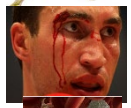
Component 1 The Skeletal System

The functions of the skeleton:

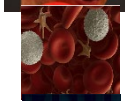
1. **Protection of vital organs**
Cranium protects the brain when heading a ball

2. **Muscle attachment**
Bones provide anchors for muscles to attach.

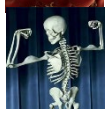
3. **Joints for movement**
Bones act as levers to create movement.



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.

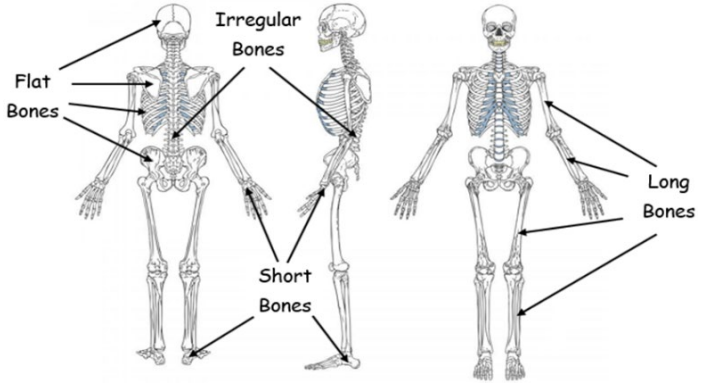
Classification of bones:

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

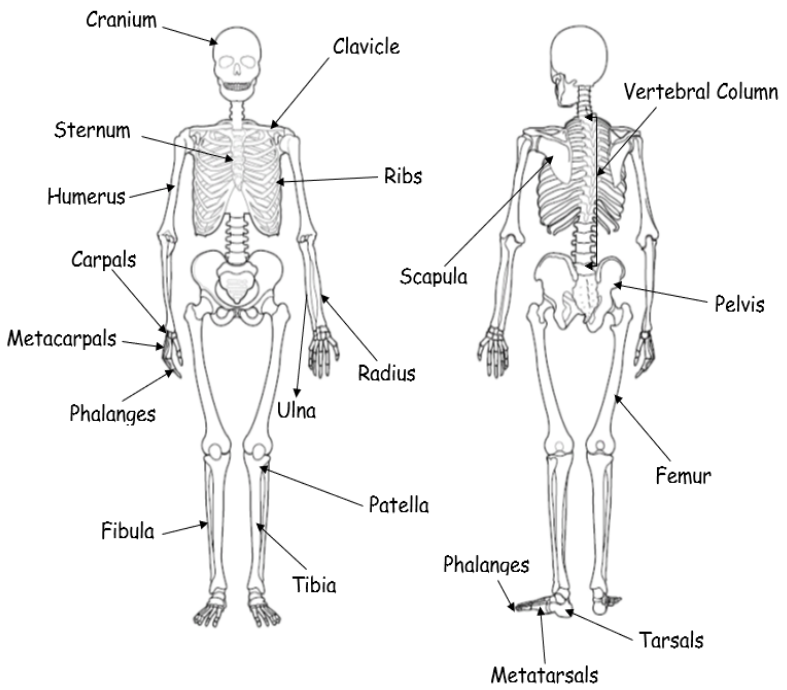
Short bones are important for weight bearing and to absorb shock Examples are the carpals and tarsals.

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.

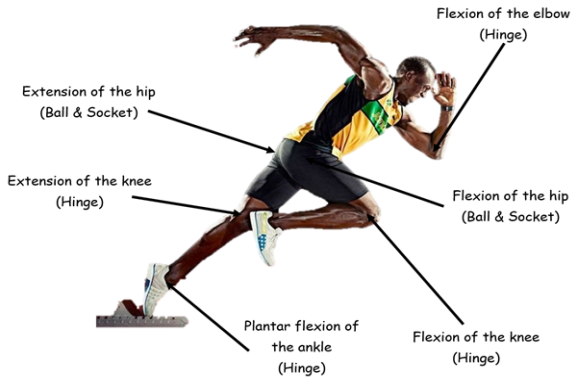


Structure of the skeleton:



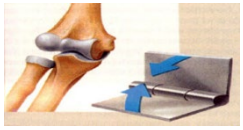
Movement possibilities at joints:

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



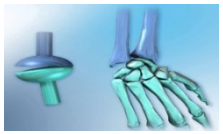
Classification of joints:

Hinge
E.g. Elbow & Knee

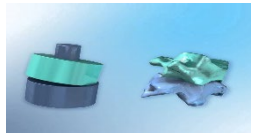


Ball & Socket
E.g. Hip & Shoulder

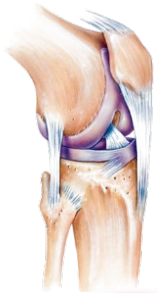
Condyloid
E.g. Wrist



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 kicking.

Vertebral column: