

Chapter 8: The Skeleton.

- All living things (vertebrates) have a skeleton.

Skeleton has 3 main functions

1. Support

- Gives us our shape
- Keeps us upright

2. Protection

- Skull protects Brain
- Ribs protect Heart and Lungs

3. Movement

- Muscles attached to the bones help us move.

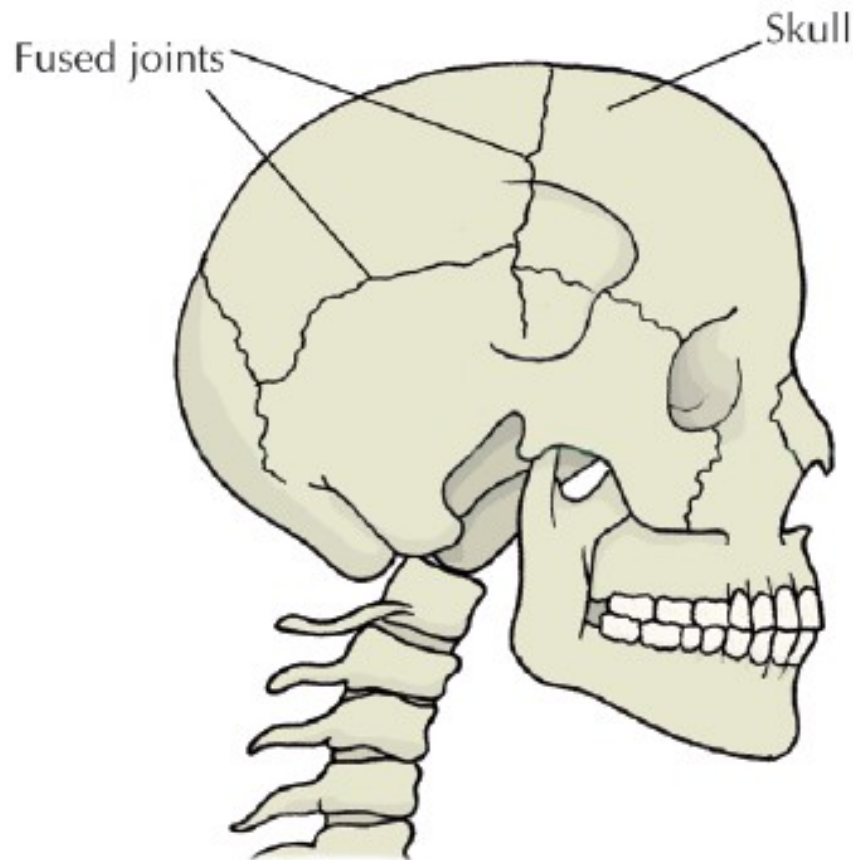
Bones.

- Made from living cells that release calcium (non-living cells) which makes it hard.

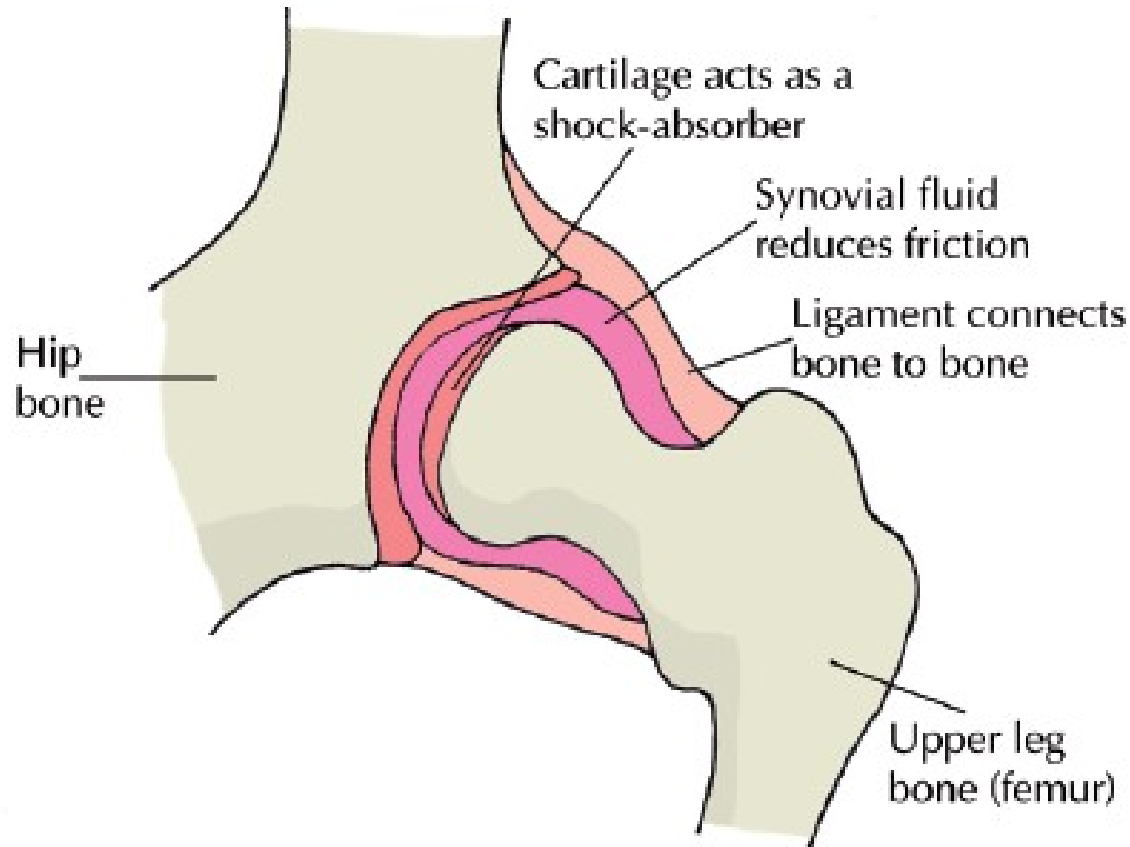
Joints.

Joints are formed when bones meet.

Fused Joints: - These are fixed joints found in the skull



Ball and socket joints: - Allow movement in all directions. E.g. Shoulder, hips.



Hinge Joints: - Allow movement in one plane only. E.g. Knee, elbow

Ligaments:- Ligaments are tough elastic fibres that join bone to bone.

Cartilage:- Shock absorber between the bones
Prevents bones from rubbing.

Synovial Fluid:- Is the lubricating fluid –
Prevents bones from rubbing together.

Muscles.

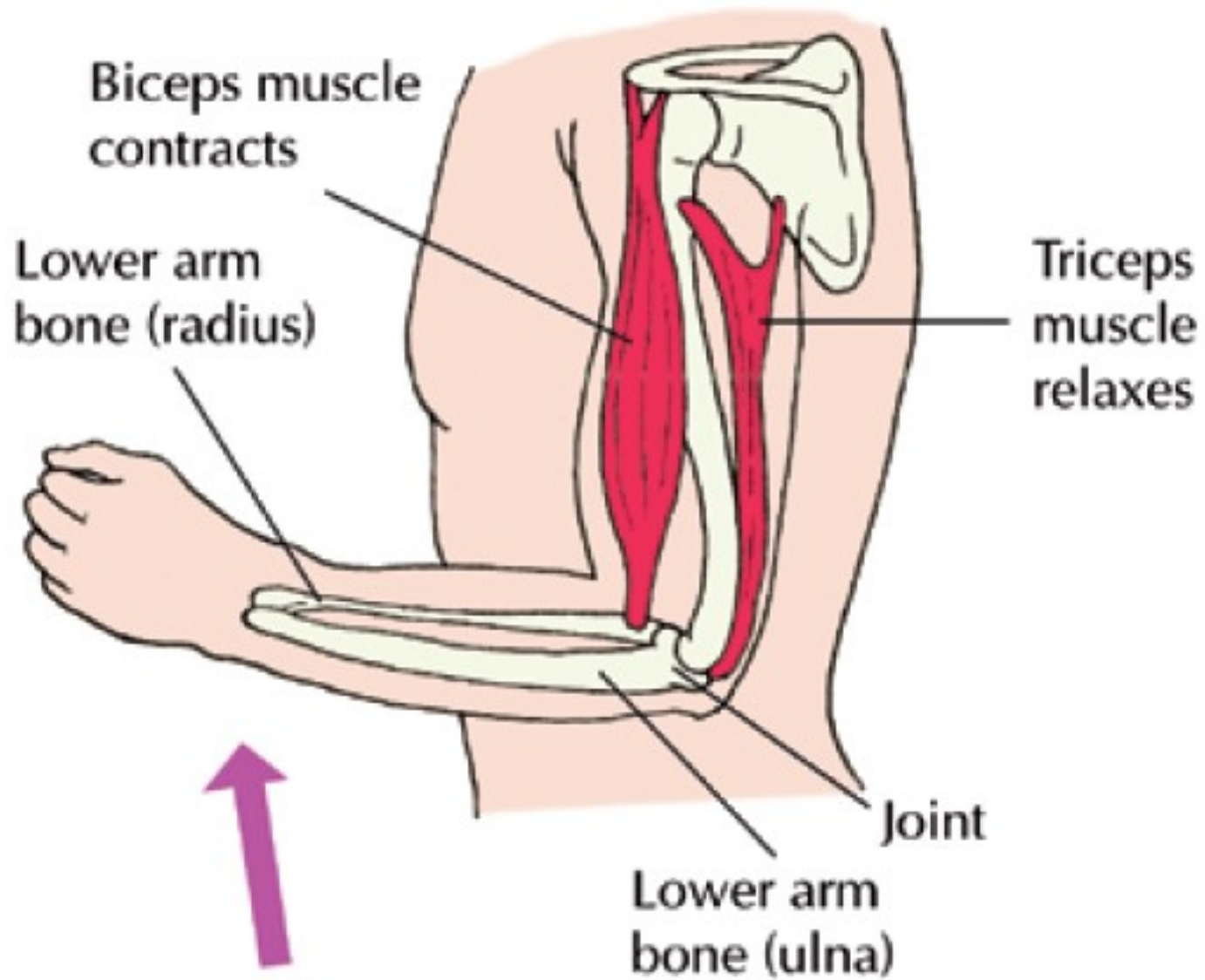
Muscles are joined to bones by tendons.

Tendons are tough non-elastic fibres.

Muscles work in pairs, pulling in opposite directions. They are called **antagonistic muscles**. A muscle can only contract or relax.

The biceps and triceps in our upper arm are examples of antagonistic muscles.

Forearm is raised

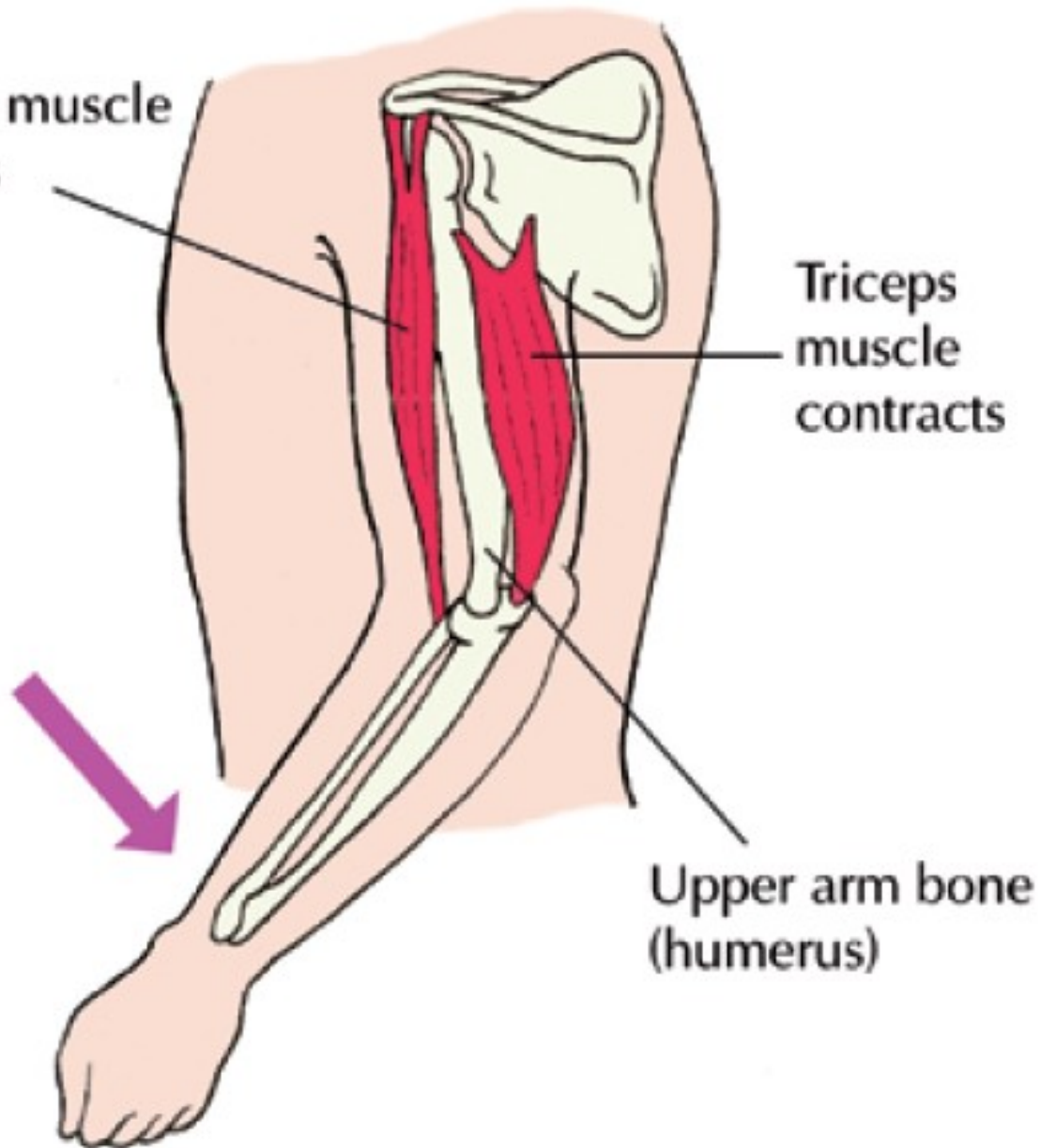


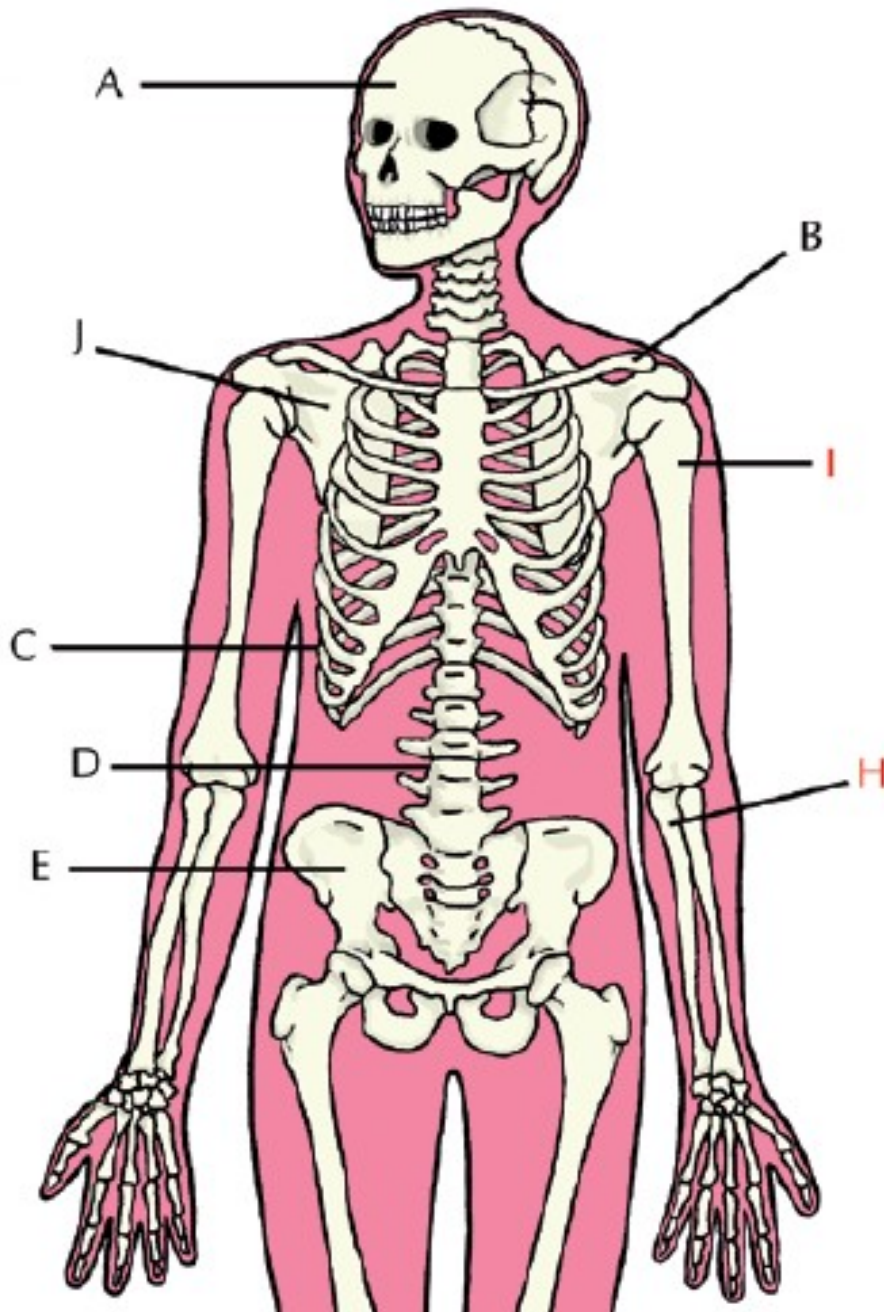
Forearm is lowered

Biceps muscle
relaxes

Triceps
muscle
contracts

Upper arm bone
(humerus)





A: Skull

B: Collar Bone

C: Rib Cage

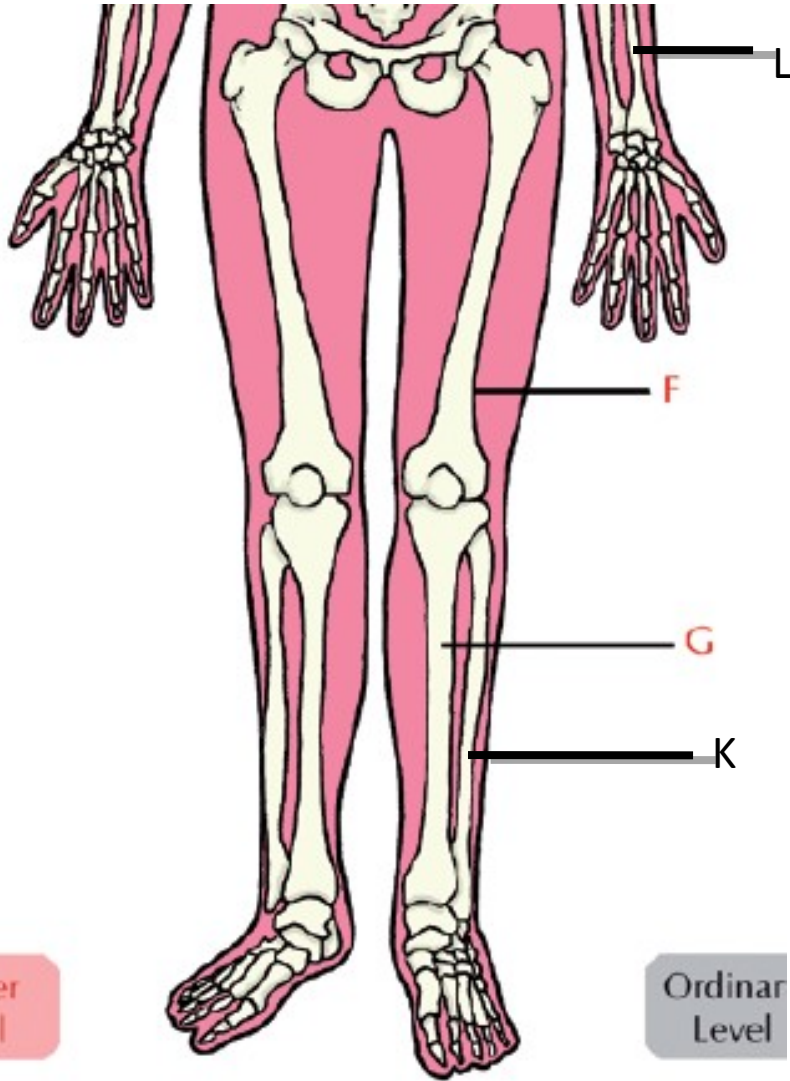
D: Vertebrae

E: Pelvis

H: Ulna

I: Humerus

J: Shoulder Blade



F: Femur

G: Tibia

K: Fibula

L: Radius