

Component 1 The Skeletal System

The functions of the skeleton:

1. Protection of vital organs

Cranium protects the brain when heading a ball



2. Muscle attachment

Bones provide anchors for muscles to attach.



3. Joints for movement

Bones act as levers to create movement.



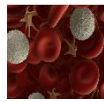
4. Platelets

Platelets clot blood when we are cut to stop the bleeding.



5. Blood cell production

Red blood cells carry oxygen
White blood cells fight infection.



6. Store calcium & phosphorus

Calcium and Phosphorus is stored in the bones to keep them strong.



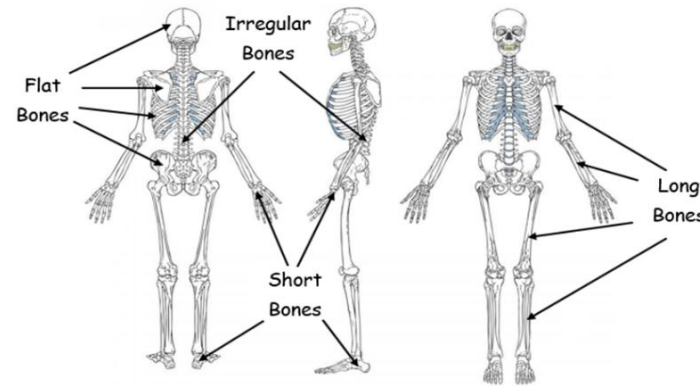
Classification of bones:

Long bones act as levers so we can move. Examples are the humerus, ulna and femur.

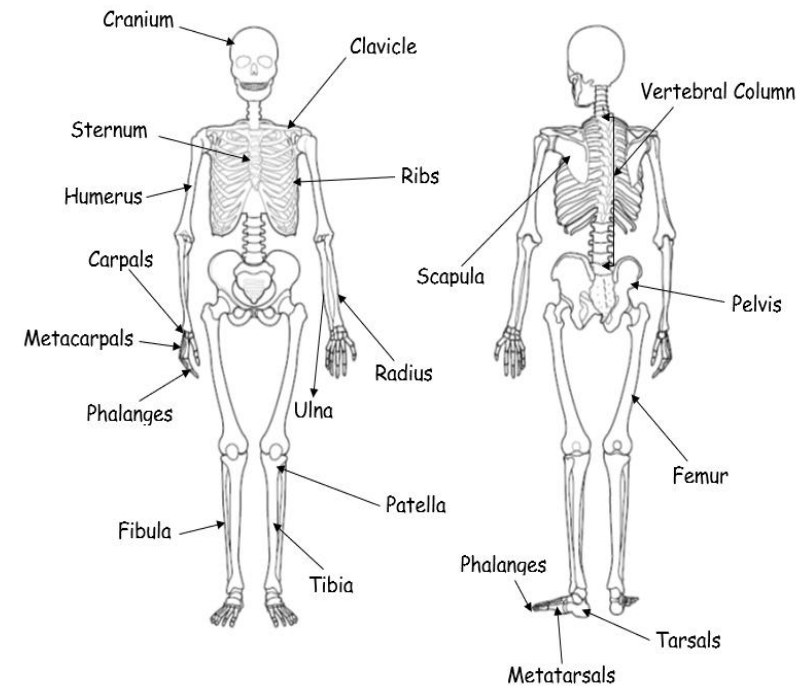
Short bones are important for weight bearing and to absorb shock. Examples are the carpals and tarsals.

Flat bones usually protect organs. Examples are the ribs, pelvis and scapula.

Irregular bones have odd shapes and perform a range of functions. Examples are the bones of the vertebrae.



Structure of the skeleton:



Movement possibilities at joints:

Flexion: bending movement (decreases angle)

Extension: Straightening movement (increase angle)

Abduction: Moving away from midline

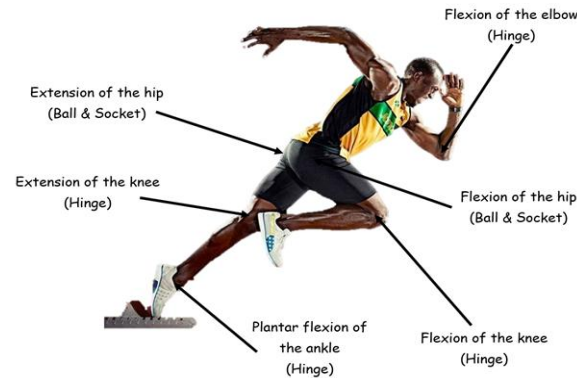
Adduction: Moving towards the midline

Plantar flexion: Pointing the toes downwards

Dorsi flexion: Pointing the toes upwards

Rotation: Rotation around a joint or axis

Circumduction: flexion/extension Abduction/adduction



Classification of joints:

Hinge

E.g. Elbow & Knee



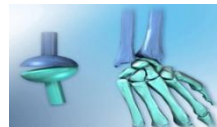
Ball & Socket

E.g. Hip & Shoulder



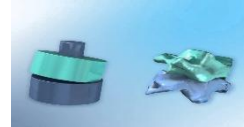
Condyloid

E.g. Wrist



Pivot

E.g. Neck (axis & Atlas)



The role of ligaments and tendons:



A ligaments main function is to join bone to bone. Ligaments help stabilise joints and prevent dislocation.



Tendons attach muscle to bone. Tendons help provide powerful movements such as kicking, jumping and

Vertebral column:

