

Bi8612c Comparative Osteology Practical Training

Course outline and expectations & Anatomical terms (27/09)

Element of the day: Skull & Teeth - Exercise: Calculate the MNI (04/10)

Cremation and burnt remains – Dr Kevin Salesse (11/10)

Test I (18/10) – Open session on the osteological assemblages

Element of the day: Shoulder girdle & Vertebral column - Exercise: Record Activity & Aging Markers (25/10)

Element of the day: Upper and Lower limbs - Exercise: Estimate the Stature (1/11)

Element of the day: Hip bones – Exercise: Determine the Biological Sex (8/11)

Test II (15/11) - Open session on the osteological assemblages

Exercise: Manipulate Subadult bones (22/11)

Exercise: Estimate the Age (29/11)

Exercise: Distinguish the Trauma (6/12)

Test III (13/12) - Open session on the osteological assemblages

Anthropological Analysis Report Presentations (20/12)

Assessment methods

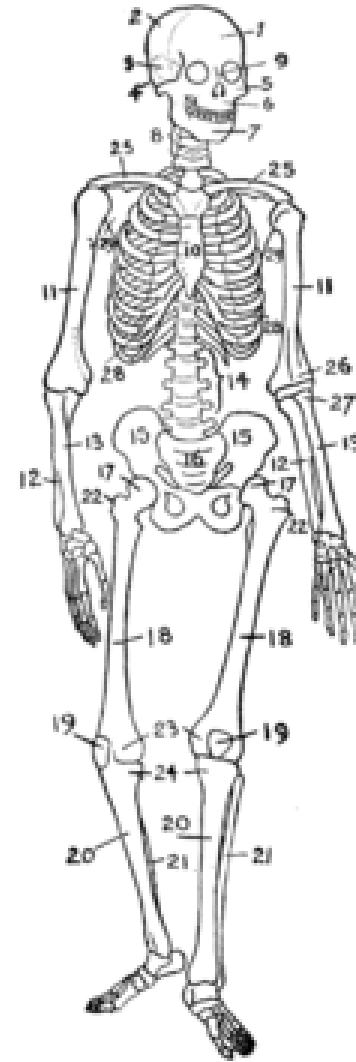
Lab sessions
(weekly)

Practical tasks
(weekly)

In-class
assignments
(weekly)

Three tests
during the
semester

A final report
at the end of
the semester





Anatomical terms

Dr Arwa Kharobi

Dental age estimation

Skeletal age estimation

Height estimation

Sex estimation

Metric traits

Nonmetric traits

Geochemical/isotopes analysis

Molecular genetic/Ancient DNA

3D surface scans

Computed Tomography (CT) scans

There are two parts to the skeleton:

1. axial skeleton

- forms the central axis of the human body
- composed of 80 bones
- including skull, the vertebral column, & the thoracic cage

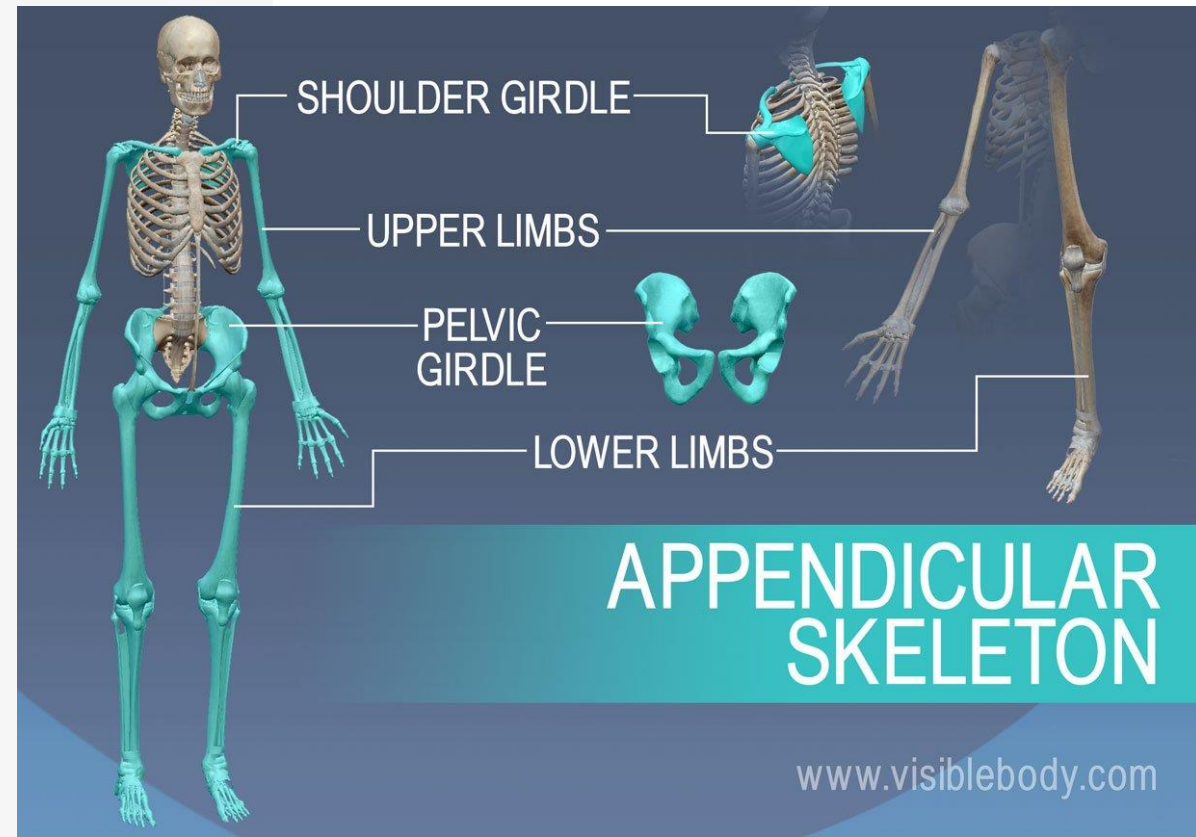
It also provides protection and support for the brain, spinal cord, and vital organs and a surface for muscles to attach.



There are two parts to the skeleton:

2. appendicular skeleton

- supports the appendages
- composed of 126 bones
- including both the upper and lower limbs, feet, ankles, shoulders, & pelvis



Bone structure

Each bone of the human body is made up of 3 different layers:

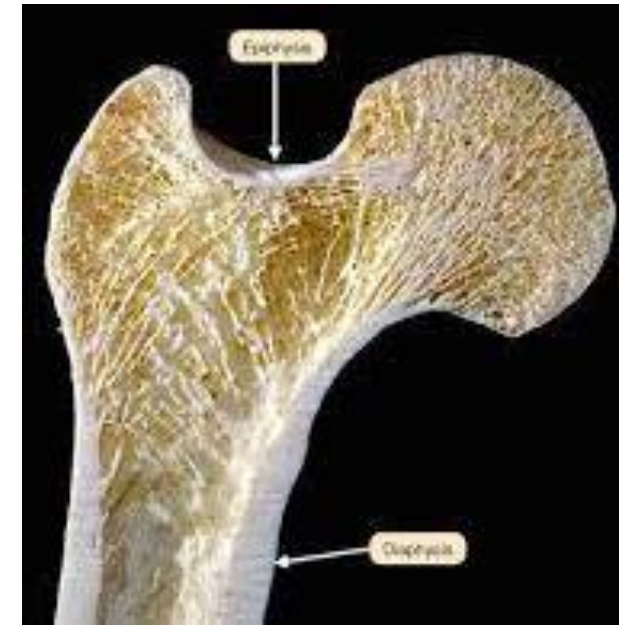
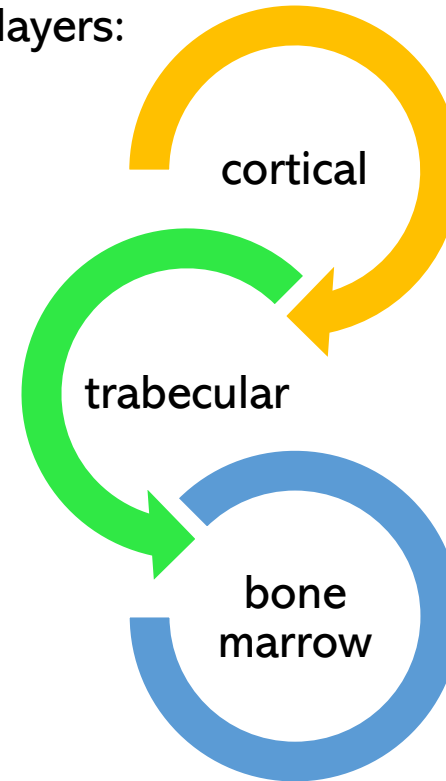
1. **Cortical** (compact)

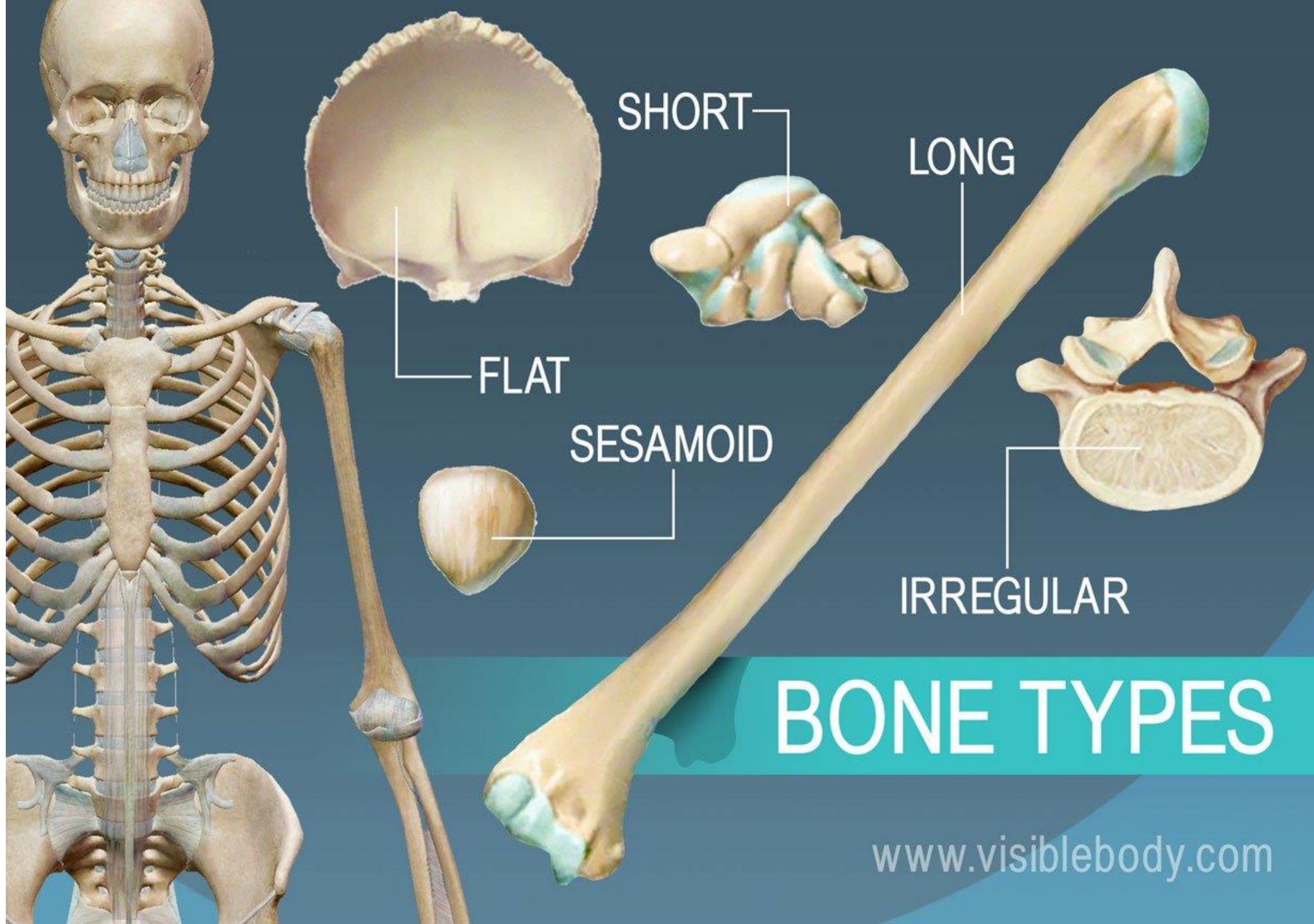
- Epiphysis (thin shell)
- Diaphysis (shaft, thicker)

2. **Cancellous** (spongy or trabecular)

- 20% by mass, 80% by surface
- 5-70% density of cortical
- 30-90% porosity

3. The innermost layer contains **bone marrow** and has a jelly-like appearance.





BONE TYPES

www.visiblebody.com

Basic terms:

Anatomical Position or Standard Erect Position

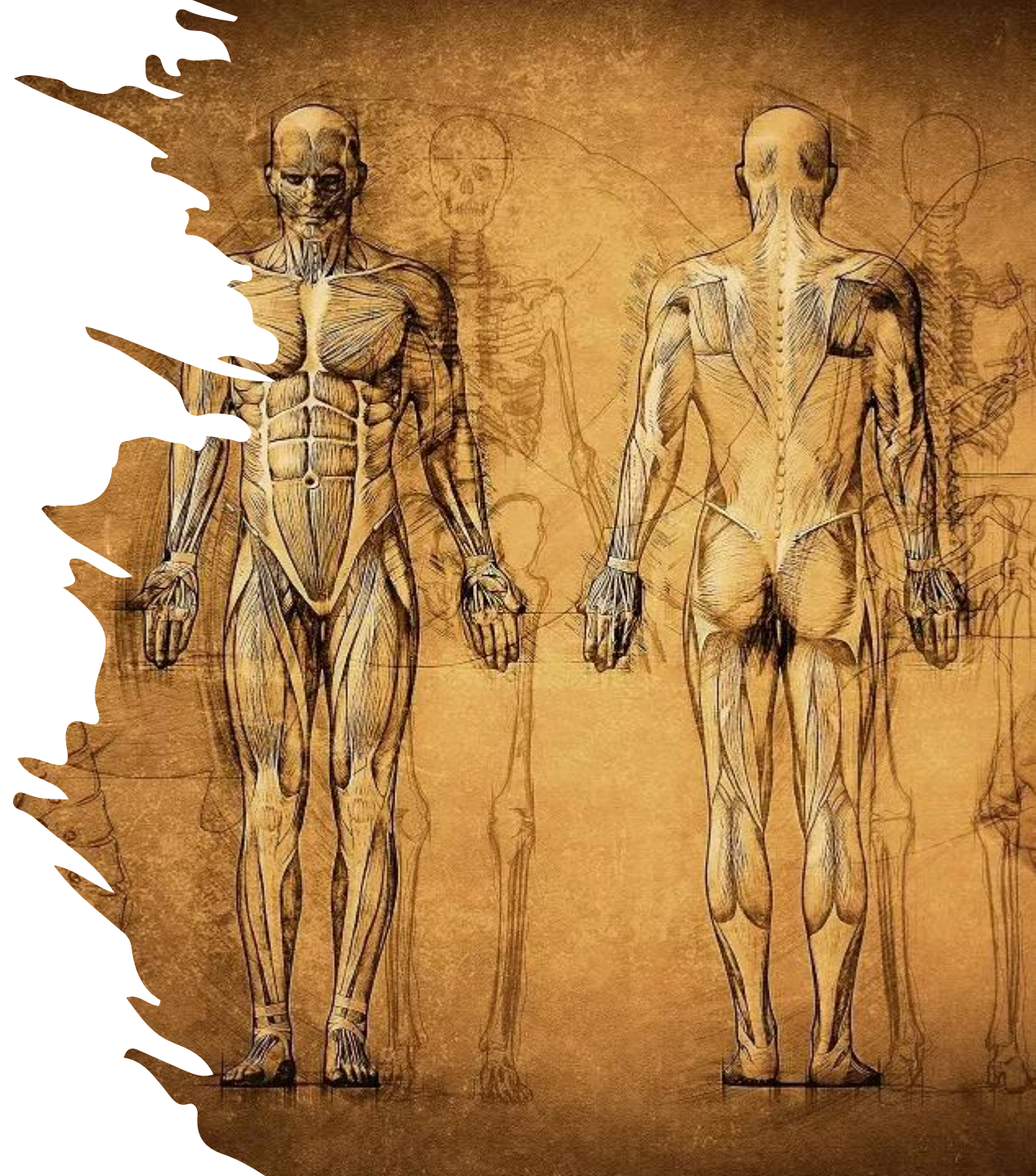
Standing

Feet forward

Hands at the sides

Palms forward

No long bones are crossed



Anatomical Position

From the standard position, anatomy uses specific terms to express body directionality:

| | | |
|---|--|--|
| Anterior (<i>ventra</i>) Describes the front or direction toward the front of the body | Posterior (<i>dorsa</i>) Describes the back or direction toward the back of the body | Superior (<i>crania</i>) describes a position above or higher than another part of the body proper |
| Inferior (<i>cauda</i>) describes a position below or lower than another | Lateral describes the side or direction toward the side of the body | Medial describes the middle or direction toward the middle of the body |
| Proximal describes a position in a limb that is nearer to the point of attachment or the trunk of the body | Distal describes a position in a limb that is farther from the point of attachment or the trunk of the body | Superficial describes a position closer to the surface of the body |
| | Deep describes a position farther from the surface of the body | |

