

Biology 201: The Axial Skeleton

1) Fill in the table below with the name of the suture that connects the cranial bones.

Suture	Cranial Bones Connected
1) Coronal suture	Frontal and parietal bones
2) Sagittal suture	Left and right parietal bones
3) Lambdoid suture	Occipital and parietal bones
4) Squamous suture	Temporal and parietal bones

Source Lesson: Cranial Bones of the Skull: Structures & Functions

2) Fill in the table below with the name of the bony opening associated with the specific nerve or blood vessel.

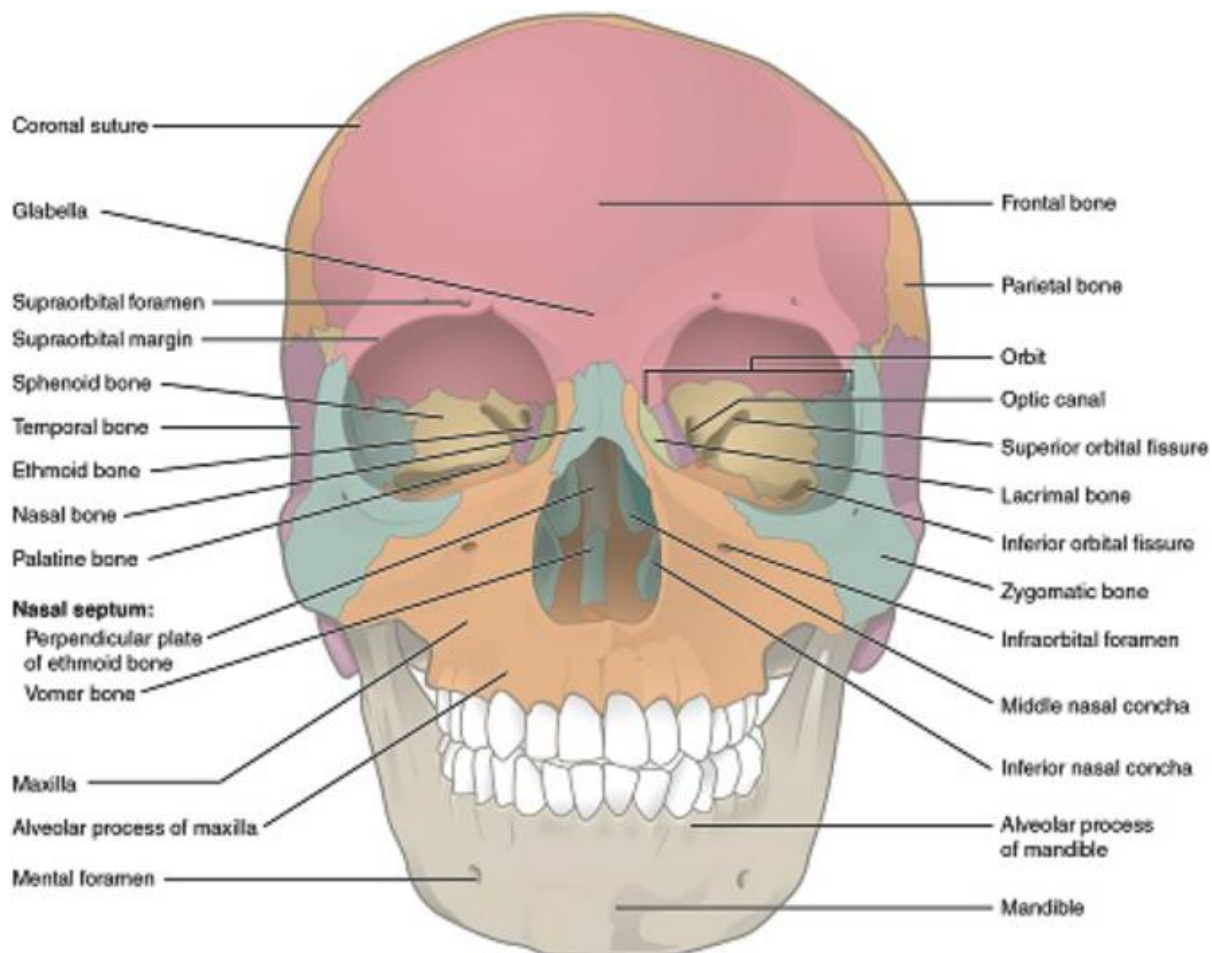
Bones and Foramina	Associated Blood Vessels and/or Nerves
Frontal Bone	
1) Supraorbital foramen	Ophthalmic nerve, supraorbital nerve, artery, and vein
Temporal Bone	
2) Carotid canal	Internal carotid artery
3) Jugular foramen	Internal jugular vein, glossopharyngeal nerve, vagus nerve, accessory nerve (Cranial nerves IX, X, XI)
Occipital Bone	
4) Foramen magnum	Spinal cord, accessory nerve (Cranial nerve XI)
5) Hypoglossal canal	Hypoglossal nerve (Cranial nerve XII)
Sphenoid Bone	
6) Optic canal	Optic nerve, ophthalmic artery

Source Lesson: Cranial Bones of the Skull: Structures & Functions

3) Label the anterior view of the skull below with its correct feature.

Frontal bone
Ethmoid bone
Sphenoid bone
Inferior nasal concha
Orbit
Supraorbital margin
Middle nasal concha
Coronal suture
Glabella
Nasal bone
Supraorbital foramen
Temporal bone
Orbit
Superior orbital fissure
Infraorbital foramen

Palatine bone
Nasal septum: Perpendicular plate of ethmoid bone
Inferior orbital fissure
Maxilla
Vomer bone
Alveolar process of maxilla
Inferior nasal concha
Mandible
Mental foramen
Parietal bone
Orbital canal
Lacrimal bone
Alveolar process of mandible
Zygomatic bone

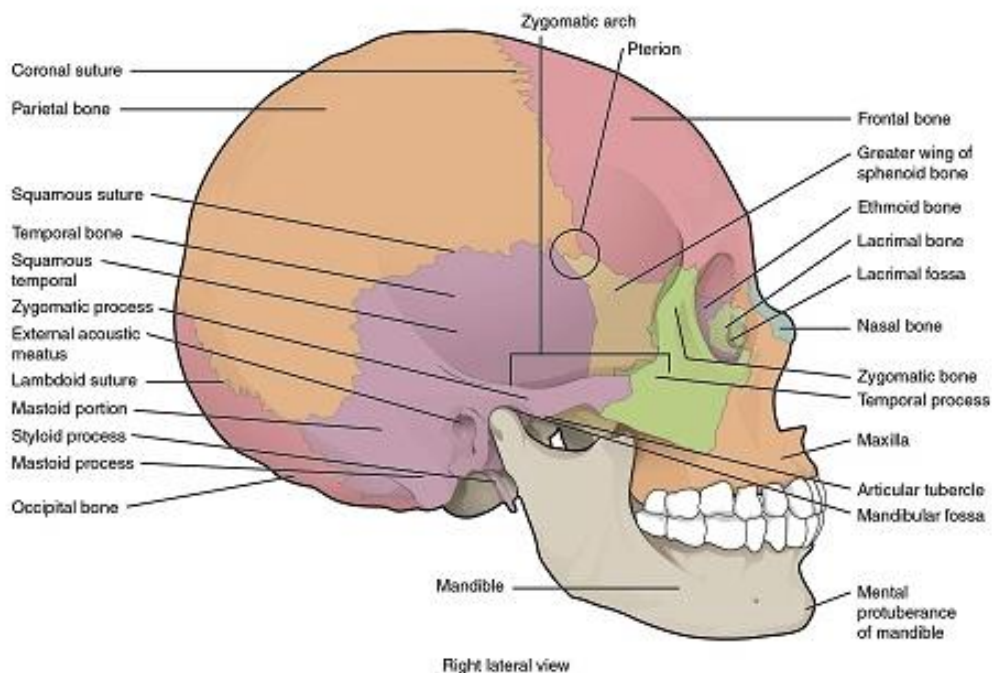


Anterior view

Source Lesson: Facial Bones of the Skull: Structures & Functions

4) Label the right lateral view of the skull below with its correct feature.

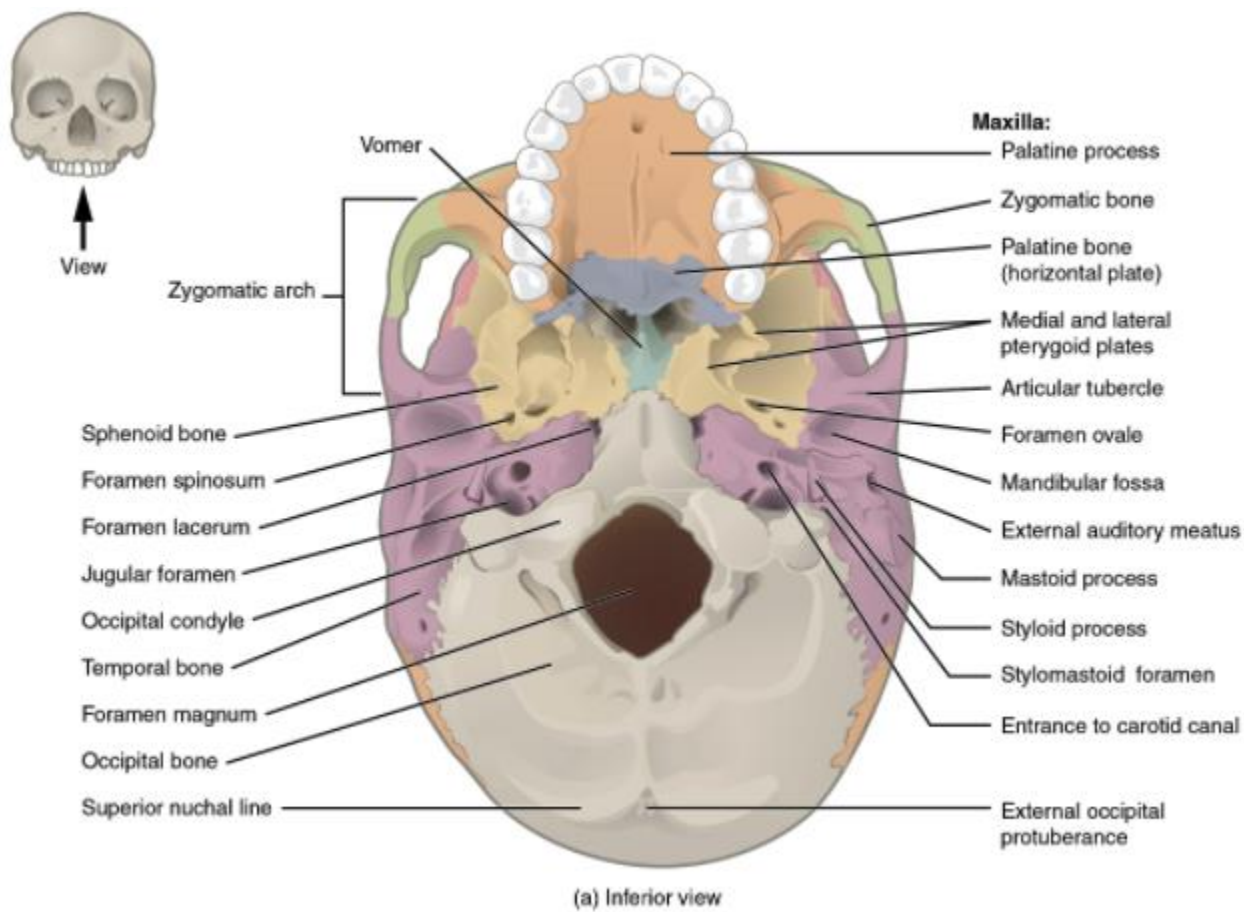
- | | |
|--------------------------|---------------------------------|
| Coronal suture | Frontal bone |
| Zygomatic arch | Lambdoid suture |
| Mastoid process | Mandible |
| Parietal bone | Greater wing of sphenoid bone |
| Mastoid portion | Mental protuberance of mandible |
| Styloid process | Articular tubercle |
| Squamous suture | Temporal process |
| Mandibular fossa | Temporal bone |
| Squamous temporal | Maxilla |
| Zygomatic process | Ethmoid bone |
| Occipital bone | Zygomatic bone |
| External acoustic meatus | Lacrimal bone |
| Lacrimal fossa | Nasal bone |



Source Lesson: Facial Bones of the Skull: Structures & Functions

5) Label the inferior view of the skull below with its correct features.

Vomer	External occipital protuberance
Medial and lateral pterygoid plates	Zygomatic arch
Palatine bone (horizontal plate)	Sphenoid bone
Foramen spinosum	Articular tubercle
Zygomatic bone	Foramen lacerum
Mandibular fossa	Entrance to carotid canal
Jugular foramen	Foramen ovale
Mandibular fossa	Occipital bone
Palatine process	Occipital condyle
Temporal bone	External auditory meatus
Styloid process	Superior nuchal line
Foramen magnum	Mastoid process

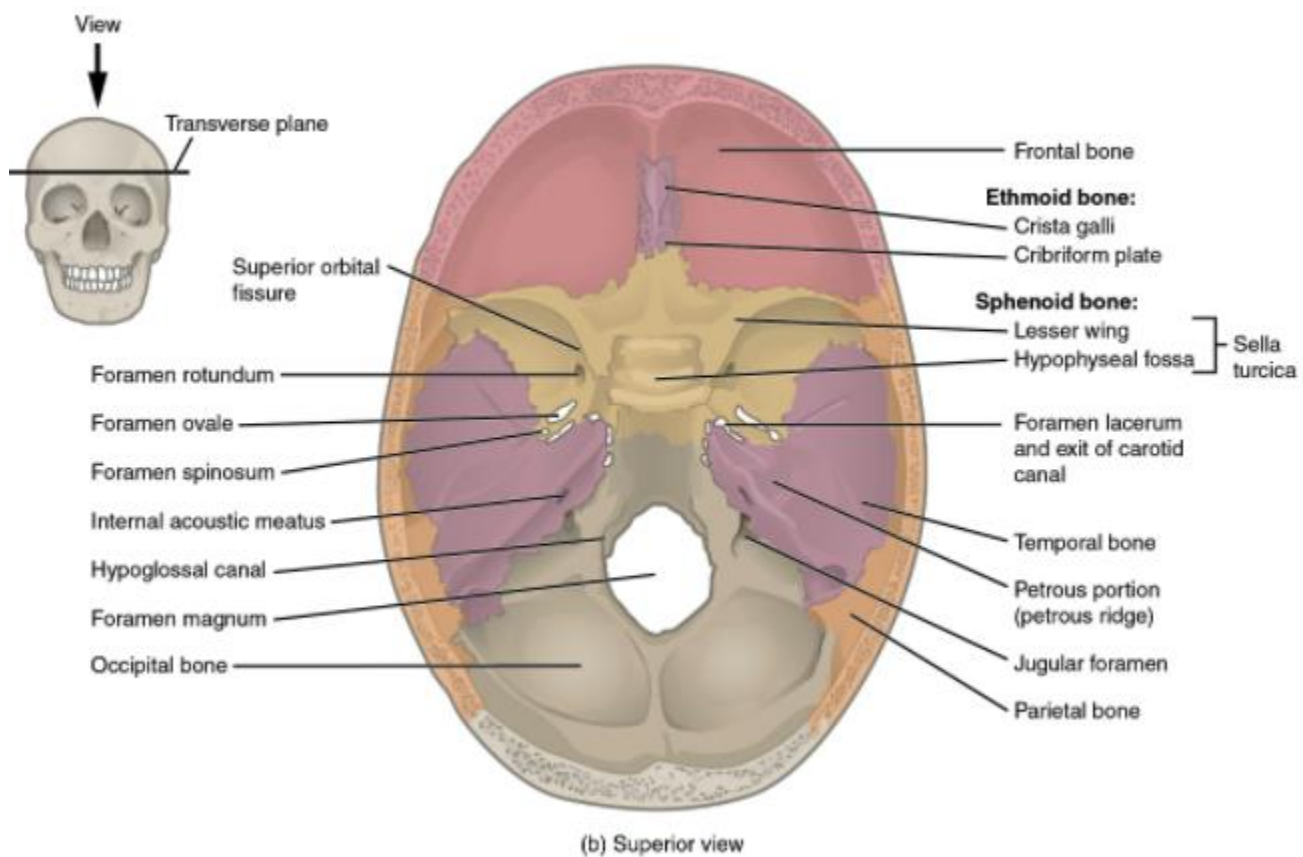


Source Lesson: Facial Bones of the Skull: Structures & Functions

6) Label the superior view of the skull below with its correct features.

Parietal bone
Crista galli
Foramen magnum
Hypoglossal canal
Internal acoustic meatus
Hypophyseal fossa
Foramen ovale
Foramen rotundum
Foramen lacerum and exit of carotid canal

Frontal bone
Occipital bone
Lesser wing
Cribriform plate
Jugular foramen
Foramen spinosum
Petrus portion
Temporal bone

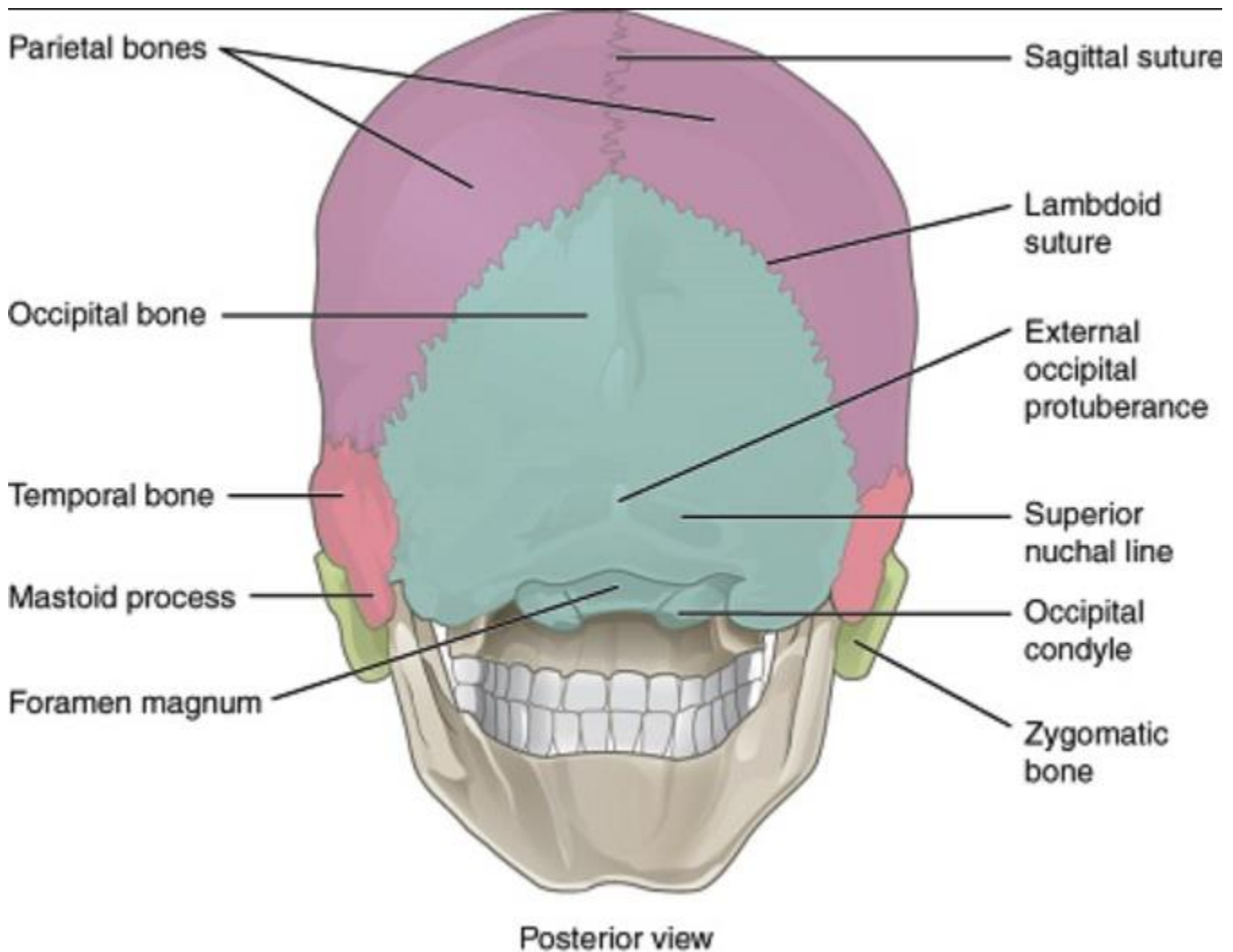


Source Lesson: Facial Bones of the Skull: Structures & Functions

7) Label the posterior view of the skull below with its correct feature.

Zygomatic bone
Parietal bones
Occipital condyle
Occipital bone
Foramen magnum
Lambdoid suture

Sagittal suture
Mastoid process
Temporal bones
Superior nuchal line
External occipital protuberance

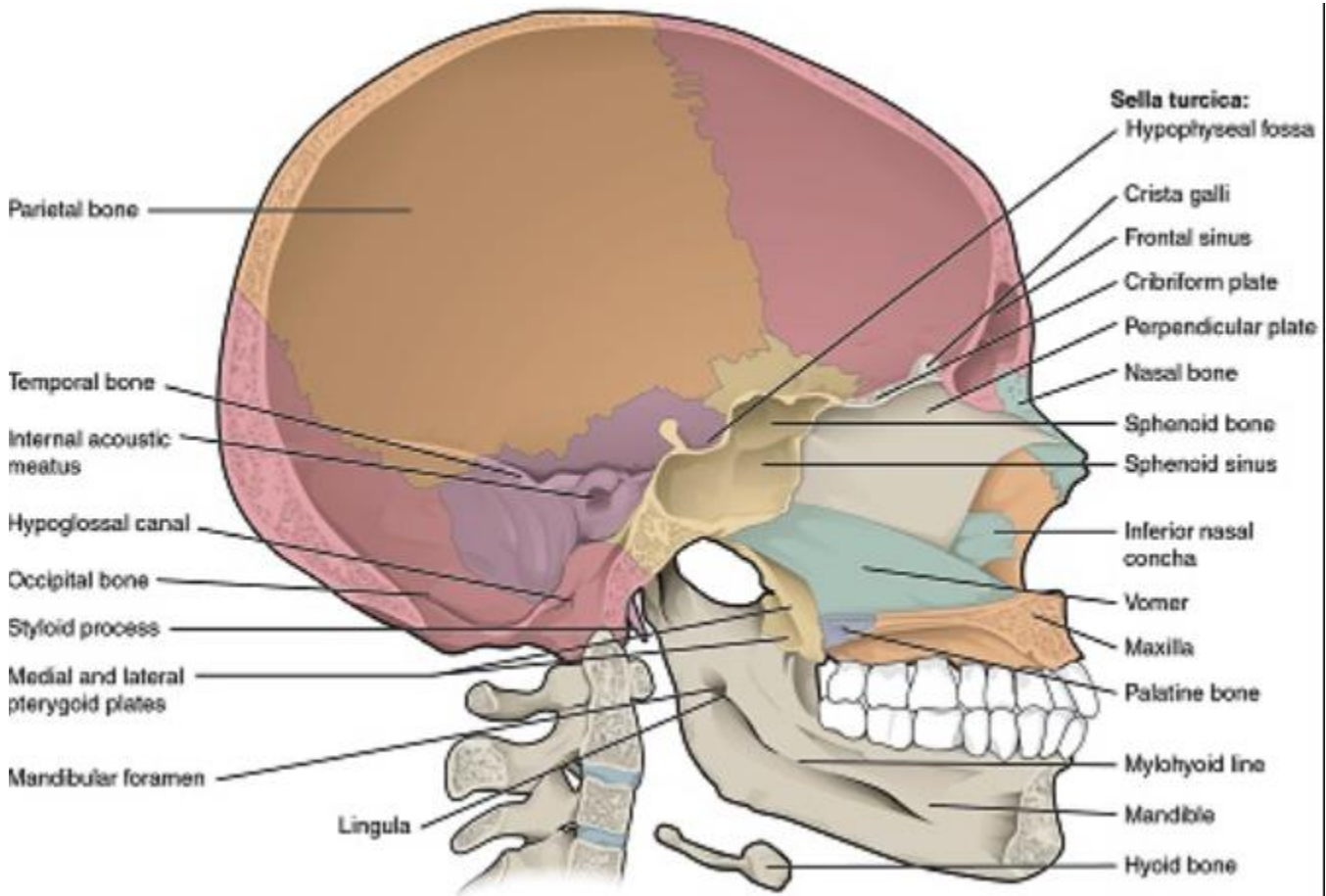


Source Lesson: Facial Bones of the Skull: Structures & Functions

8) Label the sagittal view of the skull below with its correct features.

Vomer
Crista galli
Frontal sinus
Temporal bone
Internal acoustic meatus
Occipital bone
Cribriform plate
Mandible
Lingula
Mylohyoid line
Sphenoid bone
Maxilla

Parietal bone
Medial and lateral pterygoid plates
Parietal bone
Temporal bone
Mandibular foramen
Hypoglossal canal
Hyoid bone
Perpendicular plate
Inferior nasal concha
Nasal bone
Palatine bone
Hypophyseal fossa



Source Lesson: Facial Bones of the Skull: Structures & Functions

9) Label each part of the vertebral column below.

Sacrococcygeal curve

Sacrum

Thoracic vertebrae

Lumbar vertebrae

Atlas

Coccyx

Cervical vertebrae

Axis

Intervertebral disc

Vertebral column: Lateral view

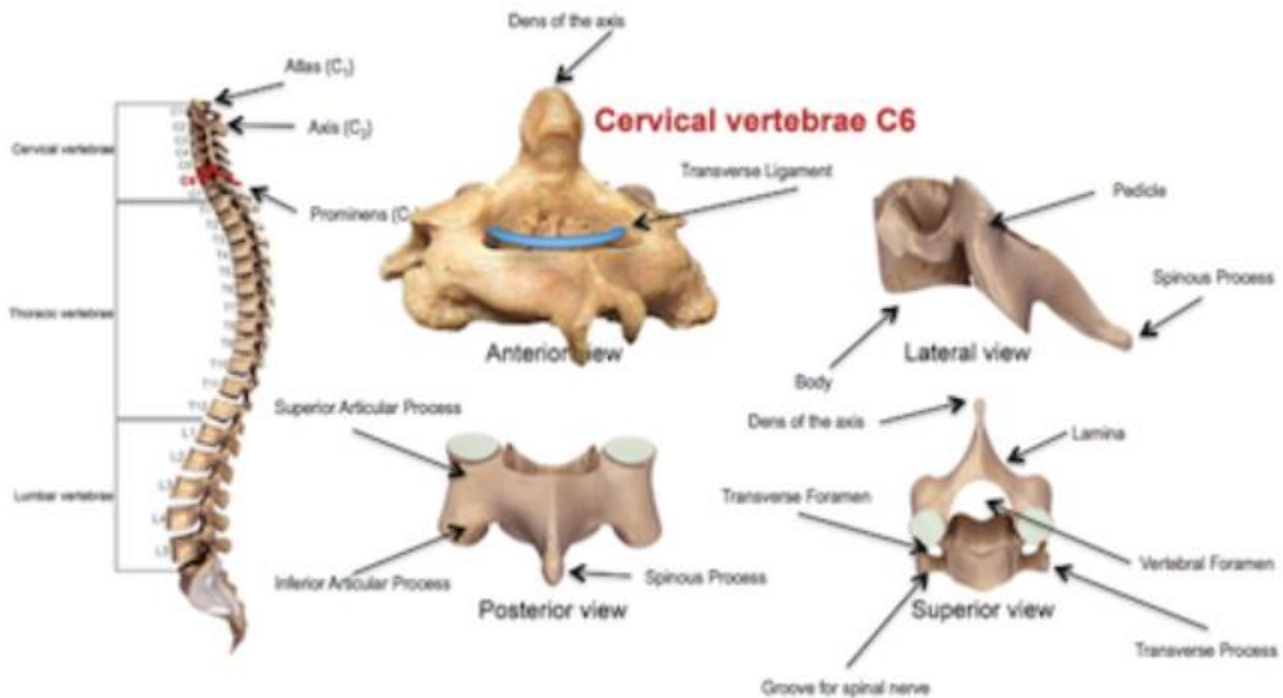


Source Lesson: The Vertebral Column: Regions, Bones & Ligaments

10) Label the anatomy of the cervical vertebrae shown below. Some answers may be used more than once.

Dens of the axis
Superior articular process
Atlas
Axis
Prominera
Cervical vertebrae
Thoracic vertebrae
Lumbar vertebrae
Vertebral foramen

Transverse ligament
Inferior articular process
Spinous process
Pedicle
Groove for spinal nerve
Transverse process
Body
Lamina

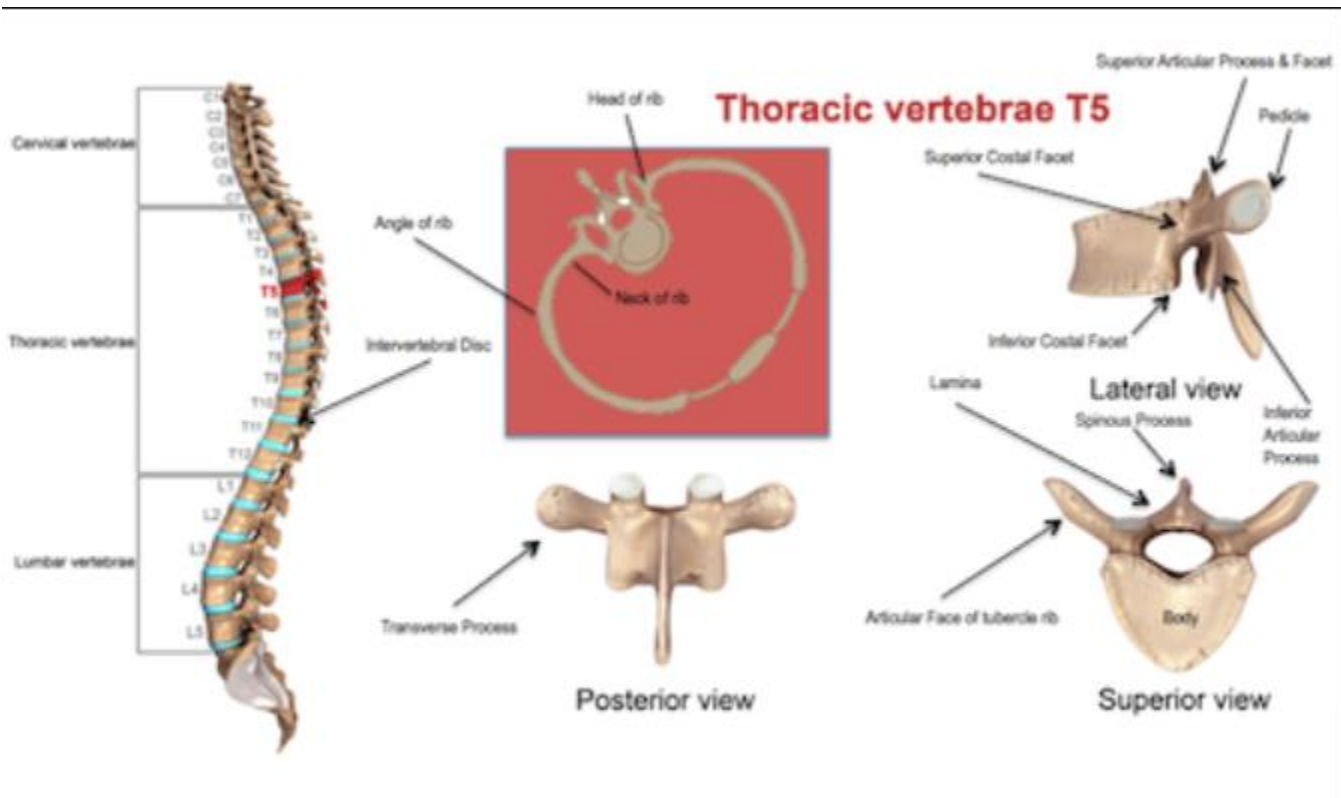


Source Lesson: The Vertebral Column: Regions, Bones & Ligaments

11) Label the structure and anatomical parts of the thoracic vertebrae image shown below.

Angle of rib
Cervical vertebrae
Head of rib
Lamina
Neck of rib
Intervertebral disc
Transverse process
Pedicle

Articular Face of tubercle rib
Superior costal facet
Thoracic vertebrae
Spinous process
Superior articular process and facet
Inferior articular process
Lumbar vertebrae
Inferior costal facet

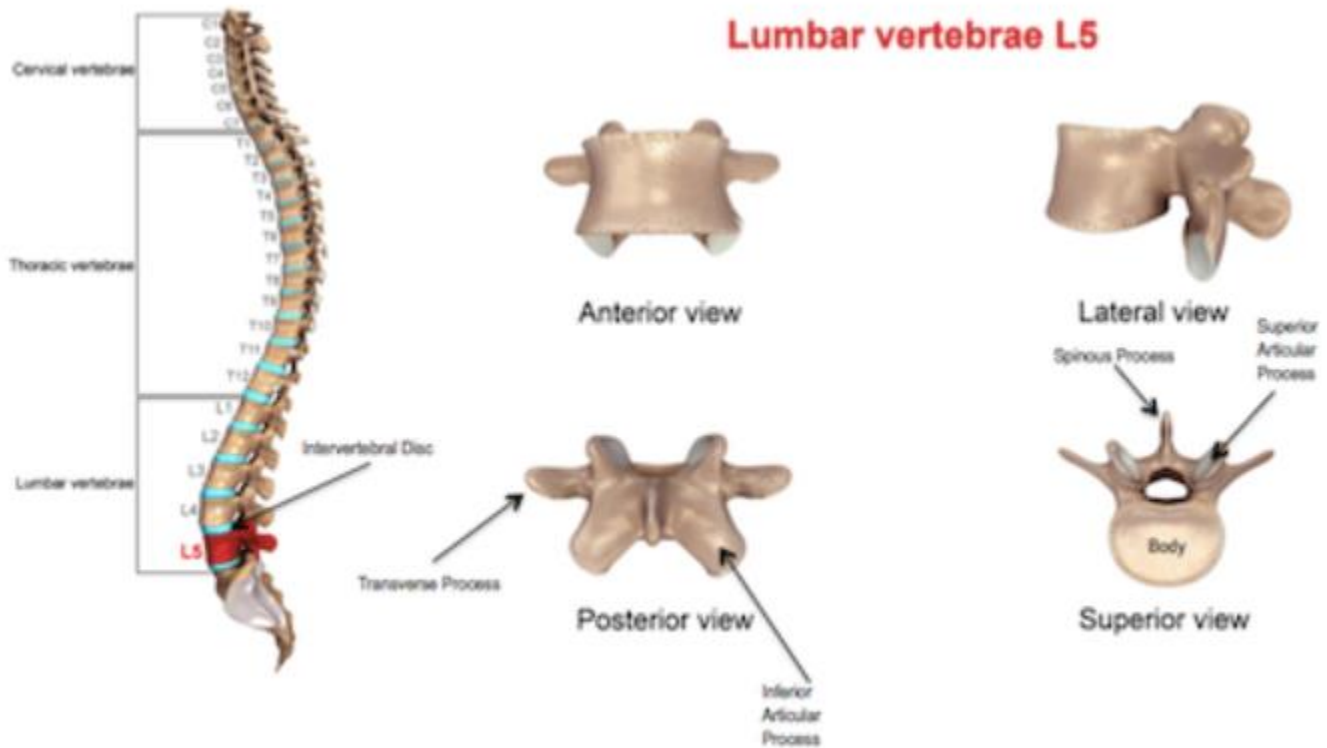


Source Lesson: The Vertebral Column: Regions, Bones & Ligaments

12) Label the parts of the lumbar vertebrae shown below.

Cervical vertebrae
Spinous process
Thoracic vertebrae
Superior articular process

Transverse process
Intervertebral disc
Inferior articular process
Lumbar vertebrae



Source Lesson: The Vertebral Column: Regions, Bones & Ligaments

13) Label the parts of the sacrum and coccyx in the image below.

Apex

Transverse ridges

Anterior sacral foramina

Body of first sacral vertebra

Lateral sacral crest

Sacral canal

Sacral hiatus

Facet of superior articular facet

Coccyx

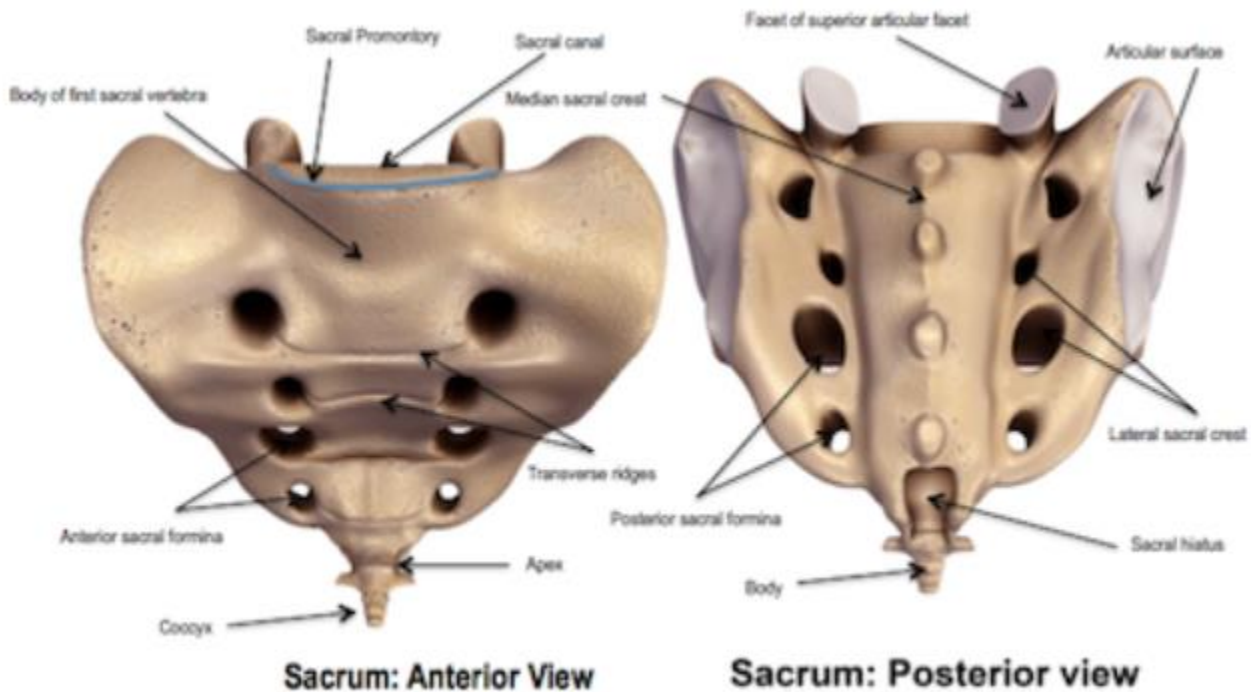
Articular surface

Posterior sacral foramina

Sacral promontory

Body

Median sacral crest



Source Lesson: The Vertebral Column: Regions, Bones & Ligaments

14) Label the parts of the sternum shown below, using the terms provided in the word bank. Some words may not be used.

A) **Manubrium**

C) **Body of the sternum**

B) **Sternal angle**

D) **Xiphoid process**

Word Bank:

Manubrium

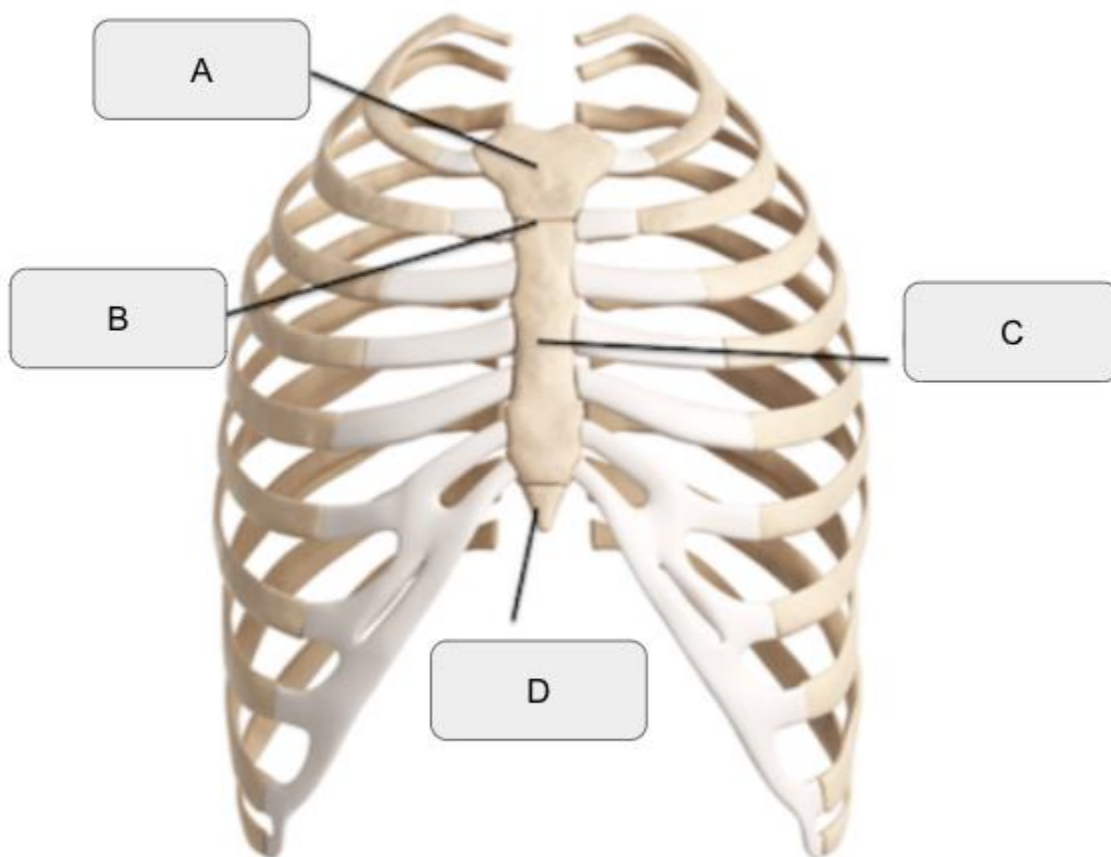
Clavicle

Intercostal space

Sternal angle

Body of sternum

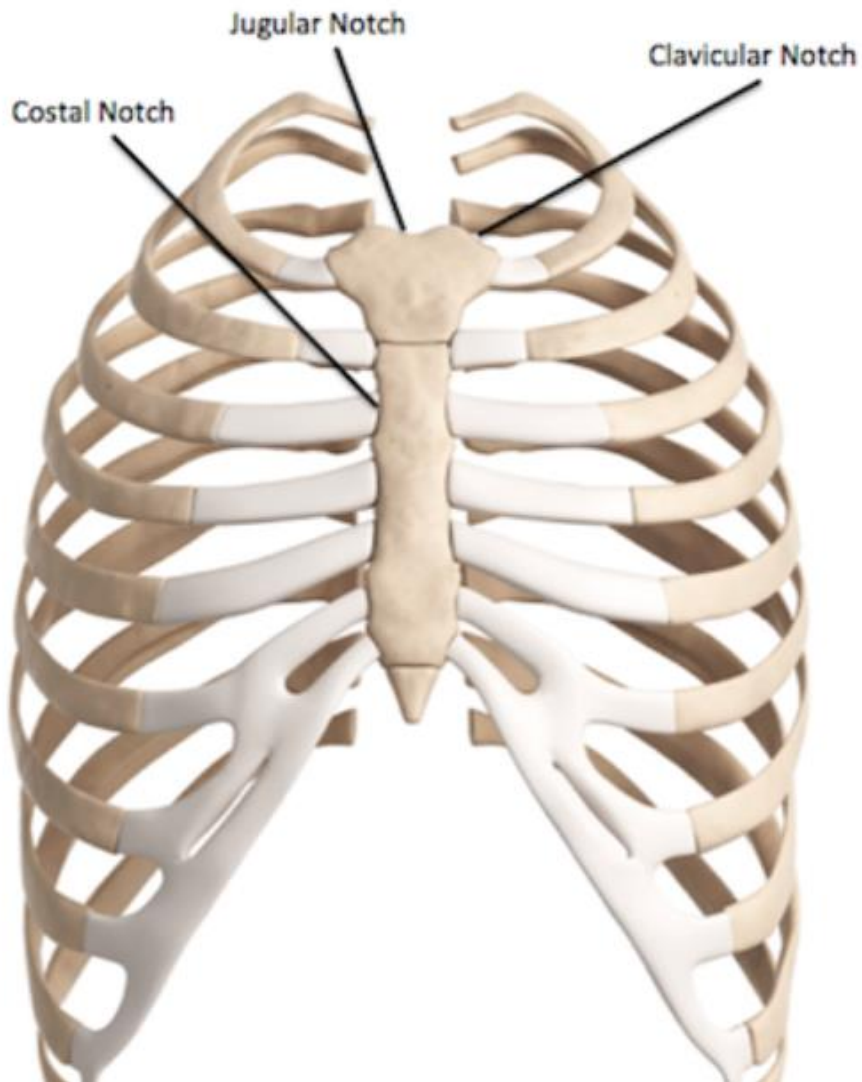
Xiphoid process



Source Lesson: The Thoracic Cage: Bones, Structure & Classifications

15) Label the three notch locations found on the sternum.

Clavicular notch
Costal notch
Jugular notch



Source Lesson: The Thoracic Cage: Bones, Structure & Classifications

16) Fill in the table below with the name of the anatomical structure that connects the identified bones.

Costal notch

Jugular notch/Suprasternal notch

Clavicular notch

Anatomical Structure	What It Connects
1) Clavicular Notch	Sternum with the right & left clavicle
2) Jugular Notch/Suprasternal Notch	Space between the clavicular notches
3) Costal Notch	Sternum with costal cartilage

Source Lesson: The Thoracic Cage: Bones, Structure & Classifications

17) Label the anatomical parts of the thoracic cage.

Jugular notch

Ribs

Manubrium

Sternal angle

Clavicular notch

Intercostal space

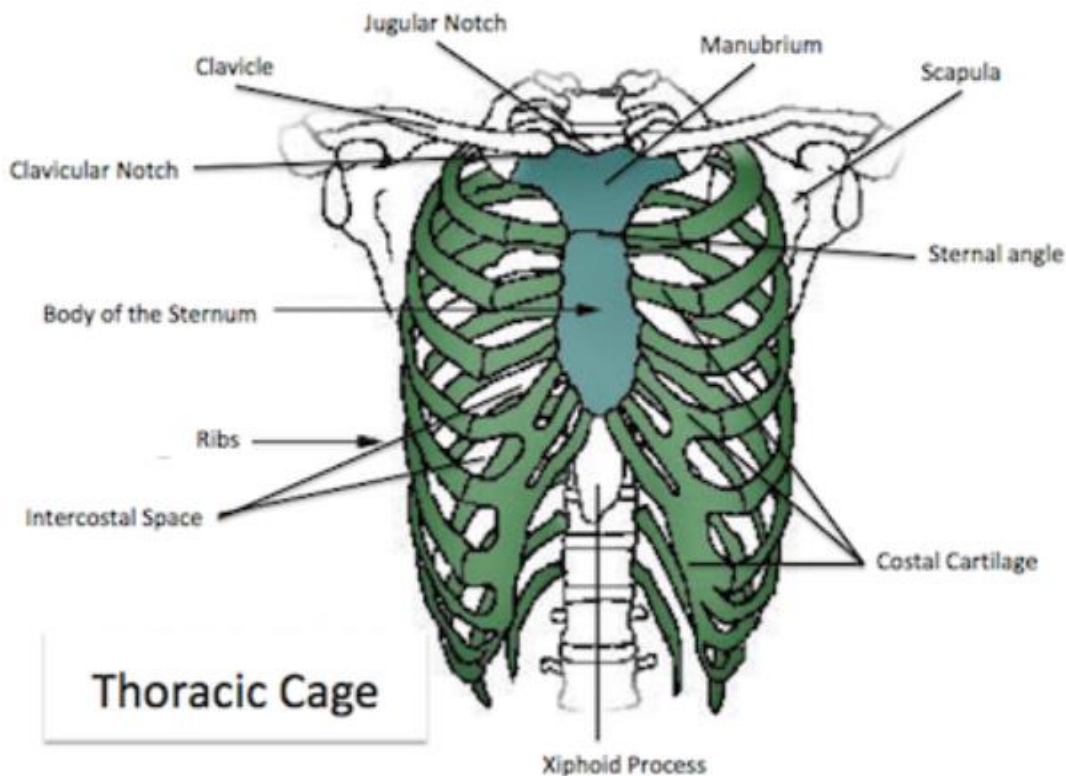
Clavicle

Scapula

Xiphoid process

Costal cartilage

Body of sternum

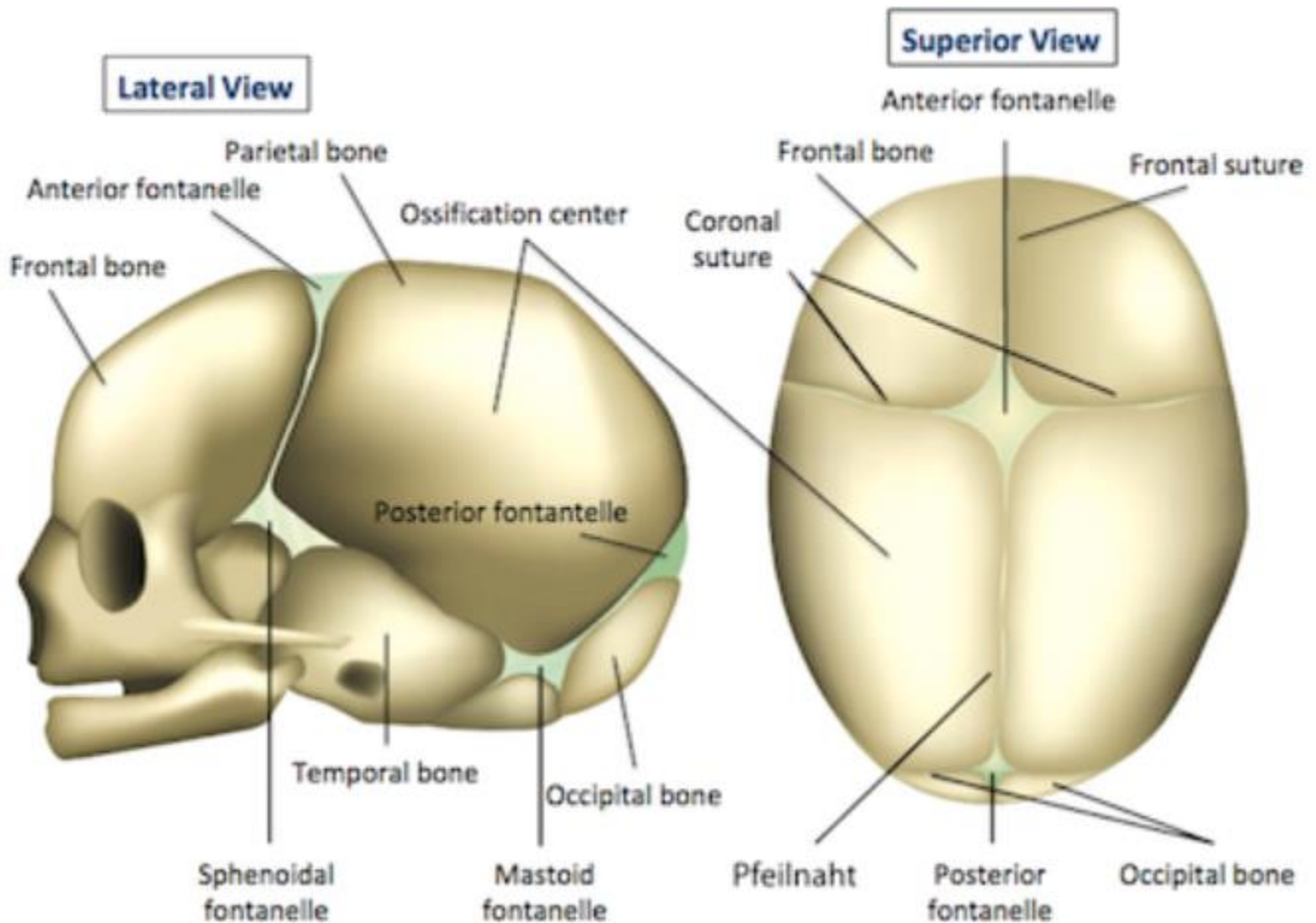


Source Lesson: The Thoracic Cage: Bones, Structure & Classifications

18) Label the bones of the skull of an infant at birth. Some words may be used more than once.

Occipital bone
Posterior fontanelle
Parietal bone
Frontal bone
Temporal bone
Mastoid fontanelle

Sphenoidal fontanelle
Ossification center
Pfeilnaht
Coronal suture
Frontal suture
Anterior fontanelle



Source Lesson: Embryonic Development of the Axial Skeleton

19) Fill in the table below with the bone developed by the type of ossification. Some bones may be used more than once.

Sphenoid
Part of the occipital
Frontal

Parietal
Part of the temporal
Mandible

Zygomatic
Maxillae
All remaining bones

Intramembranous ossification	Endochondral ossification
1) Parietal	1) Sphenoid
2) Frontal	2) Part of temporal
3) Part of occipital	3) Part of occipital
4) Zygomatic	4) All remaining bones
5) Maxillae	
6) Mandible	

Source Lesson: Embryonic Development of the Axial Skeleton