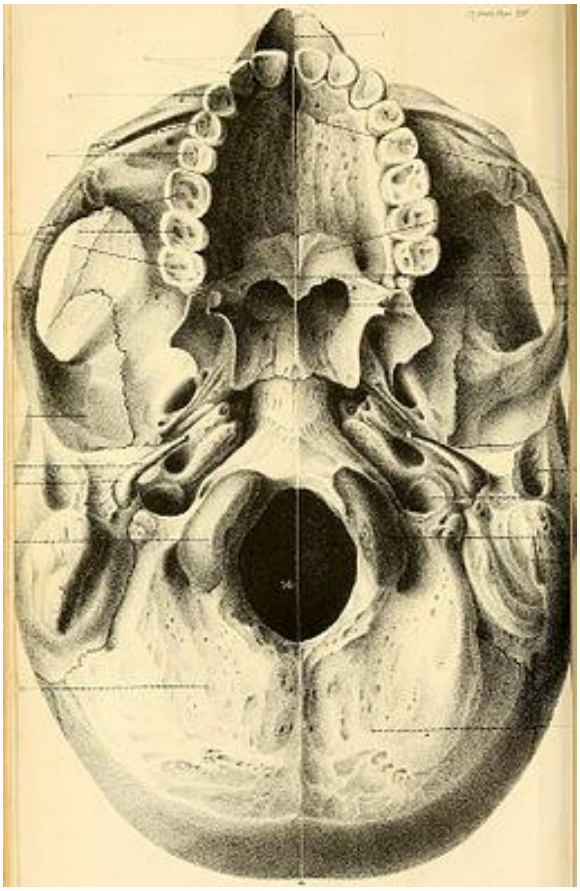
- Ascending ramus
- Mandibular condyle
- Mental protuberance
- Mental foramen
- Gonial angle
- Incisors, Canines, Premolars and Molars

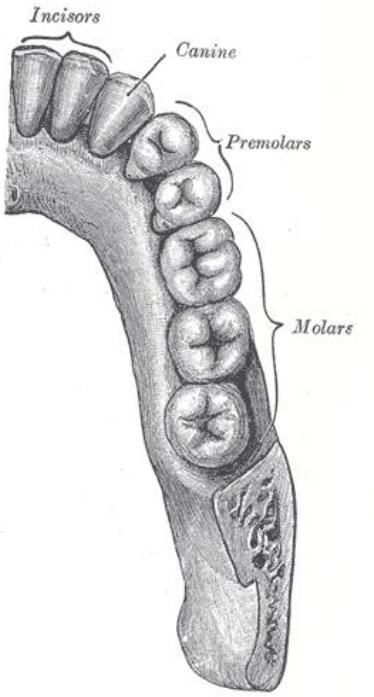
In addition to the above bones, you must identify the following minor bones in an articulated cranium:

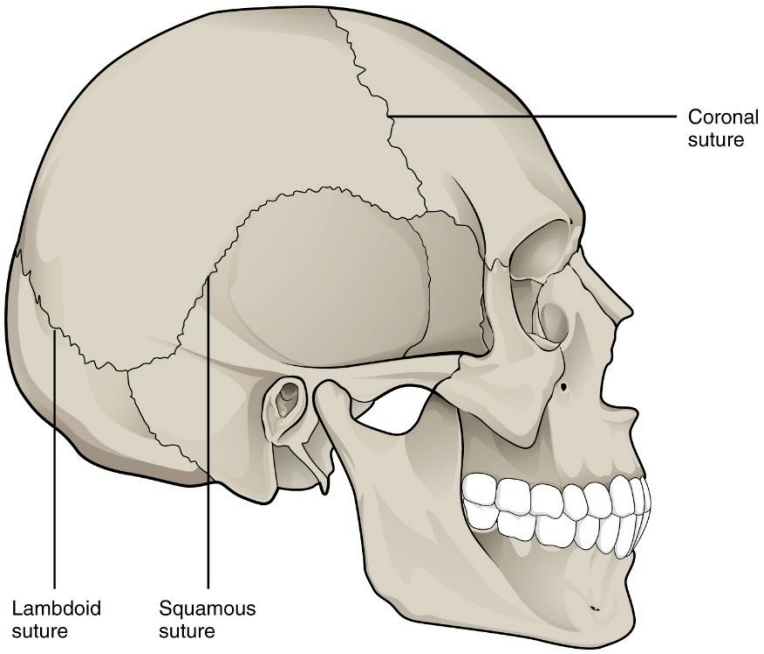
- Ethmoid
- Lacrimal
- Nasal
- Palatine
- Vomer
- Sphenoid








Incisors
Canine
Premolars
Molars


Coronal suture
Lambdoid suture
Squamous suture

Skull Exercise (Self study)

These are practice questions like you will see on the osteology bell ringer exam

Question 1

Name this bone _____

Side this bone_____

Name Feature A_____

Name Feature B _____

Question 2

Name this bone _____

Side this bone_____

Name Feature A_____

Name Feature B _____

Question 3

Name this bone _____

Name Feature A_____

Name Feature B _____

Name Feature C _____

Question 4

Name this bone _____

Name tooth A_____

Name Feature B_____

What articulates at feature B _____

Pelvic Girdle and Lower Limb

Bones of the pelvic girdle

Os Coxa (Os Coxae plural), R and L

Bone region- ilium

Bone region- ischium

Bone regions- pubis

Pubic symphysis

Ischiopubic ramus

Obturator foramen

Iliac crest

Greater sciatic notch

Auricular surface

Acetabulum

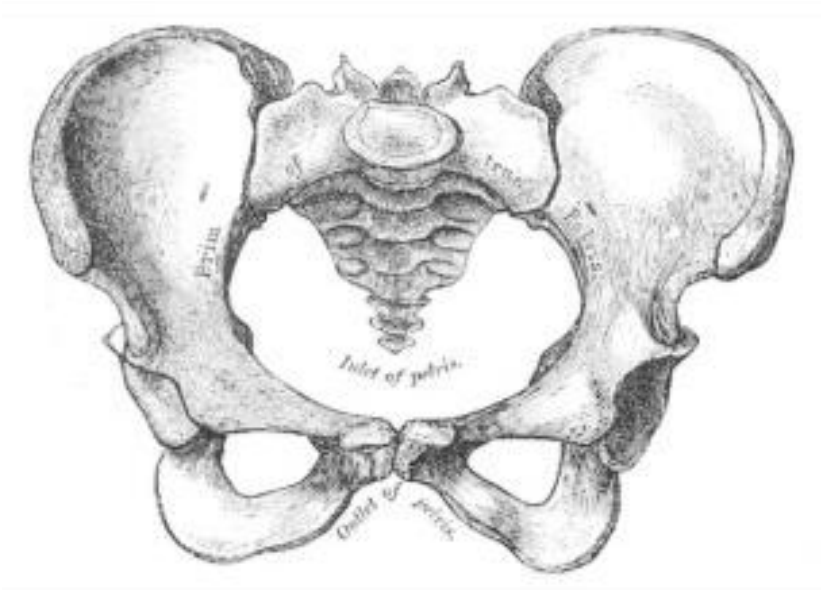
Sacrum

Sacral promontory

Auricular surface

The sacrum is typically consisted of 5 fused vertebrae (S1-S5) and articulates with each of the right and left os coxa bones at the sacro-iliac joints.

Coccyx



Bones of the Lower Limb

Femur, R and L

- Head
- Fovea capitis
- Neck
- Greater trochanter
- Lesser trochanter
- Linea aspera
- Medial condyle
- Lateral condyle
- Patellar surface

Patella, R and L

Tibia, R and L

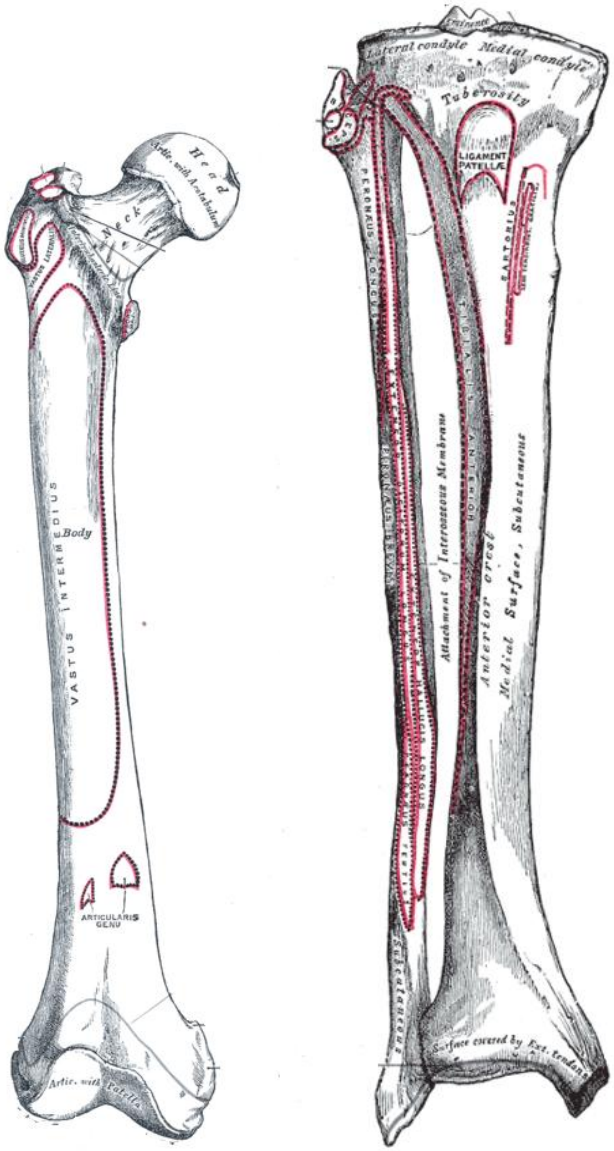
- Medial condyle
- Lateral condyle
- Tibial tuberosity
- Anterior crest
- Medial malleolus
- Superior fibular articular facet

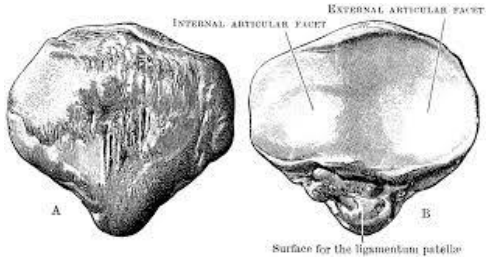
Fibula, R and L

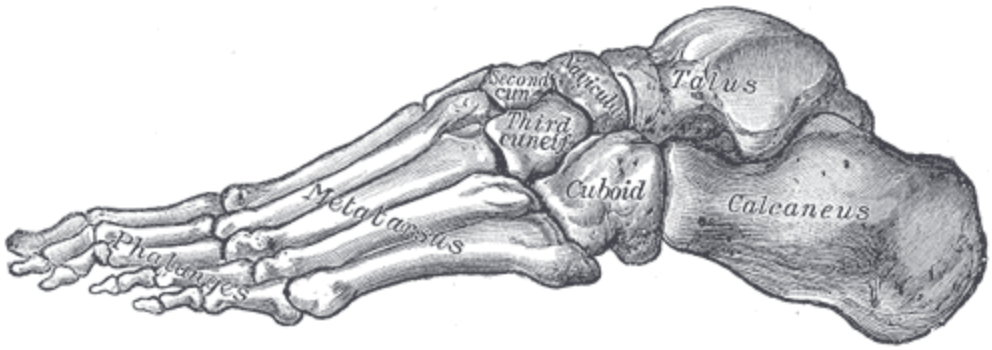
- Head
- Malleolar fossa
- Lateral malleolus

Foot and ankle

- Tarsals
- Metatarsals
- Phalanges (Phalanx singular)
    - Proximal
    - Intermediate
    - Distal


Head
Neck
Lesser trochanter
VASTUS INTERMEDIUS
Body
ARTICULARIS GENU
Artic. with Patella
Lateral condyle
Medial condyle
Tuberosity
LIGAMENT PATELLÆ
TIBIALIS ANTERIOR
EXTENSOR LONGUS DIGITORUM
PERONÆUS TERTIUS
Attachment of Interosseous Membrane
Anterior crest
Medial Surface, Subcutaneous
Surface covered by Ext. tendons


INTERNAL ARTICULAR FACET
EXTERNAL ARTICULAR FACET
A
B
Surface for the ligamentum patellæ


Second cuneiform
Third cuneiform
Talus
Cuboid
Calcaneus
Metatarsus
Phalanges

Pelvic Girdle and Lower Limb (Self study)

These are practice questions like you will see on the osteology bell ringer exam

Question 1

Name this bone _____

Side this bone_____

Name Feature A_____

Name Feature B _____

Question 2

Name this bone _____

Side this bone_____

Name Feature A_____

Name Feature B _____

Question 3

Name this bone _____

Name Feature A_____

Name Feature B _____

Name Feature C _____

Question 4

Name bone region A _____

Name bone region B_____

Name Feature C_____

Name Feature D_____

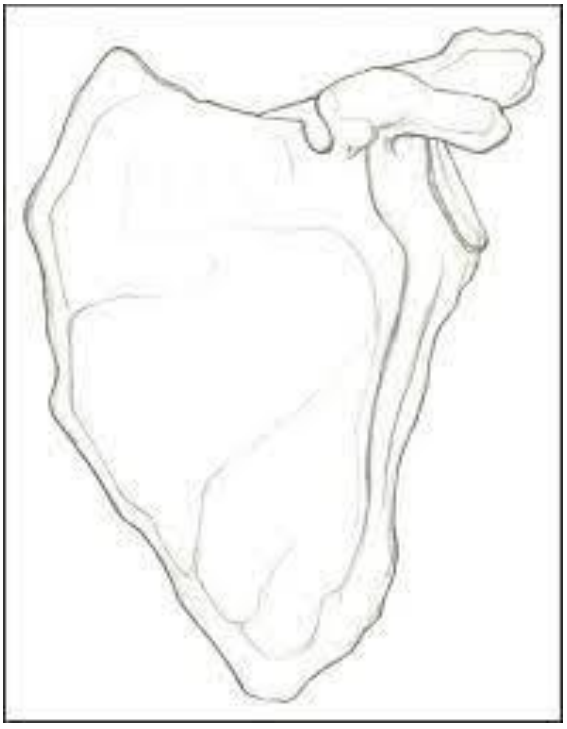
Bones of the shoulder girdle

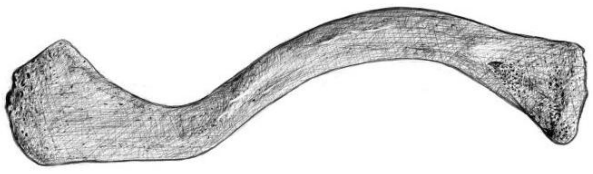
Scapula, R and L

- Body
- Coracoid process
- Spine
- Acromion
- Glenoid fossa

Clavicle, R and L

- Acromial end
- Sternal end





Bones of the Upper Limb

Humerus, Rand L

- Head
- Greater tubercle
- Lesser tubercle
- Deltoid tuberosity
- Olecranon fossa
- Trochlea
- Capitulum

Radius, R and L

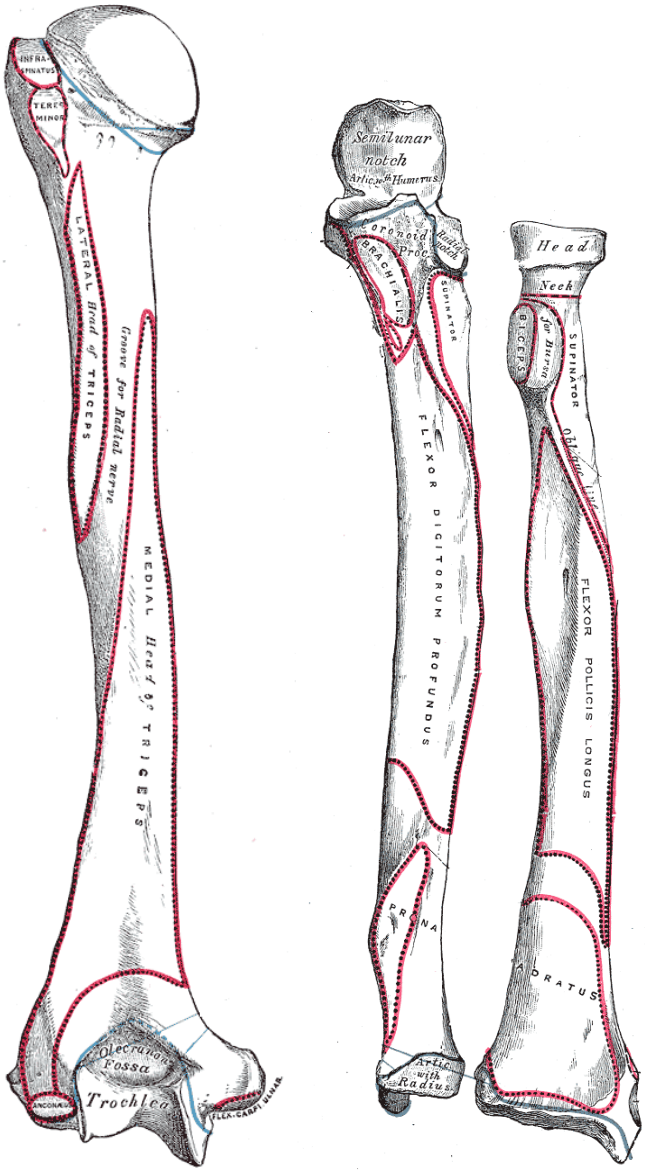
- Head
- Radial tuberosity
- Ulnar notch
- Dorsal tubercles
- Styloid process

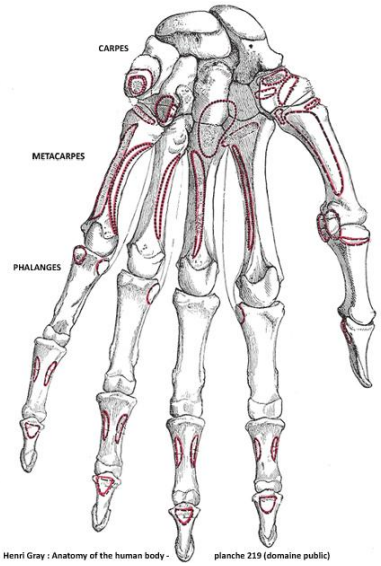
Ulna, R and L

- Olecranon process
- Radial notch
- Head

Hand and wrist- identify classes of bones only

- Carpals
- Metacarpals
- Phalanges (Phalanx singular)
    - Proximal
    - Intermediate
    - Distal





Henri Gray : Anatomy of the human body - planche 219 (domaine public)

Shoulder Girdle and Upper Limb (Self study)

These are practice questions like you will see on the osteology bell ringer exam

Question 1

Name this bone _____

Side this bone_____

Name Feature A_____

Name Feature B _____

Question 2

Name this bone _____

Side this bone_____

Name Feature A_____

Name Feature B _____

Question 3

Name this bone _____

Name Feature A_____

Name Feature B _____

Name Feature C _____

Question 4

Name bone class A _____

Name bone class B_____

Name bone class C_____

How many of bone class C exist in one hand? _____

Axial Skeleton

Bones of the thorax

Vertebrae

General features

- Body
- Spinous process
- Transverse processes
- Superior articular facets
- Inferior articular facets
- Vertebral foramen

Cervical vertebrae --7

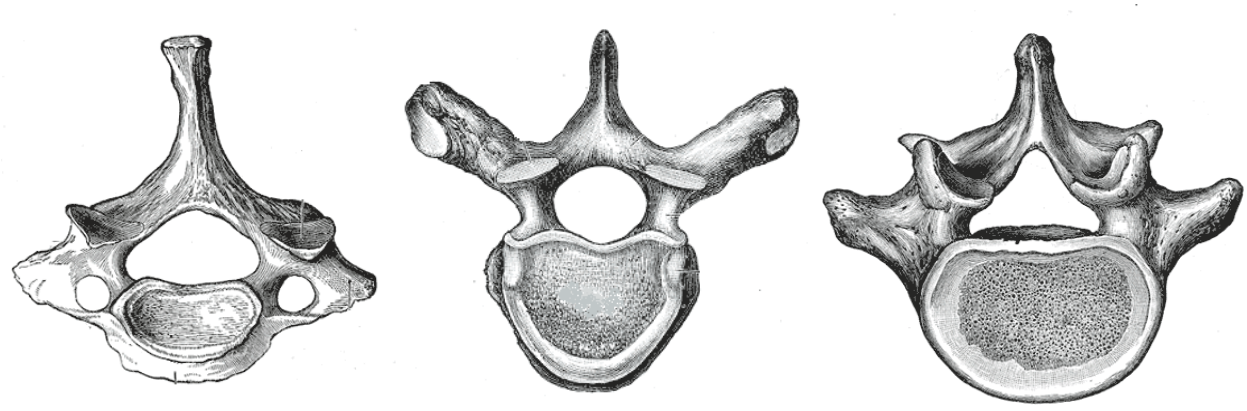
- Transverse foramen
- C1 or atlas
- C2 or axis
  - Dens

Thoracic vertebrae --12

- Costal pits
- Flat superior and inferior articular facets

Lumbar vertebrae --5

- Curved superior and inferior articular facets



Sternum

- Manubrium
- Clavicular notches
- Body
- Xiphoid process

Ribs, R and L, you only need to side ribs 3 through 10

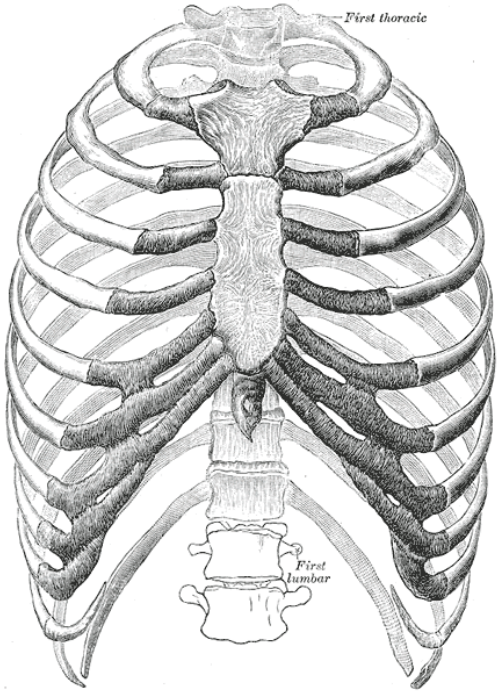
- Head
- Tubercle
- Sternal end
- Costal groove
- True rib s- pairs 1-7
- False ribs- pairs 8-10

Rib 1

Rib 2

Ribs 11 or 12

- Floating rib



Axial Skeleton (Self study)

These are practice questions like you will see on the osteology bell ringer exam

Question 1

Name this bone _____

Name Feature A_____

Name Feature B _____

Name Feature C _____

Question 2

Name this bone _____

Side this bone_____

Name Feature A_____

Name Feature B _____

Question 3

Name this bone _____

Name bone part A_____

Name bone part B _____

What articulates at feature B _____

Question 4

Name bone A _____

Name bone B_____

What group is bone B part of_____

Name Feature C_____

Osteology Practice Tests

Use this space for the practice osteology stations at the start of each lab.

Week 2:

Name Bone A _____

Name Feature B _____

Name Bone C _____

Name Feature D _____

Week 3:

Question 1

Name Bone A _____

Name Feature B _____

Name Bone C _____

Name Feature D _____

Question 2

Name Bone A _____

Name Feature B _____

Name Bone C _____

Name Feature D _____

Week 4:

Question 1

Name Bone A _____

Name Bone B _____

Name Bone C _____

Name Feature D _____

Question 2

Name Bone A _____

Name Feature B _____

Name Feature C _____

Name Feature D _____

Question 3

Name Bone A _____

Name Feature B _____

Name Bone C _____

Name Feature D _____